



**CME Programme &
53rd National Conference of
Indian Public Health Association**
8th – 11th January, 2009



PROCEEDINGS

August 2009



Organized by:

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**Pre-conference
Continued Medical Education (CME) Programme**

&

**53rd National Conference of
Indian Public Health Association**

January 8-11, 2009



Theme:

Changing Scenario of Public Health in 21st Century

Sub Themes:

Urban Health

International Health

National Rural Health Mission

Resurgence of Zoonotic diseases

Rise of lifestyle diseases/conditions

Occupational Health & Environmental Health

Emerging Communicable Diseases

Reproductive and Child Health

Climate and Public Health

Adolescent Health

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Indian Public Health Association

Headquarters Secretariat
110, Chittaranjan Avenue, Kolkata 700 073

Founder Member
World Federation of
Public Health Associations
Washington, DC



FOREWORD

It gives me great pleasure to know that the Department of Community Medicine, Kempegowda Institute of Medical Sciences, Bangalore is bringing out a printed Conference Proceedings of the National IPHA conference held at Bangalore in January 2009.

This is first time that an effort was made by the conference organizers of 53rd IPHA Conference. The printed book will be very useful for the participants as well as those who have not attended the conference but keen to know the scientific deliberations that have taken place in the conference.

This Book will keep the sweet memories of all the delegates fresh for a long time.

I wish to congratulate Dr. M K Sudarshan and his dynamic team members for their innovative and unique step.

Dr. T. S. R. SAI MD, DNB,
Professor and HOD of Community Medicine
& President Indian Public Health Association
S.V. Medical College, Tirupati-517 507.
April 1, 2009



Kempegowda Institute of Medical Sciences

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Medical Council of India, New Delhi]

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PREFACE

The Kempegowda Institute of Medical Sciences [KIMS], Bangalore was privileged to host the 53rd annual conference of IPHA from 9th to 11th January, 2009 with a preconference continued medical education [CME] programme for the junior professionals on 8th January, 2009. The theme of the conference was aptly chosen as "Changing scenario of public health in the 21st century" and had various sub themes. About 600 delegates from all over India and abroad participated in the CME and the conference.

The event provided a platform to the faculty and students from medical colleges and other institutions for exchanging views, critically appraising the current health scenario, understanding prevailing public health problems and facilitated interaction between the governmental, non governmental and international organizations. The deliberations of the conference and the CME are brought out through this publication to benefit both the academicians and practitioners of public health in the country. It is also hosted on the websites of IPHA and Department of Community Medicine, Kempegowda Institute of Medical Sciences for the benefit of all.

Lastly, the Department of Community Medicine remains greatly indebted to IPHA for giving it an opportunity to host this event.

Dr. M. K. Sudarshan, MD [BHU], FAMS
Principal and Professor of Community Medicine
Chairman, 53rd IPHA Conference
Vice- President [South], IPHA

53rd National Conference of IPHA
Pre Conference CME: Programme Copy

Day & Date : Thursday, 08-01-2009
Venue : Auditorium (4th Floor), Kempegowda Institute of Medical Sciences (KIMS)
 College, Banashankari 2nd Stage, Bangalore-70.
Organized by: Department of Community Medicine, KIMS, Bangalore-70

08.30 AM to 09.00 AM	Registration	
09.00 AM to 09.30 AM	Inauguration of CME Programme	
09.30 AM to 11.00 AM	Session-I Sponsored by WHO, India Country Office	
	Avian / Pandemic Influenza (AI/PI) Preparedness Chairperson : Dr N Devadasan , Director, Institute of Public Health, Bangalore Co-Chairperson: Dr Sairu Philip , Associate Professor of Community Medicine, TD Medical College, Alleppy, Kerala.	
09.30AM to 10.15 AM	AI/PI Overview and Global Preparedness	Dr. Sampath K Krishnan WHO Cluster Coordinator CDS WHO, India Country Office, New Delhi.
10.15 AM to 11.00 AM	AI/PI Preparedness in India	Dr. P Ravindran Director, Emergency Medical Relief, DGHS, MOHFW, New Delhi.
11.00 AM to 11.30AM	High Tea	
11.30 AM to 12.30 PM	Session-II : Sponsored by Novartis Vaccines Organized by Rabies in Asia (RIA) Foundation	
	Intra Dermal Rabies Vaccination Chairperson: Dr. Thomas Mathew , Professor & HOD of Community Medicine, TDMC, Alappuzha & Nodal officer, IDRV, Kerala. Co-Chairperson: Dr D H Ashwath Narayana , Associate Professor of Community Medicine, KIMS, Bangalore.	
11.30 AM to 11.45 AM	Intradermal Rabies Vaccination	Dr. S. N. Madhusudana Head, WHO Collaborating Center on Reference and Research on Rabies, Department of Neurovirology, NIMHANS, Bangalore.
11.45 AM to 11.55 AM	National guidelines for intradermal administration of cell culture rabies vaccines – 2007	Dr. M K Sudarshan Principal & Professor of Community Medicine, KIMS, Bangalore.
11.55 AM to 12.05 PM	Current scenario of IDRV in India	Dr. B R Harish Associate Professor of Community Medicine, MIMS, Mandya, Karnataka
12.05 PM to 12.15 PM	Video on IDRV (Chiron Vaccines)	
12.15 PM to 12.30 PM	Question & Answers	
12.30 PM to 01.00 PM	Session III : Sponsored by UNICEF, New Delhi	
	Micronutrient Malnutrition in India - Challenges of Implementation.	Dr. Chandrakant S. Pandav Professor & Head Center for Community Medicine All India Institute of Medical Sciences

	Chairperson : Dr TSR Sai , Principal & Professor of Community Medicine, SV Medical College, Tirupathi, Andhra Pradesh	New Delhi.
01.00 PM to 02.00 PM	Lunch	
02.00 PM to 03.00 PM	Session IV: Sponsored by RNTCP Division, Govt. of Karnataka	
	Global & National Overview; Stop TB strategy & Recent updates in RNTCP Chairperson : Dr B. Mahadev , Chief Medical Officer, National Tuberculosis Institute ,Bangalore	Dr. Raveendra HR Reddy Medical Consultant, RNTCP Technical Assistance Project World Health Organization, Bangalore
03.00 PM to 03.30 PM	Coffee/Tea	
03.30 PM to 04.30 PM	Session V	
03.30 PM to 04.00 PM	Successful examples of Communicable Disease Control in South East Asia- Lessons learnt Chairperson: Dr M K Sudarshan , Principal & Professor of Community Medicine, KIMS, Bangalore	Dr. Derek Lobo, Formerly Regional Advisor, WHO-SEARO, New Delhi & Consultant, Department of Community Medicine, K S Hegde Medical Academy, Mangalore, Karnataka
04.00 PM to 04.30 PM	Developing Performance Indicators for Primary Health Care: Walsall's experience. Chairperson: Dr Narinder Sahota Associate Medical Director for Primary Care, NHS, Walsall, United Kingdom.	Dr. Anandagiri Specilist Registrar in Public Health, NHS, Walsall, United Kingdom
06.00 PM Onwards	Central Council Meeting	

53rd Annual National Conference of IPHA

Day & Date : Friday, 09-01-2009
Venue : Auditorium, Kempegowda Institute of Medical Sciences Hospital,
V. V. Puram , Bangalore-4
Organized by : Department of Community Medicine, KIMS, Bangalore-70

08.00 AM to 09.00 AM	Registration	
09.00 AM to 09.30 AM	Inauguration of scientific programme	
09.30 AM to 10.00 AM	Dr. B C Das Gupta Memorial Oration : Tuberculosis a ubiquitous health problem	<u>Orator</u> Prof. F.U. Ahmed Principal & Dean, Apollo Medical College, Chitoor, Andhra Pradesh.
10.00 AM to 10.30 AM	Chairperson: Dr. Chandrakant S. Pandav Professor & Head, Center for Community Medicine All India Institute of Medical Sciences, New Delhi. Dr. J E Park Memorial Oration : Role of Community Medicine in medical education Chairperson: Dr Deoki Nandan , Director, National Institute of Health & Family Welfare (NIHFW), New Delhi	<u>Orator</u> Dr B C Das Principal, Kalinga Medical College, Bhubaneshwar, Orissa
10.30 AM to 11.00 AM	High Tea	
11.00 AM to 12.00 Noon	Sponsored Session - I	
	Sponsored by UNAIDS Using the public health approach in HIV for district capacity building Chairperson : Dr D C S Reddy , WHO, India Co-Chairperson : Dr V Chandrashekar , Professor & Head, Dept. of Community Medicine, Rangaraya Medical College, Kakinada, Andhra Pradesh.	
11.00AM to 11.15 AM	The public health approach to HIV in Districts capacity building and Integrated Management of Adult and Adolescent Illness (IMAI) framework	Dr K. Karthikeyan Former Training Consultant, WHO India & Technical Director- HIV Care, Support & Treatment. Engender Health, Bangalore.
	Experience from districts	
11.15AM to 11.25 AM	a) Integrated Management of Adult and Adolescent Illness- Experience from Davangere	Dr. Balu , Consultant STI, HIV Care & Surveillance, Karnataka Health Promotion Trust, Bangalore.
11.25AM to 11.35 AM	b) Piloting IMAI in India: Notes from the Karur experience	Dr. L. Ramakrishnan Country Director- Programms and Research, Solidarity and Action Against The HIV Infection in India (SAATHII), Chennai.
11.35AM to 11.45 AM	Key findings of the evaluation of the IMAI Pilot Project in India	Dr Shilpa Modi Pandav Consultant, WHO India Country Office, New Delhi.
11.45 AM & 11.55 AM	General Discussion	
11.55 AM & 12.00 Noon	Conclusion	
12.00 Noon to 01.00 PM	Sponsored Session - II	
	Sponsored by UNAIDS Indian HIV surveillance, estimations and projections Chairperson : Dr. V M Gupta , Former Professor & HOD of Community Medicine, IMS, BHU, Varanasi, Uttar Pradesh. Co-Chairperson: Dr. R Meera , Epidemiologist, PSG Medial College, Coimbatore, Tamil Nadu	

12.00 Noon to 12.15 PM	Annual Sentinel Surveillance for HIV Infection- Current Strategy	Dr. Madhulekha Bhattacharya Dean & HOD, Dept. of CHA NIHFW, New Delhi
12.15 PM to 12.30 PM	Estimation of HIV Infections in India - 2007	Dr. Arvind Pandey National Institute of Medical Statistics (Indian Council of Medical Research) New Delhi
12.30 PM to 12.40 PM	Revised HIV Estimates of 2006 : The reasons, meaning and implications	Dr D C S Reddy WHO, India, New Delhi
12.40 AM to 12.50 PM	Recommendations of WHO Technical Group on HIV surveillance in India	
12.50 AM to 12.55 PM	General discussion	
12.55AM to 01.00 PM	Conclusion	
01.00PM to 02.00PM	Lunch	
02.00 PM to 03.30 PM	Sponsored Session – III	
	Sponsored by WHO-SEARO Newer challenges to Public Health Chairperson: Dr Jai P Narain, Director, Communicable Diseases, WHO SEARO, New Delhi.	
02.00PM to 02.30 PM	Climate change and Communicable diseases	Dr Rajesh Bhatia Regional Adviser, BCT Department of Communicable Diseases, WHO-SEARO, New Delhi
02.30PM to 03.00 PM	The challenge of emerging and re-emerging vector borne diseases: Need for an integrated and coordinated action.	Dr. A P Dash Director, National Malaria Research Institute (ICMR) , New Delhi
03.00PM to 03.30 PM	Acute diarrhea and respiratory infections: Huge global and regional problem; Neglected or overlooked?	Dr. Madhu Ghimere Medical Officer, Communicable Diseases Surveillance & Response WHO –SEARO, New Delhi
03.30 PM to 04.00PM	High Tea	
04.00 PM to 05.00 PM	Sponsored Session - IV	
	Sponsored by UNICEF, New Delhi IMNCI & Role for Medical Colleges Chairperson: Dr G K Ingle , Director & HOD of Community Medicine, Maulana Azad Medical College, New Delhi	
04.00 PM to 04.30PM	Current scenario and role of Medical College Community Medicine departments in supporting IMNCI	Dr. K Harish Kumar Health Specialist (Child Health), UNICEF, New Delhi
04.30 PM to 05.00PM	Addressing Measles Mortality: 2 nd opportunity for measles vaccination	Dr. Satish K Gupta Health Specialist (Immunization), UNICEF, New Delhi
5.00 PM to 06.00 PM	Sponsored Session-V	
	Sponsored by National Health Service (NHS), Walsall, United Kingdom Sharing Public Health Good Practice Chairperson: Dr D K Taneja , Professor of Community Medicine, Maulana Azad Medical College, New Delhi	
5.00 PM to 05.20 PM	Organization and delivery of health services at a district level in the United Kingdom.	Mr. Paul Jennings Chief Executive Officer, NHS,Walsall, United Kingdom
5.20 PM to 05.40 PM	Specialist Children's hospital in the wider public health agenda	Ms. Joanna Davis Chairman, Princess Diana Children's Hospital Foundation Trust,

		Birmingham, United Kingdom
5.40 PM to 06.00 PM	Tackling obesity epidemic in Walsall	Dr. Sam Ramaiah Director of Public Health and Medical Director, NHS , Walsall, United Kingdom.
06.00 PM to 07.00 PM	General Body Meeting	
07.00 PM to 8.00 PM	Inaugural Function	
08.00 PM Onwards	Dinner	

Day 2

Day & Date : Saturday, 10-01-2009
**Venue : Auditorium, Kempegowda Institute of Medical
Sciences,**
College Banashankari 2nd stage, Bangalore-70

09.00 AM to 09.30 AM	Dr. K. N Rao Memorial Oration Social determinants of health and health equity Chairperson: Dr Satish Kumar , State representative, UNICEF office for TN & Kerala, Chennai.	<u>Orator</u> Dr. V. Chandrasekhar Professor & Head of Community Medicine, Rangaraya Medical College, Kakinada, AP
9.30 AM to 10.00 AM	Dr. A. L. Saha Memorial Oration Public Health Research in India – Time for a paradigm shift Chairperson: Dr N S N Rao , Chief Consultant, Center for Health & Social Welfare Management, Bangalore.	<u>Orator</u> Dr. Sanjay Zodpey Director, Public Health Education , Public Health Foundation of India (PHFI), New Delhi
10.00 AM to 11.00 AM	<i>Sponsored Session – VI</i>	
	Sponsored by UNICEF, Hyderabad PPTCT-Towards Universal Coverage Chairperson: Dr Bir Singh , Professor, Center for Community Medicine, AIIMS, New Delhi	
10.00 AM to 10.15 AM	PPTCT-Towards Universal Coverage	Dr. Sudha Balakrishnan <i>HIV/AIDS Specialist, UNICEF,</i> <i>Hyderabad</i>
10.15 AM to 10.30 AM	An evaluation of NGO out reach work in PPTCT Programme in Andhra Pradesh	Dr. Sandip Kumar Ray Professor of Community Medicine, KBNIMS, Gulbarga, Karnataka
10.30 AM to 10.45	Evaluation of PPTCT Outreach program in A.P.- Qualitative review	Dr Madhumita Dobe Professor & HOD , AIIH&PH, Kolkata
10.45 AM to 10.55 AM	Assessment of Knowledge of Outreach Workers involved in the NGO run PPTCT Programme in Andhra Pradesh	Dr. Forhad Akhtar Zaman Assistant Professor of Community Medicine, KBNIMS, Gulbarga, Karnataka Dr. Nasrin Banu Laskar Assistant Professor of Community Medicine, KBNIMS, Gulbarga, Karnataka Dr. Purabi Phukan Assistant Professor of Community Medicine, KBNIMS, Gulbarga, Karnataka

10.55 AM to 11.00 AM	Evaluation of PPTCT programme in AP: Recommendations	Prof. F.U. Ahmed Principal & Dean, Apollo Medical College, Chitoor, Andhra Pradesh
11.00 AM to 11.30 AM	High Tea	
11.30 AM to 12.30 PM	Sponsored Session- VII	
	Sponsored by WHO-India Country Office Climate change and Health	
	Chairperson: Dr Jai P Narain , Director, Communicable Diseases, WHO SEARO, New Delhi	
11.30 AM to 12.00 Noon	Climate change: Thermo-regulatory and Respiratory responses	Dr. P K Nag Director, National Institute of Occupational Health (NIOH), (I.C.M.R), Ahmedabad.
12.00 Noon to 12.30 PM	Climate Change and its Implication on Natural Disasters	Mr. A.K. Sengupta National Professional Officer Sustainable Development & Healthy Environment, WHO India Country Office, New Delhi
12.30 PM to 01.30 PM	Sponsored Session – VIII	
	Sponsored by WHO-India Country Office Human resources in Public Health	
	Chairperson : Dr Sampath K Krishnan , WHO Cluster Coordinator CDS, WHO India Country Office, New Delhi. Co-Chairperson: Dr R. K. Jain , Deputy Director General, Ministry of Railways, New Delhi	
12.30 PM to 01.00 PM	Public Health Workforce : Issues & Concerns	Mr. Sunil Nandraj WHO Cluster Coordinator HSD WHO India Country Office New Delhi
01.00 PM to 01.30 PM	Public Health Workforce in India	Dr. N. Devadasan Director, Institute of Public Health , Bangalore
01.30 PM to 02.15 PM	Lunch	
02.15 PM to 03.00 PM	Session – IX	
	Sponsored by Sanofi Pasteur Chairperson: Dr (Col.) A L Sharma , Professor of Community Medicine, RMMC, Annamalainagar, Tamil Nadu	
02.15 PM to 02.45 PM	- Current perspectives in Polio Immunization	Dr. Vipul Shandilya Manager Medical Services, Sanofi Pasteur , New Delhi
02.45 PM to 03.00 PM	- Risk and prevention of pneumococcal diseases among patients in critical care setup	
03.00 PM to 4.30 PM	Oral Paper Session: I-VIII Auditorium, Lecture Hall -1, 2 & 3, Department Seminar Hall-1, 2, 3 Medical Education Unit.	Poster Presentation: Community Medicine-Department Practical Hall.
04.30 PM to 05.00 PM	Coffee/Tea	
05.00 PM to 06.30 PM	Oral Paper Session: IX-XVI Auditorium, Lecture Hall -1, 2 & 3, Department Seminar Hall-1, 2, 3 Medical Education Unit.	
06.30 PM to 07.30 PM	Editorial Board Meeting	
07.30 PM Onwards	Dinner	

Day 3

Day & Date : **Sunday, 11-01-2009**
Venue : **Auditorium, 4th Floor**
College : **Kempegowda Institute of Medical Sciences,**
Banashankari 2nd Stage, Bangalore-70

09.00 AM to 09.30 AM	Dr. J K Sehgal Memorial Oration Disease Control Priorities in India & Other Developing Countries Chairperson: Dr Samir Das Gupta , Professor & Head, Dept. of Community Medicine, N R S Medical College, Kolkata	<u>Orator</u> Dr. P L Joshi Deputy Director General (Leprosy), DGHS, MOHFW, Government of India New Delhi
9.30 AM to 10.15 AM	<i>Sponsored Session – X</i>	
	<i>Sponsored by National Vector Borne Diseases Control Programme, GOI</i> Chairperson: Dr. Shymal Biswas , Joint Director, Plague Surveillance Unit, NICD, Bangalore	
	National Vector Borne Disease Control Programme	<i>Dr. C Nagaraj</i> Research Officer, Regional Office of Health & Family Welfare, Govt. of India, Bangalore
10.15 AM to 10.45 AM	<i>Sponsored Session – XI</i>	
	<u>Sponsored by Hindustan Unilever</u> Chairperson: Dr B G Parasuramalu , Professor & Head, Department of Community Medicine, KIMS, Bangalore	
	Microbiological Water Purifier Designed for Household use in Developing Countries: Performance, Health Impact and Scaling Up	<u>Dr. Suresh Nadakatti</u> Principal Research Scientist, Hindustan Unilever Ltd., Mumbai
10.45 AM to 11.15 AM	Coffee/ Tea	
11.15 AM to 11.45 AM	<u>Award Session:</u> Chairperson : Dr. V M Gupta , Former Professor & HOD of Community Medicine, IMS, BHU, Varanasi, UP Co-Chairpersons: Dr Dominiq Misquith , Professor & Head, Department of Community Health, St. John's Medical College, Bangalore & Dr Sara Varghese , Head, State PEID Cell & Professor of Community Medicine, Medical College, Thiruvananthapuram, Kerala	
	<u>P C Sen Award Paper: Rural Health Practice</u> A Study of Health provider practices and the factors influencing them in rural areas of Udupi taluk , Karnataka	<u>Dr. Karthikeyan K</u> Kasturba Medical College, Manipal, Karnataka
11.45 AM to 12.15 PM	<u>S D Gaur Award Paper: Environment Health</u> Municipal Solid Waste Management in Vijayawada Municipal Corporation	<u>Dr. Sree Karuna Murthy</u> Health Officer, Municipal

		Corporation, Vijayawada, Andhra Pradesh.
12.15 PM to 1.30 PM	Valedictory Function	
1.30 PM onwards	Lunch	

**INAUGURATION OF PRE-CONFERENCE CME PROGRAMME
on 8th January, 2009**



The Inaugural function was presided over by Dr. C. S. Pandav, Director and Professor, Centre for Community Medicine, All India Institute of Medical Sciences, New Delhi and Sri. C. Manjunath, Chairman, KIMS Governing Council & Director, Karnataka Milk Federation (KMF), was the Chief Guest.

The Inaugural programme was started with an Invocation song by Dr. Namita

Dr. M. K. Sudarshan, Chairman of the Conference welcomed and introduced Sri. C. Manjunath and thanked him for accepting the invitation to chair the function. Then he welcomed Dr. C.S.Pandav, Vice-President, and IPHA, who officiated in place of T.S.R. Sai, President, and IPHA who could not be present due to some reasons. He also welcomed Dr. Paramita Sudharto, Public Health Administrator, WHO India Country Office, New Delhi, other dignitaries and participants.

Dr. B.G.Parasuramalu, Organizing Secretary of the Conference introduced the CME programme and expressed that the topics covered would be useful for students and junior professionals.

The Chief Guest inaugurated the CME programme by lighting the lamp.

Sri. C. Manjunath conveyed New Year's Greetings. He was happy that the Conference of IPHA is held at Kempegowda Institute of Medical Sciences, Bangalore, for the first time in Karnataka state. He felt that the resource persons & participants of the programme have vast experience and knowledgeable in public health & the deliberations should benefit the poor and rural people. He wished for fruitful deliberations from the programme.

Dr. C.S. Pandav in his address stressed that Sri. C. Manjunath's participation is an example of community participation. He elaborated on 'manthan' and 'samudramanathan' from which God of medicine- Dhanwantari emerged and he opined that the present programme would be a 'vichara manthan'.

Dr. N.R.Ramesh. Masthi, Joint Organizing Secretary proposed the vote of thanks.

**INAGURATION OF THE SCIENTIFIC SESSION OF
THE 53rd ANNUAL NATIONAL CONFERENCE OF IPHA ON 9th JANUARY, 2009**



Inaugural function of the Scientific Sessions was held at the Auditorium of Kempegowda Institute of Medical Sciences (KIMS), Bangalore with Sri.B.Munegowda, Chairman KIMS Hospital, Bangalore as the Chief Guest and Dr. Madhumita Dobe, Secretary General of IPHA as the Guest of Honour. The function was presided over by Dr. TSR Sai, President of IPHA. The function started with an Invocation by Dr.Raksha Madhu and Dr. Sanga Mitra. Dr.B.G. Parasuramalu, organizing secretary welcomed all the dignitaries, delegates, invitees, the press, media members and the colleagues of the Institute.

Dr.M.K.Sudarshan, Chairman, organizing committee in his address gave a short introduction of the Chief Guest, Sri.B. Munegowda has been an active worker in public life and has held various positions. He is responsible in modernizing HOPKOMS and opened a HOPKOMPS outlet at KIMS Hospital to provide fruits at reasonable price to patients.

Dignitaries inaugurated the scientific sessions of the Conference by lighting the lamp.

Sri.B.Munegowda in his speech expressed his hope that the Conference would result in fruitful deliberations. He had taken the oath at the age of 18 years to serve the people. He is confident that when one works selflessly, results will come automatically. His endeavour is to develop HOPKOMS to be modern one and had brought it up from a loss making unit to a profit making one. He wished all the delegates a healthy life so that they can serve the community.

Dr. Madhumita Dobe in her address welcomed all the dignitaries and delegates. She informed that the scientific programme has been planned to understand and contribute public health problems of the Country. She congratulated the team at KIMS for wonderful planning of the programme.

Dr. TSR Sai in his address expressed his hope that the deliberations of the Conference would be very fruitful.

Dr.D.H. Ashwath Narayana, Joint org. secretary proposed the vote of thanks.

**INAUGURAL FUNCTION OF 53rd ANNUAL NATIONAL CONFERENCE OF
INDIAN PUBLIC HEALTH ASSOCIATION ON 9TH JANUARY, 2009**



Inaugural function of 53rd Annual National Conference of IPHA was held at the Auditorium of Kempegowda Institute of Medical Sciences (KIMS), Bangalore on 9th January 2009 with an Invocation rendered by Dr. Kavita.

Dr. M.K.Sudarshan, Chairman, organizing committee welcomed the Hon. Minister for Medical Education and other dignitaries on the dais, Office bearers of IPHA, delegates, dignitaries from WHO and other International organizations, invitees and Press. Dr. M.K.Sudarshan introduced Sri. Ramachandra Gowda, Hon. Minister for Medical Education, Govt. of Karnataka, Dr. Paramita Sudharto, Public Health Administrator, WHO- India Country Office, New Delhi; Sri. B.Kenchappa Gowda, President, Vokkaligara Sangha, Dr. K.Mahadev General Secretary of Vokkaligara Sangha., Dr. T.S.R.Sai President of IPHA, Dr. Madhumita Dobe, Secretary General of IPHA and Dr.B.G.Parasuramalu, Organizing Secretary of the conference.

Dr. T.S.R. Sai, President of IPHA, in his Presidential address informed that IPHA is the oldest and largest of all Public Health Associations which took birth at the reputed and pioneering health Institution, All India Institute of Public Health at Kolkata. IPHA is striving for the issues relating to improvement in the health of common man, to improve skills of public health personnel, to help Government in framing policies, providing consultancy in health related issues of the Country. In coming years it will be more vibrant. He requested for the cooperation of all the public health workers in these endeavors.

Dr. Madhumita Dobe in her address informed that this Association is an oldest and pioneer Public health Association and a founder member of World Federation of Public Health Associations. The strength of the Association lies in the fact that it has a multidisciplinary characteristic comprising of members reknowned nationally and internationally who are well experienced. Association is proud to have enjoyed the patronage of Govt. of India, other Govts. and International organizations. Association publishes a Journal.

Sri.B. Ramachandra Gowda, Hon. Minister of Medical Education, Govt. of Karnataka and other dignitaries lighted the lamp to mark the Inauguration of the conference.

Honourable Minister emphasized that the theme of the Conference 'Changing Scenario of Public Health in the 21st Century' is very relevant in the present context, when the Country is facing many public health problems. At present the public health expenditure is very minimal and all governments should provide adequate budget to tackle the health problems. In this context, the responsibility rests with the public health specialists by coming out with suitable recommendations in the deliberations of the conference. There are many healthy traditional practices relating to food and life styles which are forgotten now. People should get rid of their tensions so that they can be happy. This is possible only through adjustments to life situations. IPHA should strive to bring these changes.

Honorary Fellowship of IPHA was awarded to Dr Jai.P.Narain, Director, Communicable diseases, WHO-SEARO, New Delhi for his significant contributions to Public Health.

Dr. Paramita Sudharto talked about the health problems facing the World, like diseases of ageing populations, climate changes, non communicable diseases etc. Importance of social cultural and environmental factors was stressed by her. Efforts of Govt. of India through programmes like NRHM, to tackle diseases were praised by her. Many of the public health problems are challenging. Now there are various international organizations which have come forward to tackle these problems. Public health is not the domain of only health personnel and multidisciplinary approaches have to be evolved. She hoped that this Conference would provide opportunities for achieving this Goal.

Sri. B. Kenchappa Gowda released the Souvenir of the Conference. He aspired that the learned people who have come over here would impart their knowledge for betterment of health of the people.

Dr. K.Mahadev enlightened the audience about the Vokkaligara Sangha started 102 years back aiming at imparting education to people. 17 professional colleges are run by the Sangha, the major ones being KIMS and Engineering Institute and colleges of other disciplines. He mentioned that the budget of the Sangha is equivalent to seven universities of Karnataka. Major advances in health care are because of contributions of Public health personnel because clinicians think of the disease while public health workers think of health of the people. He requested the Minister to fix up the responsibility on clinicians for the negligence of their duties.

Dr. B. G. Parasuramalu proposed a vote of thanks.

SESSION I: AVIAN / PANDEMIC INFLUENZA (AI / PI) PREPAREDNESS

Sponsored by WHO India Country Office, New Delhi

Chairperson: Dr. Devadasan, Director, Institute of Public Health, Bangalore

Co-Chairperson: Dr. Sairu Philip, Associate Professor of Community Medicine, T.D. Medical College, Alleppy, Kerala.

1. AVIAN / PANDEMIC INFLUENZA (AI / PI): OVERVIEW AND GLOBAL PREPAREDNESS



Dr. Sampath K Krishnan, WHO Cluster Co-ordinator, CDS, WHO India Country Office, New Delhi (krishnans@searo.who.int)

Epidemiology of (Avian) Influenza

Avian Influenza is an emerging new disease may turn into pandemic stages. Avian Influenza is an acute RTI, caused by Influenza virus, characterized by common symptoms like fever/ chills, headache, myalgia, sore throat, cough, coryza or prostration. Symptoms differ according to age, which comprises of vomiting and diarrhoea in children/ elderly, fever alone in infants or may be atypical in elderly. Serious complications can occur among high-risk groups. Influenza virus is RNA virus, antigenically distinct with no cross-immunity. It comprises of three types A, B and C.

Type A causes significant disease with epidemics, pandemics, and infects human beings *and* other species with frequent antigenic variations.

Type B causes significant disease with milder epidemics, limited to human beings with infrequent antigenic variations.

Type C does not cause significant disease & limited to human beings and antigenically stable.

The important feature of Influenza A is due to 2 surface antigens, namely, Haemagglutinin (HA), initiating infection following attachment of virus to susceptible cells, while Neuraminidase (NA), releases virus from infected cell :16 'H' antigens (1-16), 9 'N' antigens (1-9) or different combinations based on these.

Antigenic drift and antigenic shift of the virus is the disturbing factor. Antigenic drift comprise of gradual antigenic change over a period, involving 'point mutations' in genes owing to selection pressure by immunity in host population, responsible for frequent influenza epidemics which necessitates reformulations of influenza vaccines.

Antigenic shift comprise of sudden complete or major change, resulting from genetic recombination of human with animal/ avian virus, leading to a novel subtype different from both parent viruses. If 'novel subtype' has sufficient genes from HI viruses which make it readily transmissible from person to person & it may cause pandemics.

Evidence suggests that HI viruses responsible for the last three pandemics contained gene segments closely related to avian influenza viruses. All 16 H subtypes infect birds and most widespread epidemics and all pandemics: H1N1, H2N2, and H3N2. Influenza may be characterized by three terminologies, Seasonal, Avian and Pandemic.

Seasonal Influenza, occurs every year with gradual variations in previous year's virus surface proteins (*antigenic drift*); spreads around the world in seasonal epidemics, affecting 10 - 20% of total population. Annual epidemics are thought to result in 3-5 million cases of severe illness and 2.5 to 5 lakh deaths. In India it is a mild disease.

Avian Influenza, is primarily an infection of birds due to large group of different influenza viruses; rarely jumps species and infects humans. An influenza pandemic happens when a new subtype emerges that has not previously circulated in humans and is adapted to human to human transmission. Ultimately, is the source of new viruses in humans causing pandemics. It is essential this virus does not spread but it is continuing in India in last four years.

Pandemic Influenza is a worldwide surge in cases caused by the introduction of a new type A surface protein (*antigenic shift*).

Disease is world-wide in distribution with sporadic cases, outbreaks (primarily Influenza A), occurring every year with major epidemics, at interval of 2-3 years. Pandemics are rare and may occur in 10-15 years. Attack rates during epidemics may be 10-20% in general community; and more than 50% in closed populations. Epidemics are of short durations, generally lasting for 3-6 weeks.

Major Influenza Pandemics were "Spanish Flu" (1918) causing 50 million deaths A (H1N1), 1957; "Asian Flu" (1957) causing 1-4 million deaths A(H2N2), 1968; "Hong Kong Flu" (1968) causing 1-4 million deaths A(H3N2); Current outbreak (2004-07) with 393 cases, 245 deaths in Azerbaijan, China, Cambodia, Djibouti, Egypt, Indonesia, Iraq, Lao's PDR, Myanmar, Nigeria, Pakistan, Thailand, Turkey, Vietnam & Bangladesh till Oct. 2008 A(H5N1). Thus we see that pandemics occur with interval of about ten years.

A survey in two villages with influenza outbreak, Murshidabad, WB, June 2003 revealed that attack rates were 14.2%, mostly in children below 5 years (31.7%), followed by 5-14 years (about 17%). Older groups were less affected. Thus seasonal epidemics affect young populations.

Human beings act as primary reservoir for human infections, with major reservoir being animals and birds (swine, horses, dogs, cats, domestic poultry, water birds, wild birds etc.). Usual source of infection is a case or sub-clinical case. Communicability is for 3-5 days from clinical onset in adults; up to 7 days in young children and peak viral shedding occurs on day 1 of symptoms.

All ages and both sexes are susceptible and attack rates are lower among adults, high case fatality rate (CFR) during epidemic in high risk cases, old people, children, persons with diabetes, chronic heart disease, renal and respiratory diseases.

As far as immunity is concerned, Ab to 'H': neutralizes the virus, Ab to 'N': modifies the infection, Ab appear in 7 days after an attack; reaches maximum level in 2 weeks; drops to pre-infection level in 8-12 months

In temperate zones epidemics occur in winter, in tropics epidemics occur in rainy season, while sporadic cases may occur in any month. Overcrowding enhances transmission with higher attack rates in closed populations like schools, institutions, ships etc.

The disease is mainly transmitted as airborne, droplet infection, droplet nuclei & through direct contact. Transmission from objects is possible. Incubation period is 18 to 72 hours.

Epidemiology of Human AI (H5N1)

Demographic characteristics

Despite widespread exposures to AI (H5N1) infected poultry, disease in humans remains rare. Since May 2005, number of affected countries and confirmed cases of H5N1 infection has increased, in part because of the spread of clade 2.2 viruses across Eurasia and Africa. Median age of patients with H5N1 infection is approximately 18 years with 90% patients 40 years or younger. Overall CFR is 63%; highest among 10 -19 years; lowest among persons 50 years or older, depending on pre-existing immunity, differences in exposure, or other factors. H5N1 human cases increase during cooler months and associated with increased poultry outbreaks. Cases occur round the year and clinicians must be alert at any time, especially in countries with H5N1 poultry outbreaks.

Transmission

Most common risk factor are handling of sick/ dead poultry stocks (week before the onset of illness). Potential risk factors are slaughtering, defeathering, or preparing sick poultry for cooking, playing with or holding diseased/ dead poultry, handling fighting cocks/ ducks that appear healthy, consuming raw or undercooked poultry products.

Laboratory results have shown that transmission can be human to human but in the field it is still an animal virus. We are in Phase three of the disease where transmission can be from human to human.

In pandemics, when a large number of cases come to hospitals, entire services would be affected. In India we are planning to have surveillance to control the disease. The other aspect is the stock piling anti virus drugs and logistics. Whole public health system has to be prepared for any pandemic.

In any pandemic all sectors of life will be affected. So we have to be prepared for good co-ordination amongst various public services.

2. AVIAN INFLUENZA AND PANDEMIC PREPAREDNESS IN INDIA



Dr. P. Ravindran, Director, Emergency Medical Relief, DGHS, Ministry of Health & FW, GOI. (krishnans@searo.who.int)

India has a major poultry sector, ranking among the top four nations in egg production in the world with a mix of organized, semi organized and backyard poultry with poor bio- security. It has high degree of human –bird interface and falls on the route of two major flyways of migratory birds with over 100,000 acres of wet lands.

AI entrenched in South East Asia, with Bangladesh, China, Myanmar and Pakistan reporting AI.Outbreak among poultries increases the risk of exposure to humans which would have substantial impact on the growing economy.

AI Outbreak in India comprised of small areas in the States of Maharashtra, Gujarat and Madhya Pradesh (2006), Manipur (2007), – West Bengal, Tripura, Assam (2008), - Assam, West Bengal (2009). No human case is reported so far.

In West Bengal, first outbreak was notified on January 2008 in the districts of Birbhum and Dakshin Dinajpur, spread over to 16 districts involving 60 Blocks / Municipalities. 70 epicenters were reported. More than 4.2 million poultry (including ducks) were culled. Active Surveillance covering a population of 4.2 million (82 per cent coverage) was undertaken.

AI/ PI Plans comprise of National Pandemic preparedness plan, Contingency plan for managing avian influenza in poultry and Contingency plan for management of human cases of avian influenza.

Legal frame work comprise of National Disaster Management Act-2005, Epidemic Act 1897, Public Health Emergencies Act (draft), Municipal Acts, CPC and Cr PC.

Institutional framework comprise of National Disaster Management Authority, National Crisis Management Committee, Central Ministries/ State Govt/ District Administration, Inter-ministerial Task Force for Sectoral Co-ordination, Joint Monitoring Group for monitoring, National Task Force on Communications in I & B ministry, Technical Committee for laboratory strengthening, vaccines, import of poultry products etc.

For Operational framework, Ministry of Health acts as the Nodal Ministry for Biological Disasters at National level, Animal Husbandry Dept. acting as focal point for Animal Health. State Health & Animal Husbandry Departments which are the nodal agencies at the State level, operationalize state plans, District Authorities act as implementing agency at grass root level. Thus Disaster Management Authorities take care at National, State & District level.

Phase wise strategic approach comprise of the following.

Phase-3 includes risk reduction strategy, stamp out disease in poultry, protect high risk group through chemoprophylaxis, house to house surveillance for early case detection, and management and risk communication.

Phase-4 /5 comprise of containment and rapid response, cluster containment and non pharmaceutical interventions which includes isolation/ quarantine, community wide quarantine

social distancing measures, simple public health measures, mass chemoprophylaxis, surveillance for early case detection and management, contact tracing, protecting those at high risk and risk communication.

Phase- 6 includes Triage, domiciliary care / hospital treatment, managing dead bodies, non pharmaceutical interventions, vaccination, risk communication, maintaining essential services, and continuity of business. This phase is formulated only in India. This phase is thought over because hospitals cannot cope up pandemics when large number of cases is expected.

Strategic plan comprise of surveillance, laboratory strengthening, hospital preparedness, logistic support (drug, vaccine, PPE), capacity development and risk communication.

Surveillance of Human and Animal Health is carried out on representative sample focussed on vulnerable states while Poultry surveillance is carried out on both backyard and farms, surveillance of wild/ migratory birds, major water bodies. Human influenza surveillance is carried out in selected areas, active even based house to house Surveillance during AI outbreak/ cluster containment.

Long term approach in terms of Integrated Disease Surveillance Program for animal and human health, National Influenza Surveillance network and disease burden studies are undertaken.

Laboratory Surveillance of Human and Animal Health consist of short term approach of establishing four BSL-3 Laboratories in Human Health sector in addition to existing two, establishing additional five BSL-3 in addition to the existing BSL-4 in AH sector of NIV, Pune being designated as WHO H5 Reference Centre.

As long term measure, Nation-wide Laboratory Network under Integrated Disease Surveillance Program is done.

Logistic plans consist of capacity building for drugs and vaccines. Five manufacturers are licensed for bulk / formulations of Oseltamivir & to have one million capsules in stock. Serum institute of India, one of the six manufacturers is identified by WHO for manufacture of Pandemic Influenza Vaccine. NIV, Pune has developed a candidate vaccine strain of H5N1 for developing human H5N1 vaccine.

Capacity development strategies consist of Training Human Resource for AI/ Pandemic preparedness. Training programmes are conducted as Table Top Exercises to review the state plan. Training of Rapid Response Teams both in Human and Animal Sector at National, State and District Level, Health workers in PPE / Field surveillance / Home care, Hospital functionaries on managing MCM / infection control, CME for Medical Practitioners on management of AI/ PI, Security agencies on the non-pharmaceutical interventions, Volunteers on home care are undertaken.

Under Communication strategies, target groups covered for communication are live poultry markets, back yard poultry, poultry farms and community. Communication aspects include prevention of an outbreak of bird flu, controlling an outbreak, emergency response to a pandemic. Short term developments under communications are Media strategy developed by Ministry of I&B, IEC materials developed for AI and related human health aspects, Nation-wide sensitization through print and visual media and “seek treatment campaign”. Medium to long term measures are flu-wise campaign material to be kept in readiness to be rolled out at appropriate time.

Critical issues involved in the programme consist of problems in Sectoral Coordination, Resistance to culling-compensation issues, Active Surveillance, Augmenting critical care, Stockpiling of Oseltamivir, Cluster containment, Quarantine/ social distancing for containment, Management of mass casualties, Disposal of dead bodies, Border/ Port/ Airport Control, Imposing trade and travel restrictions, Maintaining essential services in case of pandemic.

SESSION II: INTRADERMAL RABIES VACCINATION

Sponsored by Novartis Vaccines and Organised by Rabies in Asia (RIA) Foundation

Chairperson: Dr. Thomas Mathew, Professor and Head of Community Medicine, TDMC, Alapuzha and Nodal Officer, IDRV, Kerala

Co-Chairperson: Dr. D.H. Ashwath Narayana, Associate Professor of Community Medicine, KIMS, Bangalore

3. INTRADERMAL RABIES VACCINATION



Dr. S.N. Madhusudana, Head, WHO Collaborating Center for Reference and Research on Rabies, Department of Neuro-Virology, NIMHANS, Bangalore
(snmadhu@nimhans.kr.nic.in, mshampur@hotmail.com)

Rabies is a fatal viral encephalitis, which is a major public health problem in India and other Asian countries. About 20,000 human rabies deaths are reported from India out of which 95% are due to dog bites. Rabies is 100% fatal but 100% preventable. Even though highly effective and safe modern vaccines and immunoglobulin are available, unfortunately human deaths continue to occur mainly because of ignorance of victims.

Rabies prophylaxis consist of immediate wound washing with soap and running tap water, active immunization with modern rabies vaccines and passive immunization with rabies immunoglobulin (RIGs).

Semple vaccine was discontinued in India since 2005. Modern rabies vaccines available are Cell Culture Vaccines (CCVs) and Purified Duck Embryo Vaccines (PDEV). These are administered in 5 doses on days 0, 3, 7, 14 and 28 by IM route over the deltoid region. Approximate cost of this vaccine is Rs. 1500-2000 per course.

Looking at the economics of PEP, cost per patient works out to Rs. 5000 for HDCV, Rs. 1500 for PCEC, Rs.1500 for PVRV but when administered intradermal cost is only Rs. 400 for PCEC and Rs. 600 for PVRV per course.

Intra dermal rabies vaccination (IDRV) consists of administration of small quantities (0.1 mL) of any CCV in to epidermal layer of skin. Small quantities of antigen are taken up by antigen presenting cells (Langerhan's cells) in the skin, processed and presented to regional lymph nodes which is faster and produces adequate immune response.

Looking back to the history, IDRV was first conceptualized by Warrell and Nichol in 1985; early studies in India were conducted by Madhusudana et. al. at CRI, Kasauli (1986-89) and later studies in Thailand (1989-92) led to the evolution of Thai Red Cross (TRC) Regimen and later IDRV was approved by WHO in 1992 with 3 CCVs, viz: Verorab, Rabipur and HDCV

Important studies in India on IDRV are by Madhusudana et.al. 1987, Indian J Med Res; Madhusudana et.al. 1998, National Med J India; Madhusudana et.al. 2001, National Med J India; Madhusudana et.al. 2003, Int. J Infect Dis; Madhusudana et.al. 2004, Int J Infect Dis; Sudarshan et.al. 2005, Current Ther Research; Chhabra et.al. 2005, Indian J Med Micro; Madhusudana et. al. 2006, Human vaccine.

Recommended ID regimens are i) 2 site regimen (Thai Red Cross regimen) : 0.1 ml of CCV at 2 sites on days 0,3,7 and at one site on days 28 and 90 (2-2-2-0-1-1) ; ii) Multisite regimen (Oxford regimen): 0.1 ml at 8 sites on day 0, at 4 sites on day 7 and at one site on day 28 and 90, (8-0-4-0-1-1).

Promotion of IDRV in India consists of efforts from APCRI since 2001, Expert committee recommendation in 2001, ICMR study in 2003. DCGI approved IDRV in 2006 using updated TRC regimen. IDRV was first implemented in UP followed by Orissa, AP, TN, WB, HP and part of Karnataka and recently approved in Kerala.

Recently concluded study conducted as per GCP guidelines aimed at comparison of PCEC and PVRV in 0.1 mL per dose in the TRC schedule. Study which covered 105 people with suspect or confirmed rabid animal bites at two centers namely NIMHANS and KIMS, Bangalore, sponsored by Chiron Vaccines, India demonstrated the following results- antibody response of vaccine showed that the mean anti body response was effective even at day 180 with both PCEC and PVRV. Side effects of vaccine were minor and the vaccine was excellently tolerated.

It may be concluded that IDRV is a cost effective alternative to IM route with presently available CCVs. Some states have already implemented the vaccine and there is need for random testing of blood samples for antibody response. It is desirable to follow up of these patients to generate data on efficacy and IDRV should eventually be implemented through out the country.

4. NATIONAL GUIDELINES FOR INTRA DERMAL ADMINISTRATION OF CELL CULTURE RABIES VACCINES – 2007



Dr.M.K.Sudarshan, Member, Government of India /NICD expert committee; Member, WHO expert consultation on rabies; President, Rabies in Asia (RIA) Foundation; Principal and Professor of Community Medicine, Kempegowda Institute of Medical Sciences, Bangalore. (mksudarshan@gmail.com)

Rabies vaccines for intra dermal administration:

- The high cost of Cell Culture Vaccines (CCV) by the volume required for the standard IM route is prohibitive for widespread use in many areas where dog rabies is endemic.
- For some CCVs, equal immunogenicity has been demonstrated by ID using at least 60% less vaccine than by IM vaccination.
- ID vaccination offers a safer and more effective alternative to the use of NTVs and a more economical alternative compared with the IM use of CCVs.
- Since, 1991, WHO has recommended the ID route of administration for rabies pre and post-exposure prophylaxis. ID regimens have been successfully introduced for post-exposure prophylaxis in developing countries such as India, the Philippines, Sri Lanka and Thailand.
- For administration by the ID route, CCVs should meet the same WHO requirements for production and control as required for IM rabies vaccines, including a test potency of at least 2.5 IU per single IM dose.
- In addition, the immunogenicity and safety of the vaccine in question should be demonstrated in appropriate clinical trials using WHO post-exposure prophylaxis regimens.
- In countries approving the ID route of administration, the packet inserts of such vaccines should state explicitly that they are authorized for ID route.

General guidelines for use of IDRV are:

1. Vaccines to be applied by intradermal route of administration should be approved by DCGI.

2. The vaccine package insert should include a statement indicating that the potency as well as immunogenicity and safety allow safe use of vaccine by pre and post exposure.
3. Post Marketing Surveillance (PMS) data should be maintained for minimum of two years by vaccine manufacturers on a pre-designed and approved protocol.
4. Intra-dermal injections must be administered by staff trained in this technique.
5. Vaccine vials must be stored at 2 to 8 degree Celsius after reconstitution.
6. The total content of reconstituted vial should be used as soon as possible, but at least within 8 hours.
7. All the reconstituted vaccines should be discarded after 8 hours of reconstitution and at the end of the day.
8. Rabies vaccines formulated with an adjuvant should not be administered intradermally.
9. Vaccine when administered should raise a visible and palpable bleb in the skin.
10. In the event that the dose is inadvertently given subcutaneously or intramuscularly or in the event of spillage, a new dose should be given intradermally in nearby site.
11. Animal bite victims on chloroquine therapy (antimalarials therapy) should be given ARV by intramuscular route.

Vaccines and regimen approved for ID use in the country

- Based on the recommendations of WHO and results of safety, efficacy and feasibility trials conducted in India, DCGI approved the use of IDRV regimen for rabies post-exposure prophylaxis.
- The following vaccines have been approved by DCGI currently for use by intradermal route.

PVRV – Verorab, Aventis Pasteur (Sanofi Pasteur) India Pvt.Ltd.

PCECV – Rabipur, Chiron Behring Vaccines Pvt. Ltd.

PVRV – Pasteur Institute of India, Coonoor.

PVRV – Abhayrab, Human Biologicals Institute, Hyderabad.

CPVRV (Chromatographically purified vero cell rabies vaccine) – Indirab, Bharath Biotech,

Hyderabad.

The vaccines should have stated potency of ≥ 2.5 IU per IM dose, irrespective of reconstituted volume. The same vaccine is used for administration as per stated schedule. 0.1 ml of vaccine, irrespective of reconstituted volume, is administered per ID site as per schedule below.

Regimen

- a) Post exposure cases [previously unvaccinated] : Updated Thai Red Cross Schedule (2- 2- 2 -0-2)- This involves injection of 0.1 ml of reconstituted vaccine per ID site on two such ID sites per visit (one on each deltoid area, an inch above the insertion of deltoid muscle) on days 0, 3, 7 and 28. The day 0 is the day of first dose of vaccine administration.
- b) Re-Exposure [previously vaccinated]: In those cases who have previously received full pre-exposure vaccination or post- exposure prophylaxis (either by IM or ID route) with a potent cell culture vaccine should now be given only two booster doses, each of 0.1 ml on days 0 and 3. Those who had previously received NTV should be considered as fresh case and given treatment as per merit of the case.
- c) Pre-exposure vaccination: 0.1 ml of vaccine given on days 0, 7 and either on day 21 or 28.

Anti-rabies treatment centers which meet the following criteria may use ID administration:

1. Have adequately trained staff to give ID inoculation of anti-rabies vaccine.
2. Can maintain cold chain for vaccine storage.
3. Ensure adequate supply of suitable syringes and needles for ID administration.
4. Are adequately well conversant in management of open vial and safe storage practices.

5. CURRENT SCENARIO OF IDRV IN INDIA



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IDRV was introduced in Thailand in 1984 and was found successful. This was later approved by World Health Organization in 1992 as a safer, ethical and cost effective replacement of Semple vaccine. IDRV was introduced in Philippines in 1993 and at Sri Lanka in 1996. Use of ID immunization in India, using both HDCV and PCECV, was initiated as early as 1986 at Central Research Institute, Kasauli. Vaccine regimen used was 0.1 ml of vaccine at 8 sites on day 0 and 4-sites on day 7 and at one site on day 28 & 90. This 8-site regimen (8-0-4-0-1-1) was used from 1986 to 1993 in Kasauli only. From 1994 onward, the ID immunization with PCECV was continued at NIMHANS, Bangalore using the 8-site regimen recommended by WHO ((8-0-4-0-1-1). IDRV studies were conducted at different centers (KIMS) with DCGI approval.

Use of IDRV in India was implemented following a feasibility study by ICMR (2003-2006). DCGI approved the administration of IDRV in India from February 2006. The regimen approved by the DCGI is the Updated Thai Red Cross Regimen (“2-2-2-0-2”). Vaccines approved for use in India are Rabipur (PCEC), Verorab (PVRV), Abhayrab (PVRV), Indirab (PVRV), Pasteur Institute of India, Coonoor Vaccine (PVRV).

Uttar Pradesh was the first state to start IDRV at Balrampur Hospital on 19th May 2006.

All 71 districts of U.P. are now covered by IDRV (selected centers) and more than one lakh animal bite victims have been administered IDRV with no serious adverse events reported.

In Odisha State, IDRV was started at M.K.C.G Medical College Hospital, Berhampur which was the pioneer Institute of the State to implement IDRV from 27th April 2007. At present the use of IDRV is implemented not only in District Head Quarter Hospitals but also in Sub-Divisional Hospitals and CHCs / Upgraded PHCs of the State of Odisha.

At Andhra Pradesh use of IDRV started at Institute of Preventive Medicine, Hyderabad on 4th June 2007. Presently IDRV is being used in various Govt. institutions in A.P. including CHCs & some PHCs.

Karnataka: First dedicated IDRV Clinic in Karnataka was started on 8-9-2007 at Mandya Institute of Medical Sciences, Mandya, by the Department of Community Medicine to coincide with the World Rabies Day.

Experiences gained at Mandya Institute of Medical Sciences are:

- During one year period, a total of 3767 cases (new animal bite victims) reported to the ARC of MIMS and a total of 8550 doses of vaccines were given by ID

route using the Updated Thai Red Cross Regimen. 2717 vials were used (1160 PCEC + 1557 PVRV) at a cost of Rs. 7,41,766. 4130 vials (3130 PCEC + 1000 PVRV) were used in the previous year of 2006-07 at a cost of Rs. 12,39,600 for IM regimen at MIMS. (40% saving in vaccine cost). Antibody titre estimation at NIMHANS of 30 randomly selected samples from beneficiaries on days 7 & 28 showed adequate titers of rabies virus neutralizing antibodies (> 0.5 IU/ml). RIG administration is to be implemented from Feb 2009.

- IDRV implemented at all Taluk hospitals of Mandya District after training at MIMS.

Other Districts of Karnataka which have implemented the programme are Shimoga and Hassan. Implementation at Medical College hospitals is only at Mysore (Epidemic Disease Hospital)

At West Bengal, IDRV started at Anti Rabies Clinic of Pasteur Institute on 23 Jan 2008 (Birth day of Netaji Subhas Chandra Bose). Local Infiltration of rabies Immunoglobulin was started on 11 March 2008 at free of cost to all eligible patients where RIG is indicated at Pasteur Institute, Kolkata.

From Himachal Pradesh, a team visited KIMS, Bangalore & MIMS, Mandya for onsite observation and training of IDRV during July 2008 and IDRV was initiated on 2nd Aug. 2008 at D.D.U. Hospital, Shimla. Till date more than 1000 Animal bite victims have been given IDRV with no serious adverse events. More than 15 Lakh rupees are saved in 4 months.

At Tamil Nadu, IDRV was implemented from 01.09.2008 in all Govt. Hospitals of Tamil Nadu after training of the concerned health care workers in batches. IDRV is now initiated even at the PHC level. Budget for Rabies Vaccine brought down from 20 crores / year to 12 crores / year.

At Kerala, a workshop was organized at Thiruvananthapuram on 20th & 21st of Oct 2008 to frame guidelines for ID implementation in Kerala. Health Personnel from Kerala underwent IDRV training at IPM, Hyderabad in Dec 2008. Planned implementation Phase wise was introduced from January 2009 throughout the state.

At Maharastra, use of IDRV started at JJ Hospital, Mumbai.

At Uttaranchal, Planned implementation started in 2009.

Adverse events following IDRV are local reactions like Induration, Erythema, Pruritus & Pain in 3% to 92% and systemic reactions like Generalised Pruritis, Fever & Headache in 3% to 14%.

Positive findings about the use of IDRV observed are more than 2.5 Lakh animal bite victims administered IDRV throughout the country, no serious adverse event are reported, has been well accepted, vaccine availability assured and substantial savings in terms of vaccine and money, hence a Pro-Poor strategy.

Some of the problems faced for effective implementation are that bite victims started on IM regimen at peripheral centers are referred to IDRV ARC, IDRV Administration to children, and ensuring supply of a single brand of vaccine.

Major issues concerning implementation are: reluctance of Health care administrators of many states to implement the IDRV in spite of existence of satisfactory evidence in favour of IDRV, Training of Health care providers in IDRV, Apprehension among health professionals that IDRV is inferior to IM regimen and not beneficial to the patient and RIG availability.

SESSION III: MICRONUTRIENTS MALNUTRITION IN INDIA

Sponsored by UNICEF, New Delhi

Chairperson: Dr. T S R Sai, Principal and Professor of Community Medicine, S.V. Medical

College, Tirupathi.

6. MICRONUTRIENTS MALNUTRITION IN INDIA – CHALLENGES OF IMPLEMENTATION: PARTNERSHIP IN PUBLIC HEALTH, LINKING KNOWLEDGE TO ACTION



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Major aspect of challenge in a public health and nutrition programme is implementation. Lack of coordination between health, women and child development departments have resulted in poor implementation of programmes. For successful implementation of any programme partnership and intersectoral coordination are the key factors.

Success in Public Health programme depends on well-defined research question, sound scientific research protocol with qualitative and quantitative components, specific information, inter-disciplinary contribution, participatory approach, partnership with stakeholders, linking research with decision making process and tracking progress in terms of monitoring and evaluation. Thus Research-Policy-Program is an iterative loop for successful implantation.

Relevant research questions are to be generated from reading research questions, personal experience, prediction from theories and discussions with field workers and keeping the decisions needed by the programme into consideration.

Partnerships in health programmes are essential because, main determinants of health and disease lie outside the realm of direct medical competency. No single sector - governmental, private or civil society has the necessary skills or resources do what is necessary in all areas.

Private Sector has many types of skills and expertise needed for effective health improvement. Partners share objectives and risks regardless of different contributions from each partner or different benefits to each partner. Partnerships are to be in the areas of planning, implementation, collection and dissemination of information especially keeping protagonists and antagonists of programmes in consideration.

At present, 92 Partnerships are currently included in different health programmes comprising of 19 in HIV / AIDS, 12 in Malaria, 11 in Vaccine Preventable Diseases, 7 in Tuberculosis, 5 in Reproductive Health, 4 in Health Policies & Health Systems and 34 in various other programmes.

Major partnerships involved in different health programmes comprise of: Iodine Deficiency Disorders Elimination- Sovereign Governments, UNICEF, WHO, ICCIDD, MI, PAMM, and GAIN, Kiwanis ; Polio Eradication -Rotary International alongwith WHO and Sovereign Governments ; Children's Vaccine Initiative- Rockefeller Foundation, UNDP, UNICEF, World Bank, WHO and Private sector ; Global Alliance for improved nutrition (GAIN)- WHO, Private Industry and Sovereign Governments;

Global Fund for AIDS, TB, Malaria -Sovereign Governments, WHO, CDC, USAID ; Super course, Internet for Global Preventive Health in Awareness and Prevention programmes; Onchocerciasis -Mectizan Donation ; Grameen Bank in Micro credit for poverty eradication and community participation.

In Sustainable Elimination of Iodine Deficiency Disorders (IDD) in Seven States, process of partnership comprise of: Enrollment of Stakeholders in the programme incorporating partnerships like India CLEN, new linkages with IMA, meeting with highest policy makers like Secretary of Health, clarity of proposal and incorporating work ethics with a professional approach.

Partnership and Planning is achieved by Recognised National & International technical bodies like AIIMS/ ICCIDD/ UNICEF.

Capacity Building in the programme consist of key issues being sorted out by State investigators themselves which enables sense of ownership of data collected through own efforts thorough training on all aspects of the survey enabling quality assurance and thus creating a sense of involvement in the study.

Dissemination of results is ensured through transparency where protagonists and antagonists of the USI strategy are invited and everyone's views are considered.

Political Support, Advocacy and Follow up consist of development, coordination and expansion of political influence, sensitization of the public, follow-up activities, regular feedback, ensuring catalytic role of credible agencies like AIIMS/UNICEF/ICCIDD through collaborative exercises.

Programme is a collaborative Project between Department of Public Health and Preventive Medicine, Regional Health & Family Welfare Training Centers, Food Analysis Laboratories, Government Medical Colleges, Government of Tamil Nadu, National Institute of Epidemiology, ICMR, Chennai, National Institute of Nutrition, Hyderabad, All India Institute of Medical Sciences, New Delhi, India Clinical Epidemiology Network (IndiaCLEN), The Micronutrient Initiative, New Delhi, Indian Coalition for Control of Iodine Deficiency Disorders (ICCIDD) and United Nations Children's Fund (UNICEF), Tamil Nadu.

IDD Study in Tamil Nadu is an example of the above principles of linkages and partnerships.

“Panchsheel” of Partnership is a key to implementation of the programme. It comprises of involvement of Govt. Agencies, International and National Agencies, Private sector, Academics/ Universities and Civil, Societies

Take Home Messages which can be generalised from the experiences of the programme are:

1. Think proactively to generate relevant research questions.
2. Do extensive research reading.
3. Establish contacts with experts in the field.
4. Become life member of Professional organizations.
5. Participate actively in professional organization activities including Annual Conferences.
6. Have a regular & continuous dialogue with other organizations pursuing the same goal
7. Learn to document. Records remember, people forget.
8. Time is precious, we must learn to learn.

SESSION IV: RNTCP

Sponsored by RNTCP Division, Govt. of Karnataka

Chairperson: Dr. B. Mahadev, Chief Medical Officer, National Tuberculosis Institute, Bangalore

7. TUBERCULOSIS - GLOBAL AND NATIONAL OVERVIEW - THE STOP TB STRATEGY- RECENT UPDATES IN RNTCP



Dr. Raveendra HR Reddy MD, PGDPHA, PGDHA, DBM, Medical Consultant, RNTCP Technical Assistance Project, World Health Organization (reddyr@tbcindia.org) (hrrreddy@vsnl.net)

Tuberculosis is a Global problem with a prevalence of 14.4 million cases with annual incidence of 9.1 million causing 1.7 million TB deaths (2006). India is the highest TB burden country in the World accounting for one fifth of the Global incidence. WHO estimates for TB in India (2006) show that incidence of TB disease is 1.9 million cases per annum (168 per 100,000 pop per year) with a prevalence of TB disease 3.4 million cases (299 per 100,000 pop per year) and mortality due to TB being 325,172 deaths per annum (nearly 1000 deaths /day) (28 per 100,000 pop per year). Out of the new cases, 0.8 million are new infectious cases, 75 NSP cases / 100,000 population / year. Incidence is more in North India and less in South India while it is more in urban areas and among males.

Drug resistance is a major problem in the control of the disease. It is estimated that globally about 455,093 to 614,215 tuberculosis cases have emerged as multi-drug resistant (2006). Out of the previously treated cases 15.3% are multi-drug resistant while amongst the newly treated cases it is 2.9%. China and India carry approximately 50% of this global burden and highest rates are in countries of the former Soviet Union and China. However, drug resistance is not a major problem with new cases.

Extensively drug resistant tuberculosis (XDR-TB) has emerged as new problem. XDR-TB was first described in March 2006 following a joint survey of Supra-national Reference laboratories by the WHO, IUATLD, and CDC. MDR-TB is defined as cases resistance to at least Rifampicin and isoniazid plus resistance to any fluoroquinolone, and to at least 1 of the 3 injectable drugs (capreomycin, kanamycin and amikacin). This problem is more amongst former countries of Soviet Union as compared to India.

DOTS strategy was evolved in 1994 when WHO adopted and published the 5-element DOTS strategy. In 1999 a Guide to understanding the DOTS strategy came in to existence while in 2002 expanded DOTS framework was started. The 5 components of DOTS are political & administrative commitment, diagnosis by good quality bacteriology, adequate supply of SCC drugs, directly observed treatment and accountability.

Millennium Development Goals envisaged under Goal 6 were to combat HIV/AIDS, malaria and other diseases. Target set forth under the goal were to halt and begin to reverse the incidence of malaria and other major diseases by 2015. Indicators set forth for Tuberculosis were to halve the prevalence of TB disease and deaths due to TB between 1990 and 2015 and to detect at least 70% of new infectious cases and to cure at least 85% of detected sputum positive patients

By 2005 more than 180 countries implemented DOTS. Till then focus was on DOTS expansion and the 70/85 targets. In 2006 'New Stop TB Strategy' was developed by WHO which envisaged Global plan to control TB and achieve the TB-related MDG by 2015. International Standard of TB Care was evolved and launched on March 24, 2006.

Vision formulated under 'Stop TB Strategy' is to have a World without TB while the Goals are to drastically reduce global burden of TB by 2015 in line with Millennium Development Goals and the Stop TB partnership targets.

Objectives set under the strategy are to achieve high quality diagnosis and patient centred treatment, reduce the human suffering and socio-economic burden associated with TB, protect the poor and vulnerable populations from TB/HIV and multidrug-resistant TB, support development of new tools and enable their timely and effective use.

Targets set forth are to halt and begin to reverse the incidence of TB by 2015; comprising of detecting 70% of sputum smear positive TB cases and cure at least 85% of these cases by 2005, to reduce prevalence and deaths due to TB by 50% relative to 1990 by 2015, eliminate TB as a public health problem (< 1 case per million population) by 2050.

Major activities under RNTCP comprise of Case detection, Treatment, Surveillance and Monitoring, Public-private-mix (PPM), TB/HIV collaborative activities, DRS and DOTS-Plus, IEC –ACSM. India's DOTS Programme is the fastest expanding one, and the largest in the world in terms of patients initiated on treatment placing more than one lakh patients on treatment every month. Intensified TB-HIV package for high HIV burden states consist of providing additional training on TB-HIV for all health staff, ensuring provider-initiated HIV counseling and testing for all TB patients, provision of decentralized co-trimoxazole by local health centers for co-infected patients, provision of ART to eligible TB/HIV patients, expand TB-HIV monitoring and evaluation by inclusion of HIV status, co-trimoxazole, and ART in TB programme records and reports.

Progress achieved so far in DOTS programme are that more than 9.6 million TB patients are started on DOTS treatment, saving more than 1.7 million lives, 1.5 million TB patients registered for treatment annually, 85% treatment success achieved consistently and case detection reached to 70% in 2007, more than 12000 microscopy centers established, uninterrupted quality drug supply was ensured through patient wise drug boxes with directly observed treatment by a large workforce of community volunteers. DOTS Plus (MDR-TB management) was started in 4 States with plans to scale-up TB/HIV collaborative activities. Public-Private Mix (PPM) initiatives and models are developed. More than 18,000 NGOs and 263 Medical Colleges are involved with International Standards of TB Care being as a tool.

As an impact of TB control efforts in India estimated annual TB mortality per 1,00,000 population in India fell from 42 in 1990 to 28 in 2006 (WHO estimates). Evidences from studies by TRC Chennai conducted in Tiruvallur district of TN show that ARTI in children <10 years is declining (6% per annum) besides a decline in TB prevalence (9-12% per annum).

Challenges to be tackled are in terms maintenance of sustainability of the programme over the years with quality improvements, involving all major public and private sector care providers, addressing health system weaknesses in some large States (e.g. Bihar, UP), establishment and scaling-up of Reference laboratories for culture and DST besides scaling up of DOTS-Plus for TB/HIV collaborative activities.

Funds are allocated for Operational Research under the programme both at research by Institutions and postgraduates. Certain guidelines are framed for assessing the allocation of these funds.

SESSION V:

Chairperson: Dr. M.K.Sudarshan, Principal and Professor of Community Medicine, KIMS,

Bangalore

8. SUCCESSFUL EXAMPLES OF COMMUNICABLE DISEASE CONTROL IN SOUTH EAST ASIA- LESSON LEARNT



Dr.Derek Lobo, Former Regional Advisor, WHO-SEARO
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Successful examples of Control/Elimination/Eradication programmes for Communicable Diseases in South-East Asia/India are Eradication of small pox, Eradication of guinea worm, Elimination of Yaws, Elimination of leprosy as a public health problem and TB Control.

Leprosy Elimination Programme

Global leprosy prevalence reduced by over 90% since 1985, from 10 million cases in 1985 to less than 1 million by 2000 and to less than 0.25 million by 2008. Over 15 million cases are detected/cured with MDT till date comprising of 12.8 million from SEA Region and 11.8 million from India. By 2008, 120 of 122 countries which were leprosy endemic (National prevalence >1 case per 10,000 pop) achieved elimination as a public health problem. Only 2 countries- Brazil & Nepal and a few Islands Micronesia, East Timor, Marshall are the Nations which are yet to achieve the goal. The SEA Region, including India, achieved the leprosy elimination goal in December 2005;

Lesson learnt in the programme are:

1. “Chemotherapy” alone as a strategy can be successful.
2. Resolutions passed at the World Health Assembly and Regional Committees had positive impact in terms of increased political commitment, increased allocation of resources and involvement of partners.
3. Setting of Clear Goal, Objectives & Timeframe promote political commitment and attract donors/resources.

Goal envisaged under the programme was to achieve elimination of leprosy as a public health problem, that is prevalence <1 case per 10,000 population, at the National level by the year 2000, which was later extended to December 2005, since 14 countries out of 122, missed the goal.

Objectives set forth were in terms of early case detection, provision of MDT to all detected cases and achieving high cure rates.

Time frame set forth for achieving the goal of elimination of leprosy as a public health problem, at the national level was by the year 2000. This time frame was extended to December 2005, as 14 countries out of 122, missed the goal. At the end of 2005, only 6 major countries and at the end of 2008, only 2 countries are yet to achieve the elimination goal.

4. Focused and effective implementation of good interventions can produce expected outcomes and results.
5. Since too much emphasis on “disease estimates” could be counter-productive and can lead to over reporting, National Leprosy Eradication Programme (NLEP) took policy decision to discontinue case detection targets.

6. National Leprosy Eradication Programme (NLEP) took concrete action to prevent and minimize ‘operational factors’ in view of the fact that these factors can adversely influence indicators.

Operational factors which influenced excessive prevalence and new case detection were:

- i. Setting case detection targets and basing performance appraisal on target achievement.
- ii. Over-diagnosis and re-registration of cases due to non-adherence to WHO-recommended case definitions, active search and surveys repeatedly targeting the same population groups, repeated leprosy elimination campaigns in the same areas, lack of “Quality” and “Accuracy” of diagnosis, multiple registration, and wrong classification - PB cases recorded as MB (more frequent than vice-versa).
- iii. Delayed treatment completion due to irregularity and drug shortage at peripheral level, delayed release from treatment, over-treatment, non-existent cases and job insecurity among vertical staff leading to large number of suspect/doubtful cases being recorded as leprosy cases.,

7. Integration of leprosy into general health system resulted in country-wide expansion of services, improved access and decreased stigma.

8. Indicators were carefully looked at and interpreted in the light of various other factors and not in isolation.

9. Effective partnerships accelerated the achievement of the goal.

Effective partnerships which enabled the success were:

- Drug donations from The Nippon Foundation of Japan and Novartis Foundation,
- WHO, World Bank, Bilateral/Multilateral agencies, other UN agencies,
- The Nippon and Sasakawa Foundations of Japan,
- The International Federation of Anti-leprosy Associations,
- Private sector,
- National/International NGOs.

Important considerations for Planning & Management of Control/Elimination Programmes consisted of the following aspects:

1. Estimation of the magnitude of the Problem,
2. Definition of geographical area of operation – Country/State/District,
3. Estimation of Health Facilities Available for Diagnosis, Registration & Service Delivery-Govt & NGO,
4. Estimation of Health staff available for Service delivery & Follow-up–Govt & NGO,
5. Establishment of Quality Laboratory Facilities (TB); Prevention, management, care of disabilities & rehabilitation (leprosy),
6. Planning of Partnerships - NGOs & Other Sectors to be Involved,
7. Planning for Training of staff,
8. Formulation of IEC Plan – creation of Awareness.
9. Projection of Drug Requirement & Diagnostics,
10. Outlining Drug Procurement & Distribution Plan,
11. Implementation - Drug Delivery, Supervision & Ensuring Treatment Completion,
12. Regular Monitoring/Evaluation & Impact Assessment.

Tuberculosis Control Programme in South-East Asia Region

Most of world's TB cases are in the SEA Region. The burden of the disease is to the tune of 5 million TB cases, 3 million new cases/ year, 500 000 TB deaths/ year, 3.6 million people with HIV/AIDS and multi-drug resistance comprising of 2.8% among new cases and 18.8% among previously treated cases.

The 'Stop TB Strategy' comprise of sustaining quality DOTS, addressing TB/HIV and MDR-TB, contributing to health system strengthening, engaging all care providers, empowering patients and communities and enabling and promoting operational research.

Applying the strategy consisted of developing partnerships through:

- i. Tea estates, factories, railways, ministries of shipping, mines, petroleum and oil, railways, defence, religious affairs, labour, education and home affairs,
- ii. Medical associations in Bangladesh, India, Indonesia, Myanmar, Thailand,
- iii. 2500 NGOs,
- iv. 350 Medical Colleges, 1500 private and public hospitals,
- v. Communities in many countries,
- vi. Over 150 corporate houses ,
- vii. 550 prisons,

Issues that still remain for proper implementation of the programme are: (i) Limited ability (staff time, capacity, motivation) to rapidly expand PPM– different sectors require different approaches, (ii) Limited networking and coordination between various players, especially in urban settings, (iii) No systematic involvement in quality assurance mechanisms, iv. Difficulty in involving and monitoring of private laboratories, (v) Sustaining quality while expanding PPM (capacity for constant interaction, supervision/forums to jointly address issues.

Besides these, cross-border disease control is a particular problem in the SEA Region. Border areas are often remote and inaccessible. Gap exists between national policies and action at the border. Crossing borders by people with active disease (>2 million/month), illegal drug trade, trafficking of girls/women, and marginalization increase vulnerability to diseases. Need for equitable access to health services is also not yet met.

To tackle cross border disease control, National health strategies have to address policy and approaches by prioritizing migrants' health, mandating cross-border disease control activities and ensuring equitable access to services. Dialogue and cooperation are to be created to promote uniform/aligned policies, resolve differences and provide sustained financing, resource mobilization, building on existing resources. Cross border disease control can be controlled through partnerships of communities, NGOs, private sector and non-health sector. Regional associations have to support cross border initiatives with trans-national approaches. Stewardship role should be provided by governments within the framework of cross-border partnerships.

Following actions have been taken so far in this direction. Consultation on 'Migration and TB in South Asia' took place in 1998. SEAR Health Ministers discussed border health in 2000. Operational guidelines for Disease control in border areas were evolved in 2001. Inter-country meetings were held (Bangladesh, Bhutan, India and Nepal) on control of priority diseases in cross-border areas. Situational analysis completed and joint plans of action developed in 2002. Thai-Myanmar cross- border disease control programme was put in place in 2003 and WHO EB 122 urged prioritization of migrants' health in Jan 2008.

Implementing the ‘Stop TB Strategy’ in the SEA Region has the following limitations:

- i. >85% success rate achieved/ sustained in 9/11 countries,
- ii. About a third of cases are not notified (and not diagnosed?),
- iii. Require more data on disease burden to accurately measure progress towards impact targets,
- iv. MDR-TB management limited to projects, except in Nepal,
- v. TB/HIV: slow progress; HIV counseling, testing, treatment not yet sufficiently decentralized even in areas with high HIV prevalence,

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PPM scaling-up well, but long way to go for impact at national level,
Human resources a major issue,

- vi. Total available funding still a problem in DPR Korea and Myanmar; Domestic commitments not being met in some HBCs,
- vii. Community involvement beginning to grow; patients groups starting,

Further actions which need attention are:

- i. Increasing treatment success rates,
- ii. Aiming for higher case detection,
- iii. Shortening diagnostic delays to cut transmission,
- iv. Prevent complications/death,
- v. Combating MDR/XDR-TB: preventing development of MDR-TB, effectively treating many more of the existing cases of MDR-TB,
- vi. Addressing TB-HIV: by preventing TB among those with HIV and treating those with HIV and active TB,
- vii. Improving surveillance through improved data management including analysis and use of data,
- viii. Impact assessments to report on progress,
- ix. Ensuring quality assured laboratory networks for microscopy, culture and drug susceptibility testing,
- x. Working to strengthen health systems and particularly building HR capacity to ensure sustainable service delivery in the longer term,
- xi. Addressing “difficult areas”: interventions in cross-border areas, among at risk populations.

Guineaworm Eradication Initiatives

World Health Assembly passed a Resolution calling on Endemic Countries to work towards Eradication of Guineaworm in 1991. By 1995 number of cases reduced by 75%, from 547,575 cases in 1991 to 130,000 cases in 20 countries (including INDIA). India recorded NIL cases for the first time in 1996 and WHO certified India as "Guineaworm-Free" and confirmed "Eradication" in 2000. In 11 countries of Africa number of cases reduced to 16,000 in 2004. Further number of cases reduced to 9,585 from 5 countries of Africa in 2007. These cases were in Sudan comprising of 61% of global cases followed by Ghana (35% cases). Mali and Nigeria had a small proportion (3% and <1% respectively).

In these countries prevention of Guineaworm addressed the issues of providing safe drinking water, filtering of drinking water, distribution of fine mesh-cloth filters, treating pond water and other water collections with Temephos, which kills the waterflea-cyclops and early case detection and cleaning the ulcer and extricate the worm.

Yaws Eradication in South-East Asia Region

History of Yaws Control

1948:

- i. WHO in collaboration with UNICEF launched Global Yaws Control Programme,
- ii. Case-finding through house-to-house searches – ‘Yaws Scouts’ (technique later used in Small pox eradication),
- iii. Integration of post-campaign yaws surveillance into health services where such existed,
- iv. Mobile teams established and assigned to health posts to follow up active new cases.

1950-1970:

- i. Intensified Yaws Campaign implemented in 46 countries, 160 million persons examined, 50 million treated,
- ii. Intervention with Mass Penicillin Treatment, based on prevalence with active lesions,
- iii. Prevalence of endemic treponematoses (yaws, endemic syphilis, pinta) dramatically declined globally,
- iv. In 1970, surveillance phase declared. In many countries, mobile teams for yaws treatment campaigns dismantled & yaws control incorporated into general health systems, which were not geared or equipped,
- v. The reduced focus/efforts led to persistence/resurgence of endemic foci.

1980:

- i. 33rd World Health Assembly formally declared eradication of smallpox,
- ii. Fogarty International Centre convened 2-day meeting to explore which diseases to be targeted next for eradication,
- iii. Declared measles, polio and yaws as amenable for at least Regional eradication; guineaworm was later added to the list.

In SEAR Yaws is focalized problem in 3 countries comprising of India, Indonesia and Timor-Leste. About 5,000 cases reported annually in the Region, since 2000. In 2004 about 3,500 cases reported in Indonesia, Estimated 500-1,000 in Timor-Leste, No new cases reported in India in 2004 and 2005

India has achieved yaws elimination and the number of Yaws cases which were about 3571 in 1996 drastically came down to 735 in 1997 and then gradually declined 46 in 2003 and no new cases are reported in 2004 and 2005.

In Indonesia, 2491 cases were reported in the year 2000 and the number is fluctuating up to 2002 when 4987 cases were reported but has started decreasing with fluctuating trends and was 2540 in 2005.

Yaws is an eradicable disease since only a few localized foci of infection remain in the region, a potent and cost-effective cure is available with single injection of long-acting penicillin g aluminum monostearate (PAM), strong evidence exists that that systematic coverage of population to detect and treat cases, reduces prevalence and transmission and disease can be diagnosed clinically with minimum training of health staff.

Goal of the eradication programme is to interrupt transmission and thereby minimize the suffering and economic impact on the most vulnerable and marginalized populations affected. The objective of the programme is to achieve eradication of yaws in the Region by 2010, so that it is no longer a public health problem. Eradication is defined as absence of new cases for a continuous period of three years, supported by evidence of the absence of transmission with sero-survey among children under 5 years.

Key elements of the eradication strategy are early case detection in affected areas, prompt treatment of index cases and their close contacts, creating community awareness and capacity building of staff.

Enabling factors to facilitate implementation of the strategy are strong political commitment and policy support, mobilization of adequate resources, vigorous and sustained implementation of strategies and focus on results through close monitoring and evaluation.

Implementation steps are identification of affected areas, political will and administrative support, partnership building, building infrastructure and capacity, case detection, treatment of cases and contacts, capacity building and IEC activities.

Indicators and targets set forth are number of new cases detected, number of cases and contacts treated, child proportion among new cases, number of sero-positive cases among children.

Regional issues and challenges for the programme are: establishment of an effective mechanism for yaws surveillance and detection, capacity building of the general health staff to recognize and treat yaws, improving case detection and ensuring prompt treatment of index cases and their contacts, mobilizing political commitment and adequate resources through advocacy and partnerships, creating community awareness through appropriate advocacy/IEC campaigns and reaching difficult-to-reach areas.

WHO's role in the programme are in terms of: advocacy with member States for political commitment, policy support and resource allocation, assist countries in developing and implementing national plans, assist countries in mobilizing resources through advocacy with policy makers and partners, provide technical inputs and assist the countries in implementation of critical activities, such as: case detection and treatment, capacity building, advocacy/IEC, and monitoring and evaluation.

9. DEVELOPING PERFORMANCE INDICATORS FOR PRIMARY CARE: WALSALL'S EXPERIENCE

Chairperson: Dr. Narendra Sahota, Associate Medical Director for Primary Care, NHS,

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At United Kingdom primary health care is provided by UK NHS, free at the point of delivery. Primary Care Trusts (PCTs) are responsible for service delivery and General Practitioners are first point of contact that have contractual agreement with PCTs. Quality and Outcomes Framework (QOF) is a system designed to offer financial incentive to GPs, started in 2004. This framework contains 4 domains, clinical, organizational, additional services and patient experience comprising of 1050 points and each point is tagged to payment. This system also provides a useful tool to collect prevalence data on a number of conditions.

At present QOF is used as a performance tool for general practice. Nevertheless questions have been raised as to how good it is as a measure of performance. It is opined that QOF achievement alone is not necessarily a good indicator of performance and QOF and health inequality data together can provide a wider measure of performance. As such an increasing interest in performance indicators especially after QOF is generated in the light of the fact that Public health and PCTs collect a range of data from routine or non-routine sources that may be useful for this purpose.

In view of this, a study was envisaged to assess whether performance against the QOF is a robust measure of practice performance when compared with health-inequality indicators which can contribute to the development of a tool to monitor and improve primary care services.

Study Design was a retrospective cross-sectional study amongst sixty-three GPs, contracted with Walsall Teaching Primary Care Trust.

Selection of indicators was focused on those indicators that were largely based on GP-initiated care and amenable to changes and for which data were readily available. The following indicators were chosen: QOF score, antibiotic prescribing, benzodiazepine prescribing, cervical screening uptake, flu immunisation uptake and MMR (measles, mumps and rubella) immunisation uptake which accounted for maximum 870 of the total 1050 points achievable under the QOF

Sources of data for the study comprised of Quality Management, Analysis System (which supports the QOF), Office for National Statistics' Indices of Multiple Deprivation (IMD 2004), Child Health Systems (immunization) data, Prescription Prescribing Authority (prescribing data) and Exeter system (patient registration and cervical screening).

QOF data for three practices comprising of one GP from one practice retiring part-way through the financial year and incomplete QOF returns from the other two practices were excluded from analysis.

Relationship between practice performance (as measured by practice QOF scores for each of the four domains and overall composite QOF score) and practice achievement in the five selected 'health inequalities' indicators was explored by scatter plots and

correlation analysis. Relationship between the various indicators against practice-population deprivation status and patient: GP ratio was also investigated.

Deprivation index used in this study was calculated at practice level, based on the percentage of registered patients living in the most deprived lower super output areas (SOAs) in Walsall, according to IMD 2004. For each indicator, 95% confidence intervals (CIs) were calculated around the Walsall mean value. A traffic-light system was developed, whereby any practice falling outside the Walsall 95% CI was appropriately colour coded: red to indicate 'under'-performance and green for 'over'-performance. Remaining practices were coded as amber. To provide an alternative means of presenting the performance data, control charts were also plotted (using 99.8% CIs) for each indicator versus practice list size.

Correlation analysis revealed little evidence of an association between practice achievement in the four individual QOF domains were positively correlated with cervical screening ($r^2 = 0.11$) and flu immunisation uptake ($r^2 = 0.22$). MMR immunisation uptake showed positive weak correlation with QOF score, but not statistically significant. Cervical screening uptake was strongly associated with increased flu immunisation uptake ($r^2 = 0.24$). Benzodiazepine ($r^2 = 0.06$) and antibiotic prescribing levels ($r^2 = 0.02$) decreased slightly with increased QOF scores, although not significantly. No strong association was observed between 'Patient: GP' ratio and QOF scores; eight out of the 10 practices with the lowest QOF scores had a 'Patient: GP' ratio of $>2400:1$. Two of the top 10 QOF-scoring practices had a 'Patient: GP' ratio of $<2400:1$. A higher 'Patient: GP' ratio was associated with decreased flu immunisation uptake ($r^2 = 0.1$) and increased antibiotic prescribing ($r^2 = 0.1$).

Deprivation of the practice population was significantly correlated with a reduction in cervical screening uptake ($r^2 = 0.27$) and was also linked to an increase in benzodiazepine prescribing ($r^2 = 0.25$). However, deprivation scores were not significantly correlated with QOF score.

In general, those practices with lower QOF scores achieved lower scores across the other indicators, and those with high QOF achievement scored higher in the other indicators. Scores across the intermediate QOF achievers were more variable for the other indicators.

Control charts also known as funnel plots or Shewhart charts are alternative means of highlighting variation in performance and provide a useful visual comparison tool. Antibiotic prescribing rates produced the most interesting control charts, due to lower levels of variability in the data. Three practices that were prescribing at rates significantly above the Walsall average and three practices that were prescribing at significantly lower rates.

Study shows that QOF achievement alone is not necessarily a good indicator of performance in some health domains but that QOF and health-inequality data can be used in combination to provide a wider measure of performance. The data can be used to develop screening tools (for example, traffic-light tables and control charts) to identify outlier practices and help to identify areas for personal development through GP appraisals. Such screening tools also offer the opportunity to share excellence, as 'over'-performing practices can be readily identified and encouraged to share good practice with GP colleagues.

Implications of the study are that it is an initial exploratory effort to utilise routinely available data for benchmarking GP performance. Some practices, for a variety of reasons (both systematic and due to external influences), fall some way below average achievement. Results will complement the existing processes. Plan to repeat this exercise annually to identify trends.

DR. B.C.DAS GUPTA MEMORIAL ORATION

Chairperson: Dr.Chandrakant Pandav, Professor and Head of Community Medicine,
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TUBERCULOSIS A UBIQUITOUS HEALTH PROBLEM



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TB has the most dubious distinction of being the most persistent scourge of human kind and still the seventh most morbidity in the world. This is deplorable when there are various cost effective tools to cure TB which is there since 1960. To start with it was a Zoonotic disease and in Paleolithic period TB was endemic in animals and the organism was most probably *M. Bovis*. First human infections resulted from eating infected meat or drinking contaminated milk. About 7000 BC as man began to settle in villages and domesticated animals TB occurred more frequently but was still rare. Tubercle bacillus probably as a mutant of *M. Bovis* was introduced into man in Europe or the Middle East at least 400 years ago and gradually established as an epidemic with greater selective pressure. TB organism was introduced into various groups of population at different times around the world. With elimination of susceptible individuals, an increasing proportion of people developed resistance and the disease gradually became an endemic chronic pulmonary disease.

The spread originated in Europe as “*Great White Plague*”. In early 1600 the incidence of TB increased sharply in feudal Europe. Later the disease spread along with the entry of Caucasians in North America and other parts of the Europe and the World. TB moved slowly to Eastern Europe. Till 1880s TB was not observed in Russia or in India. TB was almost unknown in Sub Saharan Africa till 1908 and in New Guinea until 1920-40.

Till late nineteenth century TB remained a rare disease among natives. First major outbreak of TB among natives began in 1880. In Apache prisoners, the death rate rose from 54.6/1000 people in the 1st year to 142.8 per 1000 people in 4th year. Nearly half of these deaths were due to TB. In 1886 the TB death rate reached 9000/100,000 people, 10 times higher than in Europe.

TB was a rare disease among Africans who lived in small villages. When they were exposed to disease by close contact with Europeans & Egyptians they experienced a high mortality from a sub acute typhoidal illness. The peak of the epidemic curve was not reached in Africa, but with the HIV outbreak the rate increased dramatically.

In the first half of the nineteenth century TB was a rarity in India. As industrialization increased in the mid nineteenth century TB incidence gradually increased. India & China experienced peak in TB incidence towards the end of 19th century. Till 1951 TB was unknown in Papua, New Guinea & Irian, Java, Indonesia.

Experimental data on TB infectiousness showed that TB was a true airborne infection in that, air contact alone was sufficient for transmission. Patients varied greatly in infectiousness and this was not entirely predictable on clinical grounds. Average concentration of infectious droplet nuclei in the air of the well ventilated ward was low approximately 1 in 1000cf, but this dilute concentration was sufficient to approximate the transmission rate among student nurses working on hospital wards.

The infecting dose for humans probably varies somewhat from person to person, depending on the individuals' inherited, innate resistance and perhaps the chance that inhaled droplet reach the especially vulnerable upper regions of lung. Infectious dose also varies with the virulence of the bacilli. The concentration of bacilli in the sputum of a TB patient correlates well with infectivity. If the bacilli count is around 5000 per ml. in the sputum gives reasonable chance for a sputum to be positive and if the bacilli count is 10,000 per ml. there is 95% possibility of the sputum being positive.

Rate of transmission depends on the number of infectious cases in the community. Number of successful transmission from cases to susceptible over a defined period of time (usually 1 year) determines the risk of infection. It is estimated that one case on an average infects about 10-15 new cases. In pre chemotherapeutic age, it was 20 cases every two year. Life time risk of developing infectious or sputum positive cases following TB infection is 5%. Two prevalent cases correspond to one incident case per year, with each producing 10 successful transmissions.

After the peak, it shows a steady but much slower decline as the more resistance survivor reproduce, thus increasing the proportion of naturally resistant individuals in the population. The rate of natural decline in incidence is generally 1% to 2% per year, with chemotherapy the rate of decline should be 6 to 10% as seen in Europe.

The age group affected in a particular region is the key to understand the stage of the epidemic. Early in the epidemic, the disease takes a heavy toll of children and young adults. As the epidemic matures, age group at greatest risk shift gradually to older persons. In most western countries new infections are less frequent and most of the new clinical cases were recrudescence of remote infection. AIDS epidemic is changing this picture in many countries. Pandemic of HIV infection has changed TB, an endemic disease to an epidemic one world wide. HIV & TB are the two co-morbidities affecting people in 15-49 year group in developing countries. Positive smears, a crude marker of infectivity, are similar in TB patients with or without HIV infection.

Erratic or incomplete treatment of TB creates selective pressure that favors growth of drug resistant bacilli. Drug resistant organisms retain pathogenicity and can also be transmitted from person to person. Another factor that has led to the recent propagation of the drug resistant strains is the concurrence of TB infection with immunosuppression in HIV infected IDUs. HIV infection is contributing substantially to the excess of TB and Multi-drug resistance TB cases.

X-DR TB is a new dimension. It is defined as TB resistant to most important drug RMF & INH as well as to any fluroquinolone and at least one of three second line injectable drugs – Kanamycin, Amikacin and Capreomycin. X DR TB is a serious emerging threat to public health and TB control.

STOP TB Strategy is now introduced to control the disease. Components of the strategy are:

1. Pursue high quality DOTs expansion and enhancement.
2. Political commitment with increased & sustained financing.
3. Case detection through quality assured bacteriology.
4. Standardized treatment with supervision & patient support.
5. An effective drug supply and management system.
6. Monitoring & evaluation system and impact measurement

Rapid diagnosis & treatment of drug resistant TB is crucial in patients infected with HIV for preventing Epidemics.

DR.J.E.PARK MEMORIAL ORATION

Chairperson: Dr. Deoki Nandan, Director, National Institute of Health and Family Welfare, New Delhi

ROLE OF COMMUNITY MEDICINE IN MEDICAL EDUCATION



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There is dearth of doctors especially public health specialists all over the Country. Specialization and super-specialization in medicine-centered on gathering knowledge, applied to ailing people for fast relief has escalated the cost of medical care and decreased the value of general practice. In spite of all the advances in medical sciences, no concomitant improvement in health indicators parallel to the national growth rates is observed in spite of wide network of health facilities across the country. Healthcare delivery is uneven in different parts of the country for lack of doctors to take up public health work due to the reasons that doctors are going in for various other specialties and not public health specialization. Doctors are not available for even running Primary health centres. In many Primary Health Centres pharmacists are managing the health care. For expecting best healthcare for the community, we should have resources adequate in quantity and quality. Resources should be allocated, distributed and efficiently utilized. Regarding resources for healthcare delivery, of all the 'M's of healthcare resources (money, manpower, material, minutes, machines, methods, marketing) manpower is the most important resource. As such focus should be on health manpower development and management.

Objectives of medical graduate training programme should be aimed at grooming a well-rounded medical graduate. Training should aim at producing a physician, competent enough to carry out the curative, preventive and promotive roles. Curricula should be integrated, problem based and community oriented in undergraduate medical course and Community Medicine. Aim of curriculum in Community Medicine is to achieve competence in practice of Holistic Medicine encompassing promotive, preventive, curative and rehabilitative aspects of common diseases. Structure of a Community Medicine curriculum besides providing theoretical knowledge should include community oriented training in urban and rural settings, understanding health problems and knowing the health system of the country.

Teaching of Community Medicine should start from the very first semester spread over through internship. Students are to be exposed to clinical skills, epidemiological exercises, health systems and national programmes and community diagnosis and intervention. There should be enough scope for students for improvement of communication skills, art of interview and public dealing, leadership quality, data analysis and presentation, use of management information system and health education to the community.

Challenges ahead for achieving this, are attitude of students towards the subject, fixed curriculum for longer period, poor integration with other departments, poor articulation of medical ethics, linking with primary healthcare and keeping pace with modern developments

As such options in hand are to concentrate more on 'learning by doing', time to time review of curriculum, emphasis on integrated teaching and inter-sectoral co-ordination, replicating teaching methods of pioneering institutes, sensitizing policy makers to join hands besides adequate funding.

SESSION I: USING THE PUBLIC HEALTH APPROACH IN HIV FOR DISTRICT CAPACITY BUILDING

Sponsored by UNAIDS

Chairperson: Dr. D.C.S. Reddy, WHO- India Country office, New Delhi.

Co-chairperson: Dr. V. Chandrasekhar, Professor & Head, Dept of Community Medicine, Rangaraya Medical College, Kakinada, Andra Pradesh.

1. THE PUBLIC HEALTH APPROACH TO HIV IN DISTRICTS CAPACITY BUILDING AND THE INTEGRATED MANAGEMENT OF ADULT AND ADOLESCENT ILLNESS (IMAI) FRAMEWORK



Dr.K.Karthikeyan, Technical Director- HIV Care, Support and Engender Health- Bangalore
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IMAI Training Package is a structured and standardized training package aimed at training health care providers in district and sub district level in acute care, chronic care and palliative care and equipping the participants with basic core competencies which are a must to provide basic minimum care.

Core competencies intended to be developed through the package are: clinical suspicion of HIV infection, identification and management of opportunistic infections, ability to do clinical staging of HIV positive patients, ability to provide cotrim prophylaxis and PEP, ability to identify the eligibility for ART initiation, identifying side effects of ART, identifying barriers to ART adherence, providing clinical follow up of ART patients, practicing universal precautions, provision and referral for PPTCT and referral linkages for RNTCP

Salient features of IMAI training are that, it is skill-based learning to improve core competencies through interactive sessions, exercises and drills. Training provided through expert Patient-trainers (GIPA, using PLHAs). Training of entire clinical teams is undertaken both separately for each cadre and then trained together as clinical teams so that they know how to function as a team to backup each other in the health care center.

Chronic care is a comprehensive care to be provided for a long term which involves not only medical care but involves patient education, linkages to CBOs, FBOs, referrals and back referrals to and from higher up health facilities. There need to be commitment from patient and family for treatment adherence.

Main components in chronic care course are use of 5 'A's i.e. Assess, Advise, Agree, Assist and Arrange. One has to follow general principles of good chronic care comprising of development of a treatment partnership with the patient, focusing on patient's concerns and priorities, use of 5 'A's, supporting self management and organising proactive follow up besides following the sequence of care

Training emphasizes on the use of expert patient trainers, peer educators and support staff in health facilities, linking the patient to community based resources and support, using written information – registers, treatment cards to document, monitor and remind, working as a clinical team, and assuring continuity of care.

The steps in sequence of care facilitate team approach to a patient who has chronic illness; facilitate task shifting within the health system for provision of chronic care.

In acute care, structured course differs from regular medical text book approach. Provision of care is based not only on presenting complaints alone, but is based on whole person care – for example, though the patient presents with fever, looking into mouth/oral cavity, genital examination etc, is emphasized in this approach. After this training, health care providers may not diagnose different types of lymphomas but surely will not miss the diagnosis of malaria or TB or HIV. Similarly after the training the health care providers will not mismanage unconsciousness but appropriately screen for hypoglycemia, cerebral malaria, poisoning and provide immediate management and refer the patient to a higher care centre with out delay.

Training is given to review common acute illnesses and consider HIV link and to add an index of suspicion for HIV related illnesses, so that HCP do not miss a symptomatic patient of HIV/AIDS. Mentoring visits are arranged with technical mentors and administrative mentor, consisting of two visits in the project period, same mentors visit the facility and do one to one mentoring. Group mentoring and debriefing meetings are also arranged.

Health System Strengthening is done through capacity building, advocating for availability of drugs and equipments – OI drugs, PEP and UP materials and sensitizing the district administration on decentralization of HIV services. Community participation is achieved through Expert Patient Trainers and sensitizing the local stakeholders – BDOs, Panchayat leaders.

Presently most of the training is done vertically for specific cadres of workers individually on counselling training, laboratory technician training or doctor training. Team approach for patient care and support is lacking. Cross linkage and referrals are not really established. Partners and Stakeholders in the programme are St. John's Medical College, Bangalore, Karnataka Health Promotion Trust (KHPT), Karnataka State AIDS Prevention Society (KSAPS) – Pilot District Davangere, SAATHII, ITECH and TANSACS (Tamilnadu State AIDS Control Society) – Pilot District Karur.

2. INTEGRATED MANAGEMENT OF ADULT AND ADOLESCENT ILLNESS (IMAI) EXPERIENCE FROM DAVANGERE



Dr. Balu, Consultant STI, HIV Care & Surveillance,
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Even before Integrated Management of Adult and Adolescent Illness (IMAI) started in the state, Karnataka Health Promotion Trust (KHPT) had received funds from USAID for implementation of rural HIV programme. In the Davangere district, out of 436 villages, 45 % of villages had one or more PLHIV families and out of these, 115 villages had more than three families. This necessitated the implantation of present programme in Davanagere district. The team for the implementation of the programme consists of KHPT, St. Johns Medical College, District Health Services and WHO.

The programmes under the IMAI consist of IMAI Training, Clinical Mentoring and Systems strengthening.

Till now 411 personnel consisting of 107 doctors, 210 nurses, 13 counselors and 81 facilitators have been trained. Clinical mentoring consists of seven STI treatment centers spread over the district. Systems strengthening have been undertaken at all levels

starting from PHC level to Referral hospital, JJM Medical College hospital. Good number of ART, On- ART, IPPCC centres have been established in all the taluks of the district. Out reach activities are carried out once in six months at the referral hospital, once in three months at taluk level and every month at PHCs/CHCs. These activities consist of advocacy, community awareness, and community participation programmes.

Various positive aspects have emerged from the programme. There is a realization by the health care personnel that PLHIVs could form a link/liaison with the community. During the clinical mentoring visits two months after the training these linkages were already seen to be developing. There is a decrease in stigma and discrimination towards the cases. EPTs have gained enough knowledge and confidence that they are able to train other PLHIVs of the network, support group members etc. Programme has also achieved success in aspects of integration into general health services.

3. PILOTING IMAI IN INDIA - NOTES FROM THE KARUR EXPERIENCE



Dr.L. Ramakrishnan, Country Director, Programs and Research Solidarity and Action Against the HIV Infection in India (SAATHI)

Karur is a high-prevalence district with two National highways, large number of single men and women working in textile industry, core and bridge groups contributing to vulnerability. VCTC uptake is historically low, with 5575 persons tested over a period of 5 years since establishment until March 2007 (15.9% HIV positivity). Care services were limited until ART Center was established in April 2007 when IMAI was also launched. Till then PLHIV were going to adjacent district Namakkal and Tiruchirapalli for services. District has a positive network of KDNP+ since 2004/05 which runs support group and follow up services through GFATM-IV. As part of the IMAI programme's Capacity building and System strengthening, has trained doctors, nurses, counselors and laboratory technicians. Clinical Mentorship has been undertaken to ART Center, District GH, Taluk Hq hospital and PHCs (2-3 visits per center).

As an impact of this training, doctors are able to suspect asymptomatic clients in the clinics and refer them to ICTC, health-care providers have been motivated to get themselves tested. Sequence of care is being implemented at K. Paramathy (PHC), Kulithalai (LAC), Pallapatty (LAC), Panjapatty (BPHC), In K. Paramathy; sequence of care is followed also for non-HIV clients, positive deliveries are being conducted in the primary health facilities, PLHIV have been referred for CD4 testing by IMAI-trained nurses. Referrals from peripheral health facilities have increased. Promotion of occupational safety of health-care facilities undertaken are, needle destroyers mobilized from Government, cine fan clubs, for-profit institutions, occupational safety protocol charts mobilized for all PHCs from Emcure Pharma, Pune, PEP kits for all health-care facilities, through TANSACS.

In the area of community involvement, PLHIV were recruited from Karur and eight neighboring districts networks, MSM CBOs and Treatment Counselors, Two-day training for EPTs was covered on suspecting HIV, patient education, self-care and availability of services. As a part of post-training, they encouraged their PLHIV peers to attend the outpatient clinics of primary health centers and visited peripheral health facilities to see how care was being offered, and continued network with health-care

providers. As a result of training EPTS, they promote peer referrals to peripheral health facilities. They have enhanced uptake of VCT, TB and CD4 testing. They have built rapport with health-care providers during and beyond training sessions, and enhanced their readiness to treat PLHIV. All PLHIV referred by EPTs have reported receiving treatment without hesitation from providers. Health-care providers now refer clients to the ART Center and positive networks and have contributed to a doubling of network enrollment since the initiation of IMAI. As a part of sensitization of other groups Self-help groups are trained on stigma-discrimination and community mobilization (eight trainings via SAMARTH), Red Ribbon club students conducted Basic HIV/AIDS training for students at schools and colleges, conducted mass awareness on basic facts of HIV/AIDS at trucking point, BPCL receiving Terminal. Increased awareness among general population has been created with linkages with local media (newspapers, TV) have helped keep HIV/AIDS on the radar of the general population.

4. KEY FINDINGS OF THE EVALUATION OF THE IMAI PILOT PROJECT IN INDIA



Dr Shilpa Modi Pandav, Consultant, IMAI Pilot Project, WHO-India Country Office, New Delhi.

Evaluation method adopted for the IMAI Pilot Project in India is a set of strategies that has taken into account both the demand and supply side factors. Supply side focused on, building the capacity of health care providers in continuum of HIV care, health systems strengthening and promotion of referral linkages. Demand side sought community participation in the form of involvement of PLHA as expert patient trainers. Evaluation was undertaken during June-October, 2008 comprising of process documentation consisting of documentation of the entire project and evaluation of expert patient trainers, mentoring process, district health system strengthening initiative. Quantitative assessment was done by Vocational Training and Rehabilitation Centre, Madurai, which focused on training outcomes. Evaluation covered 71% of HCP trained in Karur and 67% of HCPs trained in Davangere, testing the knowledge through KAP questionnaires, in depth interviews and focus group discussions.

Results of Knowledge evaluation:

- Atleast 90% of doctors and 75% of paramedics were able to list at least one criteria of identification of HIV+ve individual.
- Atleast 95% doctors and between 60%-89% paramedics were able to either list or define opportunistic infections.
- Majority of doctors and paramedics were able to identify and classify OIs in the correct WHO Clinical Stages II-IV.
- Cotrimoxazole prophylaxis and PEP emerged as areas which need further emphasis.
- Majority of doctors and paramedics were able to list Nevirapine as a drug used in PPTCT.

Findings from Process Evaluation:

- EPT: Reduction in Stigma and Discrimination, increase in treatment literacy, increase in peer referrals.
- Health System Strengthening : Provision of HIV Care in Primary Health Care settings,

Increase in two way referrals.

- Mentoring Process : Diagnosis of rare opportunistic infections, reinforcing PEP, Reinforcing sequence of care, assistance in OPDs in management of other diseases.

Major challenges in the IMAI project are:

- Getting the deputation of health care providers, especially doctors for the training.
- Creating a pool of facilitators and Expert Patient Trainers (EPTs), stigma and discrimination practiced in the health care settings and non availability of drugs for post exposure prophylaxis and personal protection equipment for universal precautions.

Recommendations which follow from the evaluation are: Post training follow-up (facility based, individual or district), formation of a pool of facilitators, sensitizing lower level PHC staff, sensitization of private sector, proper documentation for ensuring referrals, exploring different types of mentoring, convergence with other national programmes particularly adolescent friendly programmes, pre-service education/ training: and integrating IMAI in medical curriculum.

SESSION II: INDIAN HIV SURVEILLANCE, ESTIMATIONS AND PROJECTIONS

Sponsored by UNAIDS

Chairperson: Dr. V.M.Gupta, Former Professor & Head of Community Medicine, Banaras Hindu University, Varanasi, U.P.

Co-Chairperson: Dr. R.Meera, Epidemiologist, PSG Medical College, Coimbatore, Tamil Nadu.

5. ANNUAL SENTINEL SURVEILLANCE FOR HIV INFECTION- CURRENT STRATEGY



Prof. Madhulekha Bhattacharya, Dean & HOD Deptt of CHA, National Institute of Health and FamilyWelfare, New Delhi (chanihfw@yahoo.com)

Objectives of HIV surveillance are to determine the prevalence in different states and identify pockets of high prevalence (“hot spots”), assess the geographical distribution and time trends of infection, provide information for the prioritization of resources and evaluation and to estimate number of people infected with HIV in the country.

Methodology is scientifically sound and internationally accepted. “Inclusion criteria” for each unit of sample of ANC, STD, IVDU, MSM and FSW is well defined. Data collection is a standardized process assuring quality of data while sites are identified with criteria.

Surveillance at ANC & STD sites are expanded to HSS 2008 on a limited basis, dropping STD sites in high prevalence States and poor performing STD sites in other States. Number of testing laboratories are limited to only those centres with ELISA facilities. Structured training programme for ANC and STD site personnel are provided and improvised data collection formats and sample transportation sheets are devised.

Surveillance at HRG Sites are carried out with unlinked anonymous testing (UAT) with informed consent. Blood specimens from eligible consented participants are collected through DBS technique. Age groups 18-49 are included and improvised data collection formats are formulated.

Testing strategy at HRG sentinel sites ensures unlinked anonymous testing (UAT) with informed consent, no personal identification is recorded with the blood specimen and HIV test result are not communicated to the participant and participants wishing to know their HIV status are given a voucher that entitles them to a free HIV test.

Resource wise, sites are increased, nearly one to each district. More TI sites and trained manpower for conducting the surveillance are provided. Identified sites with requisite expertise and equipments in the sentinel sites and the testing laboratories are provided budget for the same is made available.

Process wise operational manuals are prepared, orientation training to sentinel site/testing members are provided, logistics and supply to each centre like disposables and formats are ensured. Quality supervision and monitoring in three tiers following a uniform checklist is carried out by making available officers from NACO/Central Team/NIHFW, Regional Institutes, and Office Incharges of Sentinel Sites/HIV testing centres.

Different Regional Institutes assisting the programme are National Institute of Epidemiology, ICMR, Chennai, All India Institute of Hygiene and Public Health, Kolkata, Post-graduate Institute of Medical Education and Research, Chandigarh and National AIDS Research Institute, Pune.

Web based data entry system at NIHFWS website is adopted and the data analysis is carried out by NIHFWS. The analysed data is discussed amongst members from WHO, UNAIDS, NACO, NIMS and other National and International Organisations. A country report is prepared for use by NACO /SACS. Data is shared with NIMS for carrying out estimation of HIV in country. Data is analysed to provide mean and median values, trend analysis, GIS maps, analysis of socio-economic variables and determining significant change over time.

Programme has certain weaknesses also. Some of the technical problems are that majority of ANC sites are in urban areas, women attending ANC clinics are mainly from urban areas and hence likely to have higher positivity than women from rural area, antenatal women are younger, non pregnant women are missed and rural representation of sites is inadequate.

6. ESTIMATION OF HIV INFECTIONS IN INDIA - 2007



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India has been updating the HIV burden in the country since 1998, every year. It adopts a systematic and consultative process with due weighting of HIV prevalence among ANC attendees in these states with the population of respective states and equating them with the same for women in NFHS-3. The calibration factor of Manipur was applied to Nagaland where NFHS-3 for the biological assessment of HIV could not be done. The calibration was done for the reasons that NC attendees are young, sexually active and not using condoms, sentinel sites are in government facilities and mainly located in urban and peri-urban areas where HIV is higher; HIV-positive women may be disproportionately referred from the private to the government clinics, mostly women from lower socio-economic strata (who tend to have a higher HIV prevalence) are using government clinics.

Urban: Rural and Male: Female ratios as revealed in NFHS-3 on HIV prevalence among ANC attendees are applied to derive prevalence among the counterparts. Workbook was created for each of the 35 states for 2007. Estimations of the trend were done using random effect model over consistent sites from 2002-07 and applied on 2006 prevalence for backward calculation. Prevalence curve was fitted for each state using five years work book estimates. Spectrum projection was created for each state and national level

In order to understand the epidemic trend HIV burden was re-estimated for previous years using the random effect model and are as follows.

Estimations have shown that HIV prevalence amongst both males and females have been coming down over the years from 0.53% in 2002 to 0.40% in 2007 for males while the corresponding fall is from 0.36% to 0.27% for females. HIV prevalence among different risk groups are 8.66% for IDU, 6.62% for MSW, 4.94% for FSW, 0.28% for

GP. HIV prevalence among different risk groups by epidemic level were 11.45% in high and 6.63% in low prevalence States amongst IDU, 12.05% in high and 4.55% in low prevalence States amongst MSM, 8.10% in high and 2.29% in low prevalence States amongst FSW, 0.58% in high and 0.16% in low prevalence States amongst GP .

PLHIV estimates showed an increasing trend over the years from 4.58% in 2002 to 5.206% in 2007 by earlier method, while by current method the estimates decreased from 2.73% to 2.31% in the corresponding period. Similarly adult prevalence rates came down from 0.45% to 0.34% during the years 2002 to 2007 by current method while the trends were increasing in the previous method.

7. REVISED HIV ESTIMATES OF 2006: THE REASONS, MEANING AND IMPLICATIONS



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Estimates of HIV prevalence which was 4.58% in 2002, ranging from 5.02% to 5.21% during the years 2003 to 2005, reduced to 2.47% in 2006. This declining trend poses a question. Whether the epidemic is declining or is due to data manipulation and whether the current methodologies of estimation are justifiable? To understand this one has to look into the differences between old and new methods of estimation.

Present method of estimation, stopped using STD data for estimations, standardized ANC prevalence were computed and calibrated to household survey data besides addition of data such as ART, PMTCT, CT prophylaxis and impact of HIV on fertility, demographic variations etc.

Use of STD data for estimations till 2002 were on the basis of (ANC+STD+IDU), in 2003-05 on the basis of (ANC+STD+IDU+FSW+MSM) while in 2006 on the basis of (ANC+IDU+FSW+MSM). In 2006, STD data was removed for estimations because STD patients are a subset of high risk and bridge populations and using data from STD as well as FSW & MSM leads to double counting and even the STD patients tested were of highest risk because they were referred cases in tertiary hospitals and people with discharge, ulcers and warts only were tested. Size of STD population was considered to be 6% of total population (a figure based on all symptoms such as lower abdominal pain, vaginal Discharge, burning in micturition etc.). Since clients of sex workers are part of general population, ANC data were extrapolated to men by an assumption.

Need to adjust HIV prevalence among ANC attendees arises because 90% of ANC women were between 18-29 years of age, majority of the ANC attendees in government facilities were from low socio-economic groups, among whom HIV prevalence was high, many HIV+ ANC mothers detected in private setting were referred to Govt. hospitals which led to inflated prevalence rates.

In the old method, medians were used as state averages, sometimes resulting in zero values and since all sites did not yield zeros, replacement values were used while in the new method, means derived using random effects models (to adjust for intra and inter site variations) were used.

Estimations in 2006 by old approach included 4,849,135 cases out of which 1,373,479 were due to STD (28.3% of total load) and 505,931 due to Replacement (10.4% of total load). If these estimates are removed the estimate would be 2,969,725.

Estimates by the new method indicate that even though the burden is low, the trends indicate that the epidemic is on the rise in several states and overall, it indicates a plateau.

Implications of these estimates are that even at lower burden, task on hand or resource needs do not reduce because size of the vulnerable population remains the same and prevention efforts can't be slackened (eg. IEC, PMTCT). On the other hand, with stabilization number of people in need of ART increases and so do treatment costs.

8. RECOMMENDATIONS OF WHO TECHNICAL GROUP ON HIV SURVEILLANCE IN INDIA



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Present source of NACO's HIV surveillance data are HIV sentinel surveillance, surveillance for sexually transmitted infections, AIDS case and death reporting, behavioural surveillance survey. The data collected from above sources has limitations. The limitations are mainly due to insufficient coverage in some areas, selection biases especially in HRG sentinel areas, ethical issues due to unlinked anonymous testing in HRG and underreporting of AIDS and STI cases.

Newer sources on the availability of HIV data are from PPTCT, VCTC, ART, new surveillance strategies, IBBS, (lite), newer technologies, DBS and laboratory methods for measuring HIV Incidence.

In the light of these aspects five groups of experts deliberated on the issues on HIV surveillance among populations with high risk behaviors in India, HIV Surveillance in general population in India, STI surveillance in India, review of AIDS case surveillance in India and laboratory issues related to surveillance.

Recommendations emerging out of these deliberations on HIV surveillance among populations with high risk behaviours are: mapping of areas and routinely covering the entire country, replacing BSS with IBBS-lite – probability based sampling, discontinuing HIV surveillance in STI clinics in high prevalence states and phasing out in low prevalence states, identifying emerging epidemics, undertaking subgroup analysis of ICTC data for population with HR behaviour and switching to DBS for HIV testing after feasibility testing.

Recommendations on HIV surveillance among general populations are that there is no need to expand ANC sentinel sites in LP areas. Since PPTCT program data are promising but can't replace ANC sentinel surveillance at present it was recommended to replace needs evaluation for possible biases, improve quality of PPTCT program recording and reporting, periodic population surveys needed to calibrate data from ANC sites in the light of its limitations to represent general population, like young women, low Socio-economic groups and public facilities.

Recommendations for AIDS case reporting are to discontinue current AIDS case reporting system, instituting HIV infection reporting using WHO case definitions, pilot testing the HIV infection reporting from pre-ART registration and ICTCs.

Recommendations made on STI surveillance data are to implement basic STI surveillance in STI, TI & ANC clinics, involving private sector, simplifying reporting formats, ensuring analysis and usage of data, conducting and regularly reporting EQAS, switching to DBS for surveillance after feasibility study, exploring possibility of HIV incidence surveillance by using stored NFHS samples and stored HIV SS samples, developing guidelines for incidence assays and ensuring laboratory logistics and exploring HIV SS sample storage issues.

SESSION III: NEWER CHALLENGES TO PUBLIC HEALTH

Sponsored by WHO – SEARO

Chairperson: Dr. Jai P Narain, Director, Communicable Diseases, WHO SEARO, New Delhi

9. CLIMATE CHANGE AND COMMUNICABLE DISEASES



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Ecosystems and life in general have evolved within a narrow band of climatic-environmental conditions. Earth's climate varies naturally, because of a variety of cosmological and geological processes. But "Climate change" (*global warming*) refers to an *additional*, and relatively rapid, change induced by human actions, mainly because of emission of greenhouse gases (mainly CO₂) by industry, transport, deforestation. CO₂ level in pre-industrial times was 280 ppm while presently it has increased to 430 ppm. It will be a big catastrophe if it goes beyond 450-550 ppm. It took about one century for an increase in surface temperature of 0.8⁰ C while in last thirty years itself it has increased by 0.6⁰ C. It is estimated that by the end of this century it is likely to increase by 2.5⁰ C.

Climate change will have profound adverse affect on fundamental determinants of health: food, water and air. It will affect most the poorest of the poor who contribute least to atmospheric build up of green house gases. There is strong global scientific consensus and evidence that warming of the climate system is unequivocal. An increase of 2⁰ C climate temperature can cause an extinct of 15-40% species, while an increase of 3⁰ C can result in floods that will permanently displace 200 million people and an increase of 4⁰ C would adversely effect on global food security. About 150,000 annual deaths are due to climate changes as per WHO estimates.

Unabated climate change shall cost the World at least 5% GDP every year. Each ton of CO₂ emitted causes damage worth US\$ 85. Cost of reducing emissions can be limited to 1% GDP and cost of reducing CO₂ emission can be @ USD 25/tonne.

Impact of these changes is interrelated with the factors like stratospheric ozone depletion, land degradation, freshwater decline, and biodiversity loss and ecosystem damage severely affecting human health. Pathways by which climate change affects human health are through increase in surface temperature, decrease in snow cover and increase in sea level. These would lead to microbial changes, contamination paths, transmission dynamics, change in agro-ecosystems, hydrology, socioeconomic and demographic disruption. Health effects of these changes ultimately result in temperature related illness and health, extreme weather related effects such as floods and storms, air pollution-related diseases, water and food-borne diseases, vector and rodent borne diseases, food and water shortages, mental and nutritional diseases.

Effect of rise in temperature on disease vectors are in terms of increases in rate of development from egg to adults, rate of digestion of blood meal and frequency of feeding. These effects result in alteration of the distribution of important vector species, increase the spread of disease to new areas with weak public health infrastructure, expand the distribution and in transmission seasons of several Vector Borne Diseases.

As examples of changes in disease epidemiology, hills- were free from malaria due to low temperature but have now increased and API in 2007 in Bhabar & Tarai was 0.4.

For Murine typhus, ambient temperature has a profound effect upon rickettsial growth in fleas, as well as the survival of fleas themselves. At 24° C or 30° C, the rickettsial titer was consistently two to three times greater than that seen at 18° C.

For Vector-borne encephalitis, environmental temperature extends the extrinsic incubation period, period between ingestion of virus by vector and subsequent transmission through biting. Moisture/rainfall promotes the growth of plants that are needed for survival and propagation of hosts and insect breeding sites.

Global dengue fever epidemiology has shown a thousand fold increase in incidence from 1960s to 1990s. Climate change is expected to increase the proportion of the global population exposed to dengue fever from about 35% to 50-60% by 2085.

Excess water from melting glacier in Himalayas has resulted in lesser quantity and unsafe water. Variable precipitation patterns are likely to breakdown the freshwater supply and increase the risk of water-borne diseases. Number of deaths due to diarrhoeal diseases shall increase and higher incidence of giardiasis, shigellosis, *Esch.coli* infections, cryptosporidiosis, hepatitis A and cholera.

High temperature increases growth of pathogens as seen in Cholera in Peru after El Nino (analogue to global warming), Diarrhoea in Fiji (3% increase with 10° C rise in temperature), Salmonellosis in Newzealand. Cholera outbreaks are observed whenever sea surface temperature and sea surface are at height.

Coastal flooding results in migration, displacement, social conflicts of human populations. Climate related natural disasters killed 600000 people in 1990s (95% in developing countries).

A public health response to climate change may play a great deal. Since Public health always utilizes a multi-level prevention approach and analogous approach can be taken to respond to climate change.

Primary prevention actions would be *mitigation* of the effects such as efforts to slow, stabilize, reverse climate change by reducing GHG emissions. These efforts should be in sectors other than public health, such as energy and transportation. Efforts will have to focus on industrialized and emerging industrialized countries (China and India).

Secondary/tertiary prevention in terms of climate change are *adaptation* efforts to prepare for, and minimize health burden of climate change, similar to public health preparedness for other uncertainties (e.g. pandemic flu, bioterrorist attack), so likely that public health as sector will be involved in adaptation efforts.

Public health actions which would enable to tackle the problem of climate change would be in terms of, undertaking studies for predicting links between climate change and health, track diseases and trends related to climate change, investigation of infectious water, food and vector borne diseases, communication activities on climate change, capacity building in terms of work force prepared to respond calamities and evolve of appropriate policies. Most important is to develop partnerships with private sector, civic groups, NGOs, faith communities etc.

WHO has evolved a work plan with four objectives to be fulfilled in four years. They are i. Advocacy and awareness raising; ii. Engage partnerships with other stakeholders to ensure that health protection and health promotion are central to climate change adaptation and mitigation policies; iii. Promote and support the generation of scientific evidence, understanding the risks, identifying the best interventions, guiding

health promoting decisions in other sectors, improving decision support, developing generic research protocols for local/national studies iv. Strengthening health systems to cope with the health threats posed by climate change, including emergencies related to extreme weather events and sea level rise.

10. THE CHALLENGE OF EMERGING AND RE-EMERGING VECTOR BORNE DISEASES: NEED FOR AN INTEGRATED AND COORDINATED ACTION



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Challenges have been posed by certain Vector borne diseases (VBDs) which have either newly appeared in a population or have existed previously but forgotten and have been reappearing about which aetiology is well known. Re-emerging VBDs in India are Malaria, Filariasis, Kala-azar, Dengue, Chikungunya and Japanese Encephalitis. More than 90% of these VBDs are transmitted by mosquitoes.

Malaria in India was nearly eradicated in 1960s but success not sustained due to operational and logistic reasons. In 1970s resurgence was there due to technical, financial and operational problems. Still malaria continues to be a serious health problem, deaths being reported from several places. For the past 20 years reported cases are around 2-3 million and the proportion of *Plasmodium falciparum* is gradually increasing.

In 2007 Kala-azar was distributed in total of 52 districts with 130 million population at risk. Sporadic cases were reported from Himachal Pradesh. Kala-azar was forgotten in 1950 but emerged in epidemic proportions in 1977 but now controlled but still around 30,000 cases per annum are reported.

135 districts are endemic for Japanese Encephalitis (2007) in India spread over 15 States/UTs, affecting 330 million people.

India was free from Plague since 1966, but re-emerged in 1994 in Beed (Maharashtra) and spread to 12 states leading to great economic loss.

Factors responsible for resurgence and spread of these re-emerging diseases are establishment of vector in newer areas especially villages, lack of effective and well defined vector control programme, uncontrolled population growth and unplanned urbanization especially substandard housing, inadequate water supply, improper disposal of containers and receptacles, unused discarded tyre dumps, population migration, lack of active surveillance with right diagnosis, Non availability of single dose long lasting vaccine, climate change, mutations in microbes and developmental activities.

Challenges facing VBDs control are lack of information on true burden of disease, difficulty in diagnosis, drug resistance, vector resistance, climate change, periodic outbreaks, lack of trained manpower and infrastructure at grass root level and various paradigms-uniform strategies may work every where.

Regarding diagnosis, challenges are poor accessibility to health services, absence of stringent quality assurance programme, asymptomatic cases (carriers) for eg. Post kala azar dermal leishmaniasis often confused with vitiligo /leprosy.

Issues relating to treatment programmes comprise of lack of awareness of clinicians for rational treatment, limited availability of effective drugs, over the counter availability of drugs leading to wrong/ subtherapeutic treatment, inadequate referral

services, poor management information system for early warning signals, issue of chemoprophylaxis in pregnant women, issue of drug resistance monitoring, quality assurance and quality control of drugs and diagnostics, resistance of kala-azar cases to first line therapy, no effective drug against dengue/chikungunya, irreversible changes in filariasis, HIV co-infection with leishmania.

Challenges for vector control consist of low acceptance of indoor residual spray by the community, poor quality and coverage of IRS, inadequate supervision, increasing insecticide resistance in vectors, weak infrastructure for entomological investigations and forecasting outbreaks, inadequate attention by the local self government, corporate sector towards man-made mosquito-genic conditions, variation in use of bed nets with climatic conditions and socio-economic reasons and problem of re-treatment of bed nets.

Issues related to management of Public Health pesticides are poor storage and transport and lack of safe handling of insecticide and spray suspension by spraymen besides lack of training and non use of protective gears by spray workers, wrong storage practices, lack of clear guidelines for disposal of insecticides/ITNs like unsafe disposal of unused/obsolete insecticide into water and soil.

Molecular tools and newer tools (RDK) for malaria, filariasis, dengue, kala-azar, introduction of RDTs are some the actions initiated to face the challenges of diagnosis. Drug trials are underway to reduce drug resistance and consist of Phase II Open Label Randomized Clinical Trials with ACTs. Studies conducted in India, Thailand have demonstrated the safety and tolerance to drug with 100% cure rate. Phase III Randomized, Double Blind trials have shown rapid parasite clearance, safety and high cure rates of 97.1% to 97.5%. For combating insecticide resistance, insecticide trials for various interventions are undertaken.

Multiple strategies involving multiple agencies have been undertaken for vector control with multiple strategies. Some of them are source reduction involving Minor Engineering Works, Environmental management and EPS Beads, Biological Control through Lrvivorous fish and bacterial pesticides, Community Participation through health education, Intersectoral coordination through social forestry, income generating schemes for self sustaining and Improvement in environmental sanitation.

However, integrated and coordinated action needs intensification of preventive strategies, use of environmentally safe insecticides, rotation of insecticides to combat/delay the development of resistance, alternative approaches for vector control, adaptation to climate change, training and health education to communities, strengthening surveillance and appropriate response, rapid clinical diagnosis, detection and treatment, development of advanced counter measures, viz surveillance tools, diagnostic tests, vaccine and therapeutics, prediction of protein-protein interactions between pathogens and drugs, detection of pathogen signals to monitor resistance to drugs, basic and applied research to develop vaccine candidates, understanding of host-vector-pathogen interactions for pathogenesis of diseases like malaria and dengue, use of satellite imageries for early warning systems, mathematical models for understanding transmission dynamics, augmentation of integrated vector management.

Integrated Vector Management which is a most recent approach consists of rational decision making process for the optimal use of resources for vector control. Five key elements of IVM are: advocacy, social mobilization and legislation, collaboration within and outside the health sector, evidence-based decision making, integrated approach to ensure rational use of resources and tools and wherever feasible using a multi-disease control approach and capacity building. Objectives of this approach are to reduce vector breeding where and when possible, reduce abundance and longevity of vectors and reduce human vector contact.

IVM Planning and implementation process consist of choosing appropriate interventions in environmental management, biological control, chemical control like indoor residual spraying, insecticide treated nets, larviciding, space spraying and evolving legislation- bye laws.

Attention is to be directed towards future needs comprising of: Integrated approach for vector control; Evidence based decision for effective vector control; Capacity building; Resource mobilization, training, IEC, BCC, advocacy; Potentiality of using several combination of insecticides in one area; Better understanding of vector resistance dynamics; New classes of insecticides/ interventions; Implementation of IVM and networking.

Components of IVM already exist but need strengthening. Assessment of the impact of different vector control interventions is made but there is need for effective implementation and efforts for execution and implementation. Long term World Bank funded projects are in pipeline. Evaluations are completed for new Chemical insecticides/ formulations for IRS and Larvicides, LLINs, Biolarvicides, IGRs, etc.. Political and bureaucratic will to implement and provide support to the programme including donor funding. Networking between Programme and Research exists for technical support, but involvement of NGOs and other sectors is required for implementation

11. ACUTE DIARRHOEA AND RESPIRATORY INFECTIONS - HUGE GLOBAL AND REGIONAL PROBLEM, NEGLECTED OR OVERLOOKED?



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Globally incidence of diarrhoea and lower respiratory diseases account for nearly 4620 million and 429 million episodes per year respectively and in SEA region these rates are about 1277 and 135 million and DALYs accounted by these two diseases respectively are 72.8 and 94.5 millions globally and 23.0 and 28.3 in SEA region. SEAR has 39.1% share of the total global burden of Pneumonia. India, Bangladesh, Indonesia and Myanmar have 94% share of the total pneumonia burden of the Region. DALYs lost in India due to diarrhoeal diseases in 2006 was 25,646,217 which is expected to rise to 27,486,636 in 2016. Respiratory diseases and Diarrhoeal diseases are the first five causes of death of all ages in SEAR countries. Infectious diseases account for more than half of under-five deaths and two major killers are diarrhea and ARI.

Common risk factors of these diseases are low socio-economic status, suboptimal domestic hygiene practices (low awareness/ resource constraints), suboptimal access to healthcare in rural and remote areas/urban slums, malnutrition (non-exclusive breast feeding, zinc deficiency, poor complementary feeding and early weaning) and overcrowding. Additional risk factors for pneumonia are extremes of age, indoor air pollution/ parental smoking, OAP, HIV infection, concomitant disease (Asthma, etc), genetic predisposition while for Diarrhoea very young age and unsafe water and sanitation.

Incidence of diarrhoea has not shown any decline over the years and the age specific incidence has also remained more or less unchanged since the 1950s. It is highest in infants in the age range 6 to 12 months and during first year of life. Age specific mortality rates due to Pneumonia are highest among infants.

There is a large gap in water safety. There is much room for improvement both in our region and in SS Africa. 884 million people in SEA region, and about half of them living in Asia still use an unimproved water source. Hygiene practices/ hand washing practices are very poor. It has been shown from studies that improved hygiene practices/ hand washing reduces diarrhoea risk by 47%. Hand washing promotion reduces diarrhoea risk by 53% and pneumonia by 50%. Exclusive breastfeeding (EBF), continued BF to 12 months prevent 1,301,000 deaths or 13% of all child deaths. Complementary feeding reduces deaths caused by diarrhoea and pneumonia by 10% and overall child mortality by 6%.

Community-based Case Management (CCM), for acute diarrhoea with no/ mild/ moderate dehydration, L-osm ORT and zinc supplementation, treating with antibiotics only for acute bloody diarrhea and referral of cases with danger signs (listlessness; severe dehydration; unable to rouse; unable to feed) and for pneumonia with cough and difficult breathing, RR and chest wall in-drawing, complications and danger signs, cyanosis; listlessness; audible wheeze; refusing feeds/ unable to feed; un-rousable, convulsions, etc along with treatment of uncomplicated pneumonia with oral antibiotics, Oxygen and referral of cases with complications/ danger signs can help to lower the mortality rates due to these diseases.

Other actions which can lower the burden of disease are improving domestic water and sanitation and reducing indoor air pollution.

Strategies to be adopted in this direction are: Improving Awareness/ Advocacy through National and State governments and International partners for political commitment and resource mobilization; Developing a package of interventions such as prevention programmes like immunization, nutrition and safe food, handwashing plus water and sanitation and reducing IAP; Community case management of acute diarrhoeal diseases and respiratory infections especially pneumonia through community mobilization, improving awareness, care-seeking/ demand and participation through IEC; Improving access to healthcare and expand coverage through community based approach and strengthening PHC in terms of capacity building, developing CHWs, Facility-based HCW's training protocols and guidelines, logistics and supplies and referrals and supervision, etc and Seeking improvement through research, surveillance.

SESSION IV: IMNCI AND ROLE FOR MEDICAL COLLEGES

Sponsored by UNICEF, New Delhi

Chairperson: Dr. Ingle, Director & Head of Department, Maulana Azad Medical College,

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12. CURRENT SCENARIO AND ROLE OF MEDICAL COLLEGE COMMUNITY MEDICINE DEPARTMENTS IN SUPPORTING IMNCI



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Current scenario of under five child mortality in India is grave. In India, out of under five deaths, 38% occur within 7 days of birth, another 12% between 7 to 29 days while 25% from 29 days to one year and the rest 25% deaths are between one to five years of birth. Thus Infant deaths constitute 75% out of which, Neonatal deaths are 50%. Every month on an average, for every 1000 live births, 31 children die during neo-natal period, two children during post-neonatal period (1-11 months) and one child during 12-59 months period. Thus the risk of dying is 15 times higher in the first month of life than in subsequent months of infancy.

Integrated Management of New born and Childhood Illness (IMNCI) is a modified version of Integrated Management of Childhood Illness (IMCI) into which newborn care is incorporated. Previously IMCI was concentrating on the treatment of infants from 7 days to 5 years in terms of integrated case management of the five most important causes of childhood deaths namely Acute respiratory infections (ARI), Diarrhea, Measles, Malaria, Malnutrition beside other serious infections, Micronutrient supplementation, Anthelmintic treatment, Breastfeeding and Complementary feeding, Counseling, Family/community education, Home care practices and Promotion for immunization.

Now IMNCI takes care of all these aspects of all infants from birth to 5 years. besides a module to take care of children from birth to 2 month which includes essential newborn care, assessment of young infants for infection and diarrhoea, treatment and referral when required, providing antibiotics (oral for pneumonia, oral plus injectable for very severe disease), ORT, extra care (Kangaroo mother care) for low birth weight infants, support for initiation of early and exclusive breastfeeding and correction of problems, home care practices and danger sign awareness for the sick newborn and home visiting. This integration is necessitated because most of the children have more than two to three illnesses at a time. The IMNCI approach will be the centrepiece of newborn and child health strategy in RCH- II.

Essential objectives of the programme is to reduce significantly global mortality and morbidity associated with the major causes of disease in children, to contribute to healthy growth and development of children.

In India IMNCI is newborn centric and has home-based component. During these home visits front-line workers like AWWs and ANMs conduct activities such as recording the weight of the newborn, assessing the newborn for a sign of “illness”, assessment for feeding and establishment of breast-feeding, counseling the family on

feeding, warmth, danger signs and care-seeking and cord care, assessment and management of local infection and refer children with *severe* illnesses. Home visits are conducted on 1st, 3rd and 7th day for all newborns. Additional visits are made for low birth weight babies on 14th, 21st and 28th days.

Essential components of IMNCI are improving health worker's skills, improving health systems ensuring supply, facility functioning and referral and improving family and community practices besides convergence and partnership.

Programme has achieved a considerable progress. 75,000 personnel have trained. Studies conducted on the programme have shown that health workers performance has improved and health facility utilization has increased. Improved child health care in terms of better quality care, less expensive drugs, more competent mothers have been achieved.

Innovations under the programme have led to expanding newborn care from home to facilities. Facility based care of newborns has been necessitated by increased referral following IMNCI. Increased institutional births have been seen following JSY. Programme has been able to provide high quality care by setting up of newborn care units in remote districts at moderate cost achieving significant reduction in neonatal mortality in 8 states which has been scaled up to 18 states using state resources and improved facility utilization.

Partnerships are the best way to advance quickly, facilitators / trainers, clinical material, supervision, accountability, referrals and operational research. Partnership can be achieved through Medical Colleges, Development Partners, Government, NGOs, PRI / SHG, Professional Bodies.

Multi-country evaluation of IMCI have shown that the programme has been able to improve quality of child health care in first-level facilities, improve care-seeking, with more than 3-fold increase in use of first-level facilities for sick-child care, increase the utilization of health services, particularly among those perceived by caretakers to have severe illness and reduction in mortality. Key factor observed in the programme is that the Health systems support and supervision is critical to programme success IMNCI.

Estimates of efficacy for interventions in the IMCI strategy has shown that under-five mortality has declined by 35% by use of ARI case management, 4-14% by ORT use and 20% by measles immunization.

Challenges exist in implementation of IMNCI. Some of them are :number of persons to be trained is large, adequate case load at health facilities , long duration of training , ensuring quality of training, involving private providers, inculcating habit of practicing what is preached, addressing health system issues and addressing referral issues.

Medical colleges can co-ordinate with IMNCI through starting of Pre Service training, maintenance of quality of training, expanding facilitation pool through more training sites and facilitators, assisting supportive supervision, assisting district planning and monitoring, establishing referral linkages and improving community participation.

It is easy to implement by integrating IMNCI in Pre-service curriculum of medical professionals (doctors, nurses, paramedical workers). It is feasible and sustainable and at the same time algorithm approach can be appreciated by trainees. It is very comprehensive, improves clinical skills, if introduced early it does not interfere with routine teaching and is more effective in clinical settings. It should be part of the assessment scheme (final examinations) and should be taught in both Pediatrics & Community Medicine and repeated again during internship. Some of the initial concerns of this integration like “it cannot substitute “hard-core” pediatrics”, “Students need to

learn about most high tech diagnostic tools and drugs”, “the curriculum is already overloaded” are all laid to rest. It is realised that it has definitely added to clinical skills and is essential for all students to know.

Pre-service can be used as a tool for accelerating national priorities, evolving evidence based, case management guidelines and training for individual diseases ultimately leading to integrated case management guidelines, promoting better communication skills leading to interventions to improve family and community practices. It aids incorporation of National programme teachings in Paediatrics and Community Medicine & Evaluation.

Medical colleges can support program implementation by handholding support for districts, ensuring quality of ground-level training, monitoring and supervision of field programs providing excellent opportunities for medical students to understand the “ground realities” and learn public health.

Medical colleges can also undertake Operations research studies in understanding what is happening to newborns that are referred by IMNCI trained workers, what is the current neonatal mortality in district hospitals, which fits in well with the community health teaching agenda of monitoring, evaluating ongoing programs ultimately generating useful publications.

13. ADDRESSING MEASLES MORTALITY: 2ND OPPORTUNITY FOR MEASLES VACCINATION



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Goal of measles vaccination programme is to reduce measles mortality by 90% compared to 2000 mortality rates. There are 47 countries in the World contributing for 94 % of all measles deaths. These countries did not have any goals for second measles vaccination. 44 countries were doing second immunisation programmes and other two countries partial second immunisation programmes. Only one country, i.e India was not implementing second opportunity.

Case-based measles surveillance implementation status at national level was present in 146 (76%) countries while it did not exist in remaining 47 countries. To support the surveillance programme there are more than 700 VPD Laboratory across the Globe.

During 2000-07, first dose Measles coverage increased from 72% to 82% globally, while in 47 Measles Priority Countries it increased only from 58% to 72%. This resulted in decrease in polio mortality rates globally by 74% as compared to only 42% in SEAR. In India there were 8.45 million unvaccinated infants for measles vaccine in 2007. During 2007, out of the estimated 198,000 deaths due to polio globally, 69% were from SEAR. In India during 2007, 94% of measles deaths were in ten States concentrating mostly in four states where coverage was less than 80%. In 2007, 84 % of 47 countries conducted Integrated ITN Campaigns where measles vaccination programmes are integrated with at least one other child survival intervention. These programmes resulted in better coverages.

India has taken to introduce 2nd approach but not fully committed. Technical advisory group at National level to oversee Measles control programme has been formed. Recommendations of this group are to introduce 2nd Dose as MR in routine EPI in States with

≥ 80% evaluated MCV1, catch-up measles SIA campaigns (9months-10 Year) in States with <80% evaluated MCV1, while for UP, decision on catch-up SIA after consultation with State Government, conduct case fatality rate studies in selected high burden state, expansion of measles surveillance to be done in UP and Bihar and other states with high measles mortality for SIA planning and generate baseline data.

SESSION V: SHARING PUBLIC HEALTH GOOD PRACTICE

Sponsored by National Health Service (NHS), Walsall, United Kingdom

Chairperson: Dr.D.K.Taneja, Professor of Community Medicine, Maulana Azad Medical College, New Delhi

14. ORGANISATION AND DELIVERY OF HEALTH SERVICES AT A DISTRICT HOSPITAL IN THE UNITED KINGDOM



Mr. Paul Jennings, Chief Executive Officer, NHS, Walsall,
(giri11@yahoo.com)

Organisation and delivery of health services in the United Kingdom has become a centralised system that has become increasingly local, a system that has become increasingly “managed” with the introduction of general management concept in 1984. The programme is steering not rowing. Since 1997, with the current Labour Government, expenditure on health has grown from 6% of GDP to 8%. Under the present system huge improvements have taken place in terms of reduction in waiting times. The big ticket issues of the system are the ageing population, cost and pace of technological advancement, more demanding and knowledgeable population and competition for labour.

The National allocation process through Parliamentary Vote allocates the level of resource for the year for England with separate systems for Scotland, Wales and Northern Ireland. Allocations are annual but planned in three year cycles, this is the second year and the system has allocations by PCT for the next two years.

The management board of the NHS is responsible for determining allocations, setting targets with ministerial approval. The Strategic Health Authorities manage the whole system, directly manage PCTs and the Non foundation trusts.

The Primary Care Trusts have over 80% of the budgets, let contracts through commissioning process, have responsibility for needs assessment and are population based with the population defined by General Practitioners’ “lists”.

The role of the Primary Care Trust is to commission care for its population after assessing the needs. Intelligent commissioning exists with a World Class Commissioner and an assurance based system of competency based approaches to commissioning. They let evidenced based contracts for services, monitor and regulate performance – quality and cost, work in partnership with others to move care upstream for prevention and health promotion. Emergency planning to respond to emergencies across the health and social care system.

This approach can be used by India in terms of mutual learning and exchange, to understand the differences between the public health problems of the UK and those of India since the programme in UK be on to something in World Class Commissioning with an intelligent commissioner.

15. SPECIALIST CHILDREN'S HOSPITAL IN THE WIDER PUBLIC HEALTH AGENDA



Ms. Joanna Davis, Chairman, Princess Dianna Children's Hospital Foundation Trust, Birmingham (giri11@yahoo.com)

This Hospital was founded in 1862 and moved to main site in 1998. This hospital is one of only four Children's Hospitals in the country. Hospital provides care for children, young people and their families locally (Birmingham), regionally (West Midlands), nationally and internationally. Is a partner with the Universities of Birmingham, Birmingham City and Aston, the Wellcome Trust, Edward's Trust, RMHC and the Teenage Cancer Trust. Hospital has many achievements and firsts. The philosophy of treatment at Birmingham Children's Hospital (BCH) is that "Every child who comes to a research based teaching hospital should take part in finding new treatments". Till now eight National studies have been undertaken, including one which is investigating a cure.

The Role of BCH in tackling childhood obesity is training and education, development and specialist support. In partnership with local Primary Care Trusts, established clinics in local areas of Birmingham. Assessments are carried out by Community Paediatricians. Programme is managed by a community specialist nurse, dietician and exercise specialist. Patients are followed up three monthly by paediatric obesity nurse. Referrals are done in some cases to specialist paediatric obesity clinic at BCH.

Aim of obesity management pathway is to identify those obese children with multiple cardiovascular risk factors, to identify complications such as diabetes, hypertension, dyslipidaemia, to treat complications effectively and to intervene to reduce obesity and hence modifiable cardiovascular risk factors.

The development of the infrastructure for the Children and Young People's Quarter could be an ideal opportunity to promote healthier lifestyles.'

16. TACKLING THE OBESITY EPIDEMIC IN WALSALL



Dr Sam Ramaiah, Director of Public Health/Medical Director, NHS, Walsall (giri11@yahoo.com)

Walsall has a population of over 260,000. Over 14% of the population is from an ethnic minority group, mainly South Asians. Walsall has some of the most deprived areas in England producing an East and West divide. Educational achievement is amongst the lowest in England.

Obesity is a growing problem with 50% rise in last 12 years. Estimates of obesity amongst adults in Walsall vary between 19% and 33% for only obese and up to 57% for overweight as well as obese. In children approximately 17% children of school age are classed as obese and 31% as obese and overweight. Highest rates are in north and south

west of the borough. This is consistent with adult obesity figures. Obesity is higher amongst the white population. However there is a question around the sensitivity of the measurement.

Obesity amongst children is tackled through programme like, Fun for Life, Hungry for Activity, National Child Measurement Programme, WAY forward, Skilz for Sport, Healthy Schools Programme, Working towards full Baby Friendly. These programmes have accreditation and have achieved the UNICEF Baby Friendly Certificate of Commitment.

Under Fun for Life, Children are weighed and measured with 12 sessions programme on physical activity and lifestyle education. Parents must attend/engage in these programmes. The programme has led to a reduction in BMI and parents who attend the parental education sessions are more likely to adopt and implement the principles and practices

Adult Lifestyle Pathway programme consist of, Lifestyle Advice at *Level 1*, Primary Care Weight Management Service at *Level 2*, Health Training and then referral to Dieticians, Commercial Weight Management Services, Physical Activity Services at *Level 3*, and finally Specialised service including options for medication and surgery at *Level 4*.

Obesity amongst Adults is tackled through Health Trainers, Sports and Leisure Services, Physical Activity Interventions including Time to Change, Weight Management Groups, Commercial Weight Management Programmes, Nutracheck online food and exercise diaries, Cook & Eat Sessions 5 a Day, Food Co-op and Community Dieticians

Time to Change activities consist of Exercise, Consultation on Referral Scheme, Exercise advice and support service, Partnership between Walsall Council and NHS Walsal which began in 2001.

Barriers for the programme consist of, historically poor data, People who are obese do not always perceive themselves to be very overweight, Strong relationship between deprivation and obesity as well as Media.

The achievements of the programme are, Development of Adults and Children's Pathways, Improvements in recording of Obesity, Height and Weight, CDR Intel, extracting adult BMI data. Besides, Walsall has a number of successful pioneering programmes like Positive feedback from the National Support Team, Partnership working between the PCT and LA, Review of Obesity Strategies against NICE recommendations.

Recognition of the Problem, Epidemiology of Obesity, Additional Resources, Data Collection, Lifestyle Changes, Community Development, Training and Monitoring can be some of the experiences gained in the present programme which can be translated to Indian programmes.

DR. K.N. RAO MEMORIAL ORATION

Chairperson: Dr. Satish Kumar, State Representative, UNICEF Office for TN & Kerala, Chennai

SOCIAL DETERMINANTS OF HEALTH AND HEALTH EQUITY



Dr. V. Chandrasekhar, Professor & Head of Community Medicine, Rangaraya Medical College, Kakinada, A P (mccommed@yahoo.com)

A lot of progress has been made to achieve the goal 'Health for all'. Health equity became an unequivocal component to achieve this goal. Primary health care is the hub of coordination between various agencies within the community as well as with outside partners.

To achieve health equity we have to take care of conditions of daily life, equitable distribution of resources nationally and globally, expanding knowledge base and taking actions accordingly. Equity has to be established between and within social groups as an important factor to lead a healthy life.

Equity during early years of life in terms of physical, social, emotional, language or cognitive domains are important to build up a healthy life patterns at later years of life. At least 200 million children all over the World are not having development due to inequities. So it is imperative that we should implement early child hood promotional activities like ICDS programme etc.

Fact that inequality of infant mortality rates among various Nations relates to inequity in mother's education between countries and within countries is glaring. It is demonstrated by studies that as education of mother goes up, infant mortality comes down.

In urban areas a billion people live in slums with poor environment, water supply and housing conditions As such health equity is to be thought of not only in rural areas but also in urban areas. Equity in economic programmes should be thought of for all these people. Under-5 mortality rate per 1000 live births is related to level of household wealth. In India Under-5 mortality is about five times higher amongst the poorest households as compared to richest ranging between 150 to 50 in the two groups.

There are inequalities in safe employment and decent work. When these inequalities are removed, they can protect people from financial insecurity, social ill development, physical and psychological hazards.

Universal health care coverage in relation to gender, social status is important. It is imperative that Government should have schemes like social insurance for the deprived people. Inequalities are produced because of certain social norms. Appropriate Government policies can remove these inequities.

Empowerment of women is very important. Gender inequity is socially generated. Women are always paid less wages. Access to health care for women is very important to reduce maternal mortality. Employment opportunities for women, leave availability to women are some of the factors leading to inequity of health care to women.

Important actions depend on multi national agencies. Public financing should take care of equitable distribution between social and gender groups.

DR. A.L. SAHA MEMORIAL ORATION

Chairperson: Dr. N.S.N.Rao, Chief Consultant, Centre for Research in Health and Social Welfare Management, Bangalore.

PUBLIC HEALTH RESEARCH IN INDIA – TIME FOR A PARADIGM SHIFT



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Public health research is at cross-roads due to various transitions which are taking place. Demographic transition, globally and in India has resulted in increased life expectancy resulting in more elderly and younger age groups. Changes in the disease pattern have resulted in increased burden of diseases. Changes in macro environment and advances in health care are taking place all over the World. Globalization and increased recognition of public health as a multi-disciplinary science have forced us to delve upon issues like meeting health expectations of the masses, public health governance and economics of health. All these will affect the dynamics of funding process especially for research. But the basic questions which remains to be answered are: Is the current Public health research synchronising with this changing context? Has the present trend in research taken care of expectations of the people in to consideration?

There is vast number of stake holders in public health research system. They are academicians in Medical Colleges and Institutes, Universities, UGC, donor agencies like National and International agencies and Philanthropic organizations, governmental agencies like ICMR, CSIR, OST, DST, Health services and ministries, beneficiaries of research and other NGO and private agencies. But there is not much co-ordination between these stake holders in research.

National level exercise for research prioritization is lacking. Burden of disease and Public health research is not well connected. There is gap in Global forum for health research besides poor programmatic linkages. There is discordance between disease burden and health research as is evident from the available statistics on percentage of DALY loss which is an indicator of burden of disease, and percentage of total quality-adjusted public health research output. Human resources, health policy, health economics and impact assessment of interventions are also poorly represented in Public health research

There is exponential rise in the quantum of global research publications. In Asia Pacific Region, from 1992 to 2001, 496,006 papers were listed. Several Asian countries have significantly increased their research output, but out of this, only 12.8% are from India while it is 86% in China. Further there is gross lack of public health research output. In 2002 when 4876 papers with in India from PUBMED were analyzed, only 216 (4.4%) papers were from the public health domain and only 148 (68.5%) of these were original research articles. Medical colleges have contributed to about 55% of this, but contribution from public health systems is meager.

There are just 34 Indian journals out of 5164 Medline journals. For individual articles, even though there is a marked subjective improvement in the last decade, in Citation index, it is still very poor. This emphasizes that there is unequivocal scope for improvement in quality of research.

Institutional support mechanisms have to be developed in terms of Institutional Ethics committees, Institutional research boards, Research monitoring committees, Diagnostic support, Logistics for field-based studies, Institutional research grants, Human resources and Extra-mural grants. Even though it is estimated that investment on public health research is to rise to 2% of the total health expenditure by 2010, there is lack of reliable estimates on expenditure on public health research. Further there is gross under-utilization of research budgets.

There is acute shortage of competent researchers and no concerted efforts to address this shortage have been undertaken. Research capacity can be built by conducting workshops on research methodologies, especially to handle multi-centric, multi-disciplinary studies, logistic management or financial management etc. There is lukewarm response from Community medicine faculty to involve clinicians in the research.

Research paradox exists in the areas of Research culture. There are no concerted efforts for promotion of academic environment, research mentoring or ensuring leadership positions for researchers and ensuring due recognition for research capabilities.

There is need for identifying target audience for dissemination. Translation of research findings is very important to develop policies and reorganize programmes through evidence based research. Deciphering and applying research evidence in clinical decision making and creating health care policies is to be developed. Iterative loop of translating evidence from research to policy and programme implementation should be evolved.

SESSION VI: PPTCT-TOWARDS UNIVERSAL COVERAGE

Sponsored by UNICEF, Hyderabad

Chairperson: Dr. Bir Singh, Professor of Community Health, All India Institute of Medical Sciences, New Delhi

17. PPTCT-TOWARDS UNIVERSAL COVERAGE



Dr. Sudha Balakrishnan, HIV/AIDS Specialist, UNICEF, Hyderabad (sbalakrishnan@unicef.org)

Nearly two thirds of India's HIV burden is in three states of Andhra Pradesh (22%), Maharashtra (20%), Karnataka (11%) and Tamilnadu (10%). In India mother to child transmission is the most significant route of transmission of HIV infection in children below the age of 15 years. In India 27 million pregnancies occur annually out of which about 85,800 are HIV infected pregnancies, which accounts for 30% transmission rate, contributing 25,740 infected new borns. Perinatal transmission accounts for 4.3 % of HIV transmission. Risk factors for transmission are seroconversion during pregnancy, advanced disease, STI in the mother, concomitant malnutrition and micronutrient deficiency, prolonged rupture of membrane, premature delivery, prolonged contact with maternal blood and cervicovaginal secretions, feeding through cracked nipple and mixed feeding.

The PPTCT programme started in 2002, aims to reduce the transmission of HIV from an infected mother to the infant. It entails the counseling and testing of pregnant women in the Integrated Counseling and Testing Centres (ICTCs). Pregnant women detected HIV positive are given a single dose of prophylactic nevirapine tablet at the time of labour and the new born is also given a single dose of nevirapine so as to reduce the risk of transmission of HIV from the mother to the child. Currently nearly 60% of HIV +ve pregnant women and the infants born to them get prophylactic single dose NVP at PPTCT centres across the country.

Scale up and coverage activities of the programme consist of, integration of testing facilities, setting up of testing facilities up to CHC, 24/7 PHCs in HPS providing out reach services, increasing coverage in private sector, PPP – EGPAF and FOGSI pilot initiative, establishing referral and linkages for CD4 testing and care and treatment and introducing multi-drug regimen.

For capacity building master trainers on PPTCT are available in most of the States in 42 training institutes providing decentralized training. Standardized training curriculum on PPTCT, counseling and testing and have been developed besides training curriculum for ORW and ICTC

Monitoring and supervision of the activities are carried out through District ICTC supervisors in HPS. Monitoring is based on population based coverage at all levels. Tools to monitor referral and follow up are through line listing of mothers.

Communication activities under the programme are creating awareness of PPTCT and generate demand for services, using mass media in high prevalence states to motivate pregnant women to access ICTCs through TV, radio, print and outdoor publicity

activities. This is complemented with appropriate materials and tools at the ICTCs by video, leaflets, flip books, posters. Impact evaluation of mass media campaign as well as materials at ICTCs is currently underway.

Supply chain management is organized through National supply as well as State supplies. Till 2007, PPTCT programme has covered 3.2 million pregnancies out of 27 million in a year. Of the pregnant women who accessed PPTCT services, 18449 were diagnosed as HIV+ve, of whom 11460 MB pairs received prophylactic SD Nevirapine

Major challenges facing PPTCT programme in India consist are that coverage is low in all States except in the 6 high prevalence states and MB pairs covered with prophylactic NVP is only about 60%. Stigma and discrimination towards HIV+ve pregnant women is a major factor impeding progress of the PPTCT programme in many States and emergency labour room cases are still not counseled and tested for HIV in many States due to lack of simpler tests.

Coverage in private sector as well as at home deliveries is low since the planning is facility based. Multi-drug regimen is not introduced in the programme. Follow up of exposed children till they are tested negative is resulting in reduced early infant diagnosis. Monitoring and supervision do not analyze parameters related to quality of care. Further supply and procurement system is not robust.

18. AN EVALUATION OF NGO OUT REACH WORK IN PPTCT PROGRAMME IN ANDHRA PRADESH



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The current study was carried out by Govt. of Andhra Pradesh in collaboration with the NGOs on the process and implementation strategies of PPTCT outreach program carried out by the NGOs. Specific Objectives of the evaluation were to understand the infrastructure and processes involved in planning, implementation and management of the “Out Reach Program” under the PPTCT, to assess the implementation of the PPTCT Plus program undertaken by different NGO units in Andhra Pradesh, to identify the strengths and weakness of the program and define the problems faced by the various stake holders.

The study was cross sectional and institution-based with extension into the community, in the form of interactions with select HIV positive mothers and the State level decision makers. Qualitative methods, based on Rapid appraisal Procedure was used to enable quick and systematic data collection. This approach synthesizes multiple sources of information to rationalize and objectively balance the evidence. The technique involved in the ‘performance based’ data collection included *‘searching for opinion, attitude, behavior and motivation of both provider and clients*. Being a very sensitive issue, adequate precautions were taken during qualitative data collection. Only after initial good rapport building, the actual assessment and sensitive questions were raised.

There were in all 42 NGO based PPTCT projects in Andhra Pradesh, of which 48% were working for less than one year while the rest were there for varying periods between 12 to 40 months. In these 42, the leadership pattern comprised of, shared or community sensitive in 28.6%, decentralized in 38.1% and authoritative in 33.3%. 69%

of NGOs had a well defined authority while with the rest it was not defined. Regarding functioning and leadership status, 64.3% had a grade of 5 to 4, while others were in the grade 3 to 2.

Assessment of Stakeholders involvement in the programmes was graded through various types of meetings held with the stake holders. It was revealed that 52% were of average (grade of 7-9) while the rest were having good grades (>10). None were in the poor grade (<7).

Average number of home visits in a month ranged from less than 25 to more than 200. 12.2% NGOs had done between 0-25 home visits, 26.8% between 51-75, 34.4% between 76-100 and the rest more than 100 visits in a month.

Regarding staff availability, 95.6% of NGOs had a Project Co-ordinator, while only 57.1% had Counselors. In 97.6% of NGOs more than 80% of the sanctioned posts of out reach workers were filled up. Social workers were available in 88.1% of NGOs. In 88.1% had more than 80% PLHA among the ORWs working in the NGOs.

Training mechanism / module was present with only 26.2% NGOs. Only 28.6% of NGOs had covered all the topics recommended for ORW training, while 54.8% had covered more than 5 topics. Only 9.5% of ORWs had more than 70% of knowledge, while 76.6% had less than 50%.

All the NGOs had either good or satisfactory recording mechanisms and the documentation was well maintained in 40.5% and partially maintained in 54.8%. With 19.0% NGOs safe and confidential record maintenance was poor.

Only 45.2% had adequate IEC materials and displayed them properly.

19. EVALUATION OF PPTCT OUTREACH PROGRAM IN A.P. - QUALITATIVE REVIEW



Prof. Madhumita Dobe, Professor and Head of Department,
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Present evaluation was carried out through in depth structured discussion with the key stakeholders at the State level as well as observations and discussions with the teams engaged during field survey.

Evaluation indicated that program planning had many deficiencies. Available care and support services were poor. Generic concept for PPTCT outreach work was given by NACO only in the second quarter of 2004. NGOs / CBOs already working on Care and Support were identified as leaders for the roll out. Workloads and the extensive geographic coverage needs rationalization. Involvement of all the stake holders in State level planning was lacking. There was no involvement of state level functionaries for planning of the PPTCT program. Budgetary support from state government was not available, except with the NGO run community care centers (CCC) and Drop in centers (DIC). Even though an attempt to streamline with the general health services is being made, there were no guidelines regarding integration of NGO, Government and Community based organizations for PPTCT program.

No formal training programs were organized for PC/ORWs. Field extender in SACS were not roped into the training programmes. Training modules were not available and only counseling modules which were available were used for training all the cadre of

workers. Field visits were not arranged during training. Post training evaluation was not carried out. Further PC/ Supervisor/ORW were trained together initially. Thus the training was poor in terms of quality and frequency.

For Monitoring of the programme, reporting formats and registers were not designed initially and staff were not trained in monitoring process. Some reported that they were only told about types and number of registers to be maintained but did not know how to maintain it. Only after Planners visited Tamil Nadu in September 2005 monitoring formats were adapted, copied and circulated in Feb/ March 2006. State and district monitoring and review were done infrequently by two state planners. However, District review improved only after the District ICTC Coordinators came on board in 2007.

Data analysis was not adequate and no feedback existed to enable the quality of work. No consolidated data was available at the state level/ district level. Monthly reports of some NGOs did not match with the district ICTC coordinators report.

Some of the performance barriers for the programme are listed below.

- Initially Stigma & discrimination against ORWs was very high but after the 'Be Bold' campaign, acceptance was much better
- Areas allotted varied from 1 to 3 Mandals with average population of 60,000 to 100000. For majority of the ORWs, it was difficult to cover large population.
- TA of Rs.1500/mth was insufficient, considering the amount of travel they had to undertake.
- ORWs mostly obtained data on +ve ANC & PNC cases from ICTC/VCCTC and then tracked them.
- Most of ORWs followed up ANCs to ensure institutional deliveries and administer NVP to the mother and child .ORWs distributed NVP to the patient long before delivery and could not ascertain whether medicine is actually consumed or not. 25% to 50% of the cases registered were not traceable for follow up.
- Private practitioners did not report their cases to the ORWs.
- Some ICTC staff refused to divulge information to the ORWs about cases from middle and high income background.
- ORWs visited the villages according to their convenience. In nearby villages they visited at 15 day interval and in remote villages only once in 2-3 months.
- Difficulty existed for male ORWs to track and escort the ANCs to the ICTC. They always needed the help of ASHA or AWW.
- Line of authority between Project coordinator, Social worker & ORWs was not clearly defined leading to marked lack of leadership and ineffective control of the ORWs
- In some NGOs, functionaries involved in the project lacked uniformity of understanding the specific purpose of the project.
- Coordination between ORWs & general health services was minimal.
- Meetings with other stakeholders were infrequent.
- ORWs attended SC/AWC meetings without clearly understanding why they should attend such meetings. In few areas there was no exchange of information.

20. ASSESSMENT OF KNOWLEDGE OF OUTREACH WORKERS INVOLVED IN THE NGO RUN PPTCT PROGRAMME IN ANDHRA PRADESH



Dr N B Laskar



Dr F A Zaman



Dr. Purabi Phukan

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Knowledge level of ORWs on issues related to HIV/AIDS was assessed by a pre-designed and pre-tested questionnaire. Each question in the questionnaire was appropriately scored. Those who scored full marks for a question, were labeled as having “complete knowledge”, those who scored no marks were labeled as having “No knowledge” and those who scored in between were labeled as having only “Partial knowledge”. Out of 712 sanctioned ORWs, 653 participated in the assessment process.

It was observed that about 70-80% of the ORW's had knowledge of 8 terminologies. But with regard to the terminologies like ANM (Auxiliary Nurse Midwife) and CCC (Community Care Centre), their knowledge was poor. It was further corroborated by the fact that the interaction between ANM and ORW is not up to the desired level.

Only about 50% of the ORWs were aware of all the routes of transmission of HIV/AIDS, while about 90% of the ORWs knew how HIV was not transmitted. This shows that misconception regarding mode of transmission of HIV/AIDS was less. Almost none of the ORWs knew about the spread of HIV from high risk population to general population.

Knowledge about opportunistic infection among the ORWs appeared to be poor. 25% had no knowledge at all. Experience revealed that knowledge regarding opportunistic infection is also poor among the health personnel. 50% of the ORWs had complete knowledge regarding breast feeding options in HIV + mothers whereas 18% had no knowledge at all.

Regarding roles and responsibilities of the ORWs, majority had partial knowledge. Same is the finding regarding the recommended schedule for their home visits.

Present evaluation indicates that training programme should categorically guide the workers about their roles and responsibilities and recommended schedule for home visits.

21. EVALUATION OF PPTCT PROGRAMME IN ANDHRA PRADESH- RECOMMENDATIONS



Dr F. U Ahmed, Principal and Dean, Apollo Medical College, Chittoor, Andhra Pradesh

On assessment of PPTCT planning of the programme at state level, it is observed that there was no involvement of the State as there was no budgetary support from the state government except in the NGO run community care centers (CCC) and Drop in centers (DIC). Regarding what needs to be done has not been properly planned at the state level. It is observed that the guidelines for PPTCT from NACO have been directly implemented and even though an attempt to streamline the programme with the general health services is being made but there is no guideline as to how to integrate the NGO, Government and Community based organizations for PPTCT.

Out reach workers (ORW) activities include identification of positive antenatal cases through house to house visits, tracking them for institutional deliveries, motivating them for NVP treatment just before deliveries & feeding the newborn with NVP syrup as well as follow up of the mother baby pair for a minimum of 18 months. Selection criteria for ORWs, that they should be preferably HIV positive and should have studied up to a minimum of class X was not strictly followed as it was observed that some of them were illiterates.

Performance barriers observed with ORWs were that, the training was poor in terms of quality and frequency. Areas allotted to them varied from one to three Mandals with an average population of 60,000 to 100,000. As majority of the ORWs were HIV positive it would not be feasible for them to cover such a huge population, when they themselves were sick. Analysis of the transportation costs of the ORWs revealed that a TA of Rs.1500/month was insufficient, considering the amount of travel they had to undertake. Both male and female ORWs were employed in most of the NGOs but there was an expression of difficulty of male ORWs to track and escort the ANCs to the ICTC. Hence they always needed the help of ASHA or AWW.

DDKs and NVP were given to NGOs to cover HIV positive deliveries. Replacement of used DDKs was made to NGOs/ ORW from ICTC center. As part of Zero by Seven campaign, every team got 2 DDKs, 5 NVP Tabs, 1-2 bottles of NVP syrup, but there was no written order in this direction.

NGOs in most of their project sites were primarily obtaining data on positive ANC & PNC cases from the ICTC/VCCTC and then tracking the cases. However, most of the ORWs follow up the Antenatal cases, ensure institutional deliveries and administer NVP to the mother and child and thereafter some of them also follow up the child up to 18 months through the positive PNC register. More than 25% - 50% of the cases registered by the NGOs were not traceable for follow up. Coordination between the ORWs and the general health services was found to be minimal. Also the number of meetings with the stakeholders was infrequent. ORWs were attending SC/AWC meetings, but they did not clearly understand whether they should attend such meetings or not. In few areas, there was no exchange of information from both sides. Although the NGOs were sending reports regularly, they had not received any feedback about incomplete documentation

from APSACS. In some NGOs, monthly reports did not match district ICTC coordinators report. Some reported that they were only told about types and number of registers to be maintained but did not know how to maintain it.

It was a common observation in some of the NGO units, that the different functionaries involved in the project lacked uniformity in their understanding of the specific purpose of the project. This might be attributed to poor training, which in turn might be hampering their efficient performance. Training of the ORWs in most of the NGO units was inadequate. Induction training was in existence but regularity was lacking. Hence, ORWs who joined midway (especially since many fall sick & leave) had to wait for a long time before they could get the induction training. Refresher training was needed. There was no training module available as reported by all the teams except for 2-3 NGO units, who had their own training module. The uniformity of these modules could not be ascertained as majority could not understand the local language. Further, the evaluators were not sure whether the same module was being used during their induction training. Interpersonal communication with the ORWs revealed the need for training on communication skills, documentation and counseling as well as for Opportunistic infections.

It was observed by majority of the teams that there was minimal coordination between ORWs and primary health care workers. In some cases they maintained the minutes of meeting with ANMs, ASHAs, AWWs and Community leaders. Some ORWs also mentioned about the meetings with Sarpanch. Their daily diaries contained the signatures of Sarpanchs as verified by some teams but compiled reports did not show it. A few teams also observed sufficient evidence about involvement of community leaders in decision making process.

In some NGO units, Peer counselors were not in place and one of the ORWs was acting as Peer counselor. It might be reminded that they were not trained in counseling skill. ANMs neither referred nor gave inputs regarding the cases and other events (birth etc) to ORWs in some NGO units. However, they never interfered with the work of ORWs - as gathered while talking to them. A few Project coordinators and social workers were not aware of the ANC/SC meetings.

However, it was observed that ORWs are good for boosting of self confidence of PLWHAs. One of the interesting quotations in the words of positive postnatal mother is:

“She (ORW) built up my confidence, when I first came to know that I am HIV positive. At that time I was depressed. She kept contact with me throughout my antenatal period and even after my delivery. I am positive but my husband was not. When my husband asked me not to kiss my child, I was depressed. She explained my husband that kissing will not spread the disease to my child. After that my husband allowed me to kiss my child. I am so happy as well as grateful to her”.

SESSION VII: CLIMATE CHANGE AND HEALTH

Sponsored by WHO-India Country Office

Chairperson: Dr. Jai P Narain, Director, Communicable Diseases, WHO SEARO,
New Delhi

CLIMATE CHANGE: THERMO-REGULATORY AND RESPIRATORY RESPONSES



Dr. P.K. Nag, Director, National Institute of Occupational Health, (I.C.M.R) Ahmedabad (senguptaak@searo.who.int)

Climate change, thermoregulatory responses and respiratory responses have direct influence on human health due to primary factor of temperature change. IPCC and WHO documentation on climate change and health has brought a great understanding and awareness. This documentation covers the risks of climate change to health, to capacity building with health practitioners, to guidance on how to assess risks and practical guidance on protecting health from specific climate risks. Health systems and adaptive strategies have a pivotal role in protecting health from the consequences of climate change. Concerns have been raised of the issues of green house gases and its consequent effect on the climate change.

Multiple human activities result in air quality change and cause concern for climate change. Pollutants of concern are various particles, ozone, carbon monoxide, nitrogen oxide, sulphur dioxide, VOCs like benzene, ammonia, CO₂, CH₄ and N₂O. However, at present India's carbon dioxide emission is still little less than the world average of 4 tonnes per capita.

Most of the warming over the past 50 years is due to increases in greenhouse gases. Physical and biological systems already affected by climate changes are committed to more warming. In recent years, different regions of the world witnessed warmest years.

Some Projections (IPCC 2007) have indicated that heat waves, heavy precipitation events, tropical cyclones, drought and high sea level will become more intense and frequent. We are well aware of the breadth of potential health consequences of climate change. These health effects range from the direct effects of temperature increases such as heat wave and severe weather events to secondary effects such as population displacement, civil conflict and mental health issues. NIOH focuses on certain issues such as effect of weather changes on human physiology, temperature related health effects and air pollution related issues. Extreme hot climate prevails in different parts of India. These heat waves add to the calamity at regular frequency. About 150 000 excess deaths as well as injuries occur annually from more extreme weather events like heat waves, floods and droughts.

As greenhouse gases especially carbon dioxide increase in the atmosphere, temperature rises leading to increased number as well as severity of fires. Increased use of fossil fuels to meet rising demand for power, increased emissions from motor vehicles, power plants and natural resources, increased number and severity of stagnant air episodes and acceleration in smoking forming chemical reactions in the atmosphere are other effects of climate change.

Climate change and increased respiratory allergic reactions are due to pollen increase. Forest fires also present a major threat to air quality in rural areas, as climate change affects the hydrologic cycle and may cause drier conditions. Young children, pregnant women, the elderly, and people with preexisting respiratory and cardiac diseases are the most affected by the health impacts of smoke.

EPA studies show decrease in PFT and airway inflammatory changes in subjects exposed to 0.08 ppm O₃ over 6.5 hrs with intermittent exercise. Decreased PFT reflective of small airway remodeling is found among college and school students, with exposure to O₃. Respiratory system effects reported in epidemiology studies include premature mortality and increased hospital and ER admissions for respiratory-related causes, as well as increased respiratory disease and symptoms, such as decreased lung function.

Adaptive capacity of the population needs to be improved. Impact of recent hurricanes and heat-waves expose the unprepared ness of the countries to cope with extreme weather events.

There are various disaster management strategies available. They are fluid supplementation like glycerol, an osmotically active solute which helps in water retention in the body and thereby acts against cardiovascular and respiratory stress. Glycerol, osmotically active solute, distributes evenly in the body space, removes slowly from intravascular space by hepatic and renal mechanism and allows maintaining an enhanced fluid reservoir thereby reversing cardio-respiratory and thermoregulatory challenges during work - heat stress). Creation of surface core gradient is another strategy to mitigate the hazard. Convergence of the shell and core will indicate the danger zone, which should be avoided.

ISO, WHO, ACGIH, OSHA have provided guidelines which are at best suitable for moderately hot environment. However, there are inherent difficulties to arrive at uniform criteria for indoor environment, industry, mines and open field agriculture.

2. CLIMATE CHANGE AND ITS IMPLICATION ON NATURAL DISASTERS



Mr. A.K. Sengupta, National Professional Officer, Sustainable Development & Healthy Environment, World Health Organization, India Country Office, New Delhi
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Climate change is due to a significant shift in temperature and weather patterns around the world. We are putting so much of carbon dioxide into the atmosphere that the planet is getting warm. The problem is commonly termed as “green house effect”. Heat waves increase risk of death and serious illness especially in older age groups, those with existing cardio-respiratory disease and the urban poor. Air pollution affects the change in transportation of air-borne pollutants, increased concentration of ground level ozone, increased pollutants from forest and rangeland fires. The worsening of air quality, particularly owing to ozone pollution, increases the prevalence of asthma and respiratory infections. Meeting increasing energy demands by greater use of fossils fuels will tend to increase the number of cases of this air pollution-related illness and cause premature deaths in all ages. Greater frequency and intensity of heat waves will increase mortality and the incidence of heat stress and heat strokes.

Over the last two decades, 76% of all disaster events were hydrological, meteorological or climate related in nature. These accounted for 45% of deaths and 79% of economic losses. The trend in the global numbers of great natural catastrophes since 1950 shows a steep increase in weather related disasters.

Climate change will affect disaster risks in two ways, firstly through the likely increase in weather and climate hazards, and secondly through increases in the vulnerability of communities to natural hazards, particularly through ecosystems

degradation, reductions in water and food availability and changes to livelihoods. World Disaster Report, 2006, suggests that SEAR countries are most vulnerable to natural disasters. During 1996-2005, 57% of total deaths due to natural disasters were from SEAR countries.

By extrapolating past experience to the conditions projected by the IPCC, consequences of climate change can be estimated. More heat waves will increase in deaths particularly among the elderly, the very young or among people who are chronically ill. Increased draught will likely lead to land degradation, damaged crops or reduced yields with increased risks of food and water shortage and higher incidence of malnutrition, water borne and food-borne diseases. Increased frequency of high precipitation will trigger floods and land slides with potentially large losses of life and assets. Sea level rise, coupled with coastal storms will increase the impacts of storm surge and river flooding and damage livelihood systems and protective ecosystems. Low lying settlements may become unviable. Higher temperatures and melting glaciers may cause glacial lake out bursts that could downstream settlements.

The impact of climate change on human health in India is significant and growing. Weather extremes and short-term weather fluctuations cause adverse health effect. Other negative outcomes are reduced access to drinking water, which could mean more recurrent and rigorous outbreaks of water-borne diseases.

Emerging evidence of climate change impacts are altered distribution of some vectors, altered seasonal distribution of some pollen species, increased risk of heat wave deaths. Since health is one of the areas most affected by climate change, action to protect health through adaptation and mitigation strategies is critical. Greater focus on livelihoods, access to improved health and mainstreaming gender are also important.

As the vector life cycle is strongly influenced by temperature and humidity, an altered climate with higher temperature and humidity will shorten the development period of the vectors leading to large production of vector population. Climate change is expected to increase the proportion of the global population exposed to Dengue from about 35% to 50-60%, by 2085. Malaria may penetrate into elevated areas above 1800 meters and to some coastal areas.

More variable precipitation pattern are likely to breakdown the freshwater, supply and increase the risk of water-borne diseases. Sea level rise will extend areas of salinisation of ground water and estuaries, resulting in decrease in fresh water availability for humans and ecosystems in the coastal areas. Peak stream flow is likely to move from spring to winter in many areas due to early snow melt, with lower flows in summer and autumn. Glacier retreat is likely to continue and many small glaciers may disappear. More than one sixth of the world's population who live in glacier or snowmelt fed river basins will be affected by the seasonal shift in stream flow, an increase in the ratio of winter to annual flows, and possibly the reduction of low flows caused by decreased glaciers extent or snow water storage. Increased precipitation intensity and variability is projected to increase the risks of flooding and drought in many areas. Higher water temperatures, increased precipitation intensity and longer periods of low flows exacerbate many forms of water pollution with impacts on ecosystems and human health. Water quality is likely to be degraded by higher water temperature. Flood magnitude and frequency are likely to increase in most regions and volumes of low flows likely to decrease in many regions.

As glaciers melt, and hydrological cycle shifts, the productivity of arable land changes. It is estimated that the Himalayan glaciers are shrinking at a rate of 10 to 15 meters per year. This will affect water supply in India. The Ganges is expected to lose two-thirds of its July to September flow. Global climate change poses a number of potential risks to mountain ecosystems. Changes in climate are already affecting many mountain

glaciers around the world. Rapid mountain glacier retreat has been documented in the Himalayas, Greenland, the European Alps etc. Climate change-related melting of glaciers could seriously affect half a billion people in the Himalaya-Hindu-Kush region for their water supplies. As glaciers melt, river runoff will initially increase in winter or spring but eventually will decrease in the summer months as a result of loss of ice.

Climate change induces decline in cultivatable land and water shortage leading to decreased agricultural production, resulting in food shortage and malnutrition especially in vulnerable population. Glaciers melt will in turn affect one-third of India's irrigated land. Water shortages will affect more than 500 million people. Large-scale losses in agricultural productivity may in turn give rise to malnutrition and micronutrient deficiencies.

Coasts are experiencing the adverse consequences of hazards related to climate and sea level. Coasts are highly vulnerable to extreme events such as storms, which impose substantial costs on coastal societies. Coasts will be exposed to increasing risks including coastal erosion, an accelerated rise in sea level, a further rise in sea surface temperatures by up to 3°C, intensification of tropical and extra-tropical cyclones, larger extreme waves and storm surges, altered precipitation, ocean acidification, more frequent coral bleaching and widespread mortality, coastal wetland ecosystems such as salt marshes and mangroves are threatened. Degradation of coastal ecosystems especially wetland and coral reefs has serious implications for the well being of societies dependent on the coastal ecosystems for goods and services.

Increases of extreme sea levels due to rises in mean sea level and or change in storm characteristics are wide spread concern due to fact that both tropical and extra-tropical storm intensity will increase. A projected increase in the intensity of tropical cyclones and other coastal storms could alter bottom sediment dynamics, organic matter inputs, phytoplankton and fisheries populations, salinity and oxygen levels, and biogeochemical process in estuaries.

WHO has outlined many programmes to mitigate the effects of climate change. These are:

- To continue to draw attention of public and policy makers the serious risks of climate change to global health and to the achievement of the health related millennium development Goals and to work with other UN agencies and UN Framework Convention on Climate Change Secretariat and with national and international agencies to ensure that health impacts and their resource implications are understood and can be taken into account in further developing national and international response to climate change.
- To work on promoting consideration of the health impacts of climate change by the relevant United Nations bodies in order to help developing countries to address the health impacts of climate change.
- To continue close cooperation with member states and appropriate UN organizations, other agencies and funding bodies in order to develop capacity to assess the risks from climate change for human health and to implement effective response measures, by promoting further research and pilot projects in this areas including work on; Health vulnerability to climate change and the scale and nature thereof; Health protection strategies and measures relating to climate change and their effectiveness, including cost-effectiveness.
- The health impacts of potential adaptation and mitigation measures in other sectors such as marine life, water resources, land use, and transport in particular where these could have positive benefits for health protection.

- Decision support and other tools, such as surveillance and monitoring, for assessing vulnerability and health impacts and targeting measures appropriately.
- WHO urges member states to develop healthy measures and integrate them into plans for adaptation to climate change as appropriate.
- To build the capacity of public health leaders to be proactive in providing technical guidance on health issues, be competent in developing and implementing strategies for addressing the effects of , and adapting to, climate change, and show leadership in supporting the necessary rapid and comprehensive action.
- To strengthen the capacity of health systems for monitoring and minimizing the public health impacts of climate change through adequate preventive measures, preparedness, timely response and effective management of natural disasters.
- To promote effective engagement of health sector and its collaboration with all related sectors, agencies and key partners at national and global levels in order to reduce the current and projected health risks from climate change.
- To express commitment to meeting the challenges posed to human health by climate change and to provide clear directions for planning actions and investments at the national level in order to address the health effects of climate change.

SESSION VIII: HUMAN RESOURCES IN PUBLIC HEALTH

Sponsored by WHO-India Country office, New Delhi

Chairperson: Dr. Sampath K. Krishnan, WHO Cluster Co-ordinator, CDS, New Delhi

Co-chairperson: Dr.R.K.Jain, Deputy Director General, Ministry of Railways, New Delhi

1. PUBLIC HEALTH WORKFORCE ISSUES AND CONCERNS



Mr. Sunil Nandraj, Health System Development, WHO India Country Office, New Delhi. (nandrajs@searo.who.int)

India has made significant progress in the past several decades in improving the health and well-being of its people. However, it continues to face daunting challenges. Public health as a concept is not new to India. However, approaches and implementation has remained fragmented. Its understanding differs amongst the various stakeholders and is concentrated primarily in medical context. In the context of revitalizing primary health care and attainment of the MDGs, there exists a need to expand the horizons. Public health workforce is one of the critical ingredients for building an effective and responsive health system. It is characterized by diversity, complexity and includes people from a wide range of occupational backgrounds.

Challenge before NRHM comprise of: Making the public health system accountable, affordable and accessible by improved management and community action, developing pro-people partnerships with the non-governmental sector to provide quality health care services to the poor, making health professionals and para-medics deliver quality health services in remote rural areas through improved human resource and management and forging alliances with wider determinants of health under the PRI umbrella like water, sanitation, social and gender equality.

Many strategies are to be developed to meet these challenges. Firstly communitisation strategies are to be developed with PRIs, User Groups, Rogi Kalyan Samitis. Secondly mechanisms are to be developed for managing health institutions at village, Gram Panchyat, Block and District levels, with large untied funds enabling flexibility to manage budgets and functions. Thirdly flexible contractual systems are to be formulated for engaging local, resident health workers with improved motivation and regulation of doctor/paramedics. Fourthly improved fund flow, timely procurement of goods and services, better cadre management, planning and monitoring through infusion of managerial skills are to be ensured. Fifthly planning has to be done as per people's needs with mapping household needs, tracking facility performance, co-opting non-governmental providers. Lastly autonomy to Health Institutions (SHC/PHC/CHC) through untied funds (responsibility to spend budget under community ownership / scrutiny is to be provided.

There are various issues of concern.

In the areas of Public Health Workforce in India, they are: Development of an information system on public health workforce (size, distribution etc), addressing shortages and vacancies of public health workforce, developing public health cadre, developing a roadmap for absorbing public health personnel, providing incentives and developing career structures for public health professionals, defining clear roles and responsibilities for medical and non-medical personnel in the health sector, developing workforce governance and management and ensuring integration between curative and public health aspects.

In the areas of Public Health Education, Training and Practice, core competencies of public health professionals are to be developed by establishing Training Institutes in Public Health. Nature and quality of public health education and training curricula are to be developed. There should be a system of continuing professional education incorporating role of technology in public health education and strengthening / developing network of public health institutes.

In the areas of strengthening Policy and Practice, Public health as a discipline is to be advocated. Research and Planning for the public health workforce is to be undertaken. Public health orientation to programmes and health personnel across levels are to be ensured. Health information system with special focus on public health workforce is to be developed. Plans to manage migration of health personnel are to be thought of. Regulation / legislation and accountability mechanisms are to be ensured. Partnerships and linkages with health systems and other stakeholders are to be strengthened. Mechanisms for monitoring progress of public health development are to be developed.

Suggested possible actions are:

- i. Need to advocate and create awareness about importance of public health for health development in India.
- ii. Review of current status, emerging trends, sharing of best practices and failures, strategies and evidence base for action.
- iii. Identify opportunities for development of public health practice in India with focus on public health infrastructure and health workforce issues.
- iv. Promote enhanced co-ordination and collaboration amongst public health institutions and other stakeholders.
- v. Identify a strategy for action, approaches and implementation mechanisms for improved public health practice and workforce in India.

2. PUBLIC HEALTH WORKFORCE IN INDIA



Dr. N. Devadasan, Director, Institute of Public Health, Bengaluru.

Public health workforce consists of doctors, nurses, public health specialists, laboratory technicians, pharmacists, managers and statisticians etc. They are spread over in government and private sector. We have different systems of medicine that are having their role in Public health.

The problems facing this work force comprise of Quantity, Quality and Strategy.

Looking to the prescribed standards of set forth by NRHM, for staff availability at different levels, there is about 50% shortage of different categories of staff at PHC level and 90% at CHC level. No data is available about shortage of public health specialists at district level. From a survey conducted by this Institute in four districts, it is revealed that most of the staff available at district level comprises of specialists of different categories and only a negligible number are PH specialists. There is tremendous gap of PH specialists. In States where performance is low, more than 30% vacancies of doctors exist as compared to good performing States with full component of staff.

India produces maximum number of doctors with an annual registration of 20,000

with State Medical Councils. There is maldistribution of these doctors in government and private sector as well as between rural and urban areas. Only about 12% of these join the government sector and only 31 % are in rural areas.

To remove these anomalies, Govt. is proposing compulsory rural PHC service for all fresh graduates, but associations like IPHA have not come forward to support this move. Big issues facing rural postings are lack of facilities and infrastructure. NRHM should come forward to remove these difficulties. Recruitment of doctors on Zonal basis is experimented successfully in Tamilnadu. We should also think of using available 7.25 lakh AYUSH doctors, after training them in PH issues. “Medical Assistants” (3 year course), recruited from rural areas can be trained to man PHCs. This experiment is being tried at Assam and Kerala. JANANI in Bihar is experimenting on ‘out sourcing’ the services to existing private practitioners, after proper training in PH services.

Demand for ANMs is about 220,000 against an availability of 7500 per year. To tackle this problem more ANM training centres are opened but there is shortage of faculty to teach in these Institutions. One suggestion to overcome this shortage would be to train Auxiliary Health Assistants instead of ANMs.

Another area of concern is availability of specialists in PHCs. About 46,500 specialists are required as against only 6300 trained every year. Instead of having postgraduate specialists to man the PHCs, specialists trained through short term courses should be thought off. Against a demand of 10,000 PH specialists only 625 are trained per year. In-service training of specialists in PH would be an alternative for full term courses to fill the gap.

Quality of services at PHCs is also poor. ANMs without appropriate skills, fresh graduates as MOs and specialists taught in medical colleges are posted to PHCs, who lack exposure in providing proper PH services in the rural settings.

A suitable Human Resource Strategy has to be developed in terms rationalization of HR. capacity building, attending to grievances and career development for the personnel in the system.

SESSION IX

Sponsored by Sanofi Pasteur

Chairperson: Dr. Col. A.L.Sharma, Professor of Community Medicine, RM Medical College, Annamalaiagar, TamilNadu.

CURRENT PERSPECTIVES IN POLIO IMMUNISATION



Dr. Vipul Shandilya, Manager Medical Services, Sanofi Pasteur, New Delhi

We are on the verge of eradicating Polio in the World. India is one of the four Nations where Polio still exists. In 2008, there were 549 confirmed cases of Polio in India, out of which 68 were of Type 1 and another 481 of Type 2. When we talk of Polio eradication, two vaccines are in the picture, Inactivated polio vaccine and Oral polio vaccine which are in use today. There is geographical variability in the efficacy of these vaccines.

Probable reasons which contribute to difficulties in eradication are very high transmission of wild viruses, i.e. force of transmission exceeds the force of vaccination, no evidence of protective 'contact' immunity, higher virus inoculums in endemic areas and risk of primary vaccine failure after OPV because of more frequent concurrent enterovirus infections in developing countries.

Inactivated Polio Virus Vaccine (IPV) was invented by Jonas Salk followed by various field trails and finally licensed on 12th April 1955 in the US. Salk established that immune response to polio vaccine was directly related to dose of viral antigen, ideal number of doses are 3 doses of 0.5 ml, first two doses given preferably 2 months apart and 3rd dose 6-12 months later. For infants 3 doses are to be given during the first 6 months of life with a Booster dose in 2nd year of life.

Indian Academy of Pediatrics Schedules of Polio immunization naïve child are OPV at birth, OPV and IPV at 6, 10 and 14 weeks, OPV and IPV at 15-18 months, OPV at 5 years and OPV on all NID's and SNID's.

An alternative to this schedule is Birth dose of OPV, OPV at 6 weeks, OPV and IPV at 10 weeks, OPV at 14 weeks, IPV at 18 weeks, OPV and IPV at 15- 18 months, OPV at 5 years and OPV on all NID's and SNID's.

Indian Academy of Pediatrics Schedules, when Child has received OPV primary series are IPV given as three doses; 2 doses at 2 month interval followed by a third dose 6 months after the first dose. OPV need not be given with these IPV doses. OPV should be given with the first and 2nd boosters of DTP and on all NID's and SNID's.

Indian Academy of Pediatrics Schedules for Immunocompromised child, IPV should be the preferred vaccine, OPV should be avoided especially in patients with B cell immunodeficiency. The schedules are as discussed earlier with the exception that a second booster dose of IPV at 5 years is also recommended.

Key characteristics of IPV are that THIMEROSAL is not used because it destroys polio antigens, Cell mediated immunity may not be relevant to protection. The use of IPV alone or IPV/OPV sequential schedule by several investigators showed the immunogenicity to range between 96-100% for all three polio virus strains. Booster effect was evident with the fourth dose.

Current Status as of 2006, 29 countries rely on IPV and more than 125 million doses of IPV are used so far. 11 Countries rely on both OPV and IPV and rest of the world is using OPV.

Global Polio Eradication Initiative Strategic Plan:

“In addition to OPV, it is anticipated that there will be an increasing demand for IPV, in a variety of formulations, regardless as to the long-term policy decisions for future polio immunization.”

“Given the inter-relatedness of decisions on IPV introduction, the use of combination vaccines and long-term national policy for other antigens (e.g. pertussis component of DTP), key stakeholders in the provision of such vaccines for routine immunization...will need to be centrally involved in this process.

OPV still remains vaccine of choice for polio eradication in India. But OPV has some threats associated with its use. OPV can cause Vaccine associated paralysis. According to an article published recently in Indian Pediatrics by Dr. Jacob John estimated cases in India are 100-200 per year.

Then there is a newly recognized risk of Vaccine derived poliovirus or Vaccine derived wild like virus. 4 instances of outbreaks caused by Vaccine Derived polio viruses have been detected so far in Egypt, Dominican Republic and Haiti, Philippines and Madagascar.

There is one more risk of OPV and that is chronic infection and prolonged shedding of vaccine derived revertant viruses by small number of individuals with primary immunodeficiency.

Because of these risks OPV should be discontinued as early as possible but we must have some alternative vaccine to provide adequate immunity. And there is one vaccine available which was discovered even before OPV and that is IPV.

Public health strategy is going to be OPV for the present. IPV has found favor with the strategists; the recent IAP recommendations (IP, Aug, '08) stands testimony to this. We can give our private patients the benefit of the IPV as it is available in the market to supplement the low efficacy of OPV alone in order to ensure better protection of our children and achieve the goal of Polio Eradication

In India to complete polio eradication, it will be safer, hence wiser, to use IPV. Delay in decision may create a situation in which we may not have what we need and cannot use what we have. VAPP and VDPV are ethically incompatible with eradication. Hence true eradication is '*zero incidence of poliovirus infection, wild or vaccine*'. Can we achieve 90 per cent coverage with three doses of IPV? If there is a will, there will be a way. In Tamil Nadu, Kerala and Goa, DPT third-dose coverage exceeds 95 per cent, and IPV-combined DPT will simplify immunization.”

RISK AND PREVENTION OF PNEUMOCOCCAL DISEASES AMONG PATIENTS IN CRITICAL CARE SETUP



Dr. Vipul Shandilya, Manager Medical Services, Sanofi Pasteur, New Delhi

S. pneumoniae and pneumococcal diseases are Invasive Pneumococcal Disease (IPD) which carries high risk of mortality. *S. pneumoniae* is the leading cause of

community-acquired pneumonia (CAP). There are more than 90 serotypes of *S. pneumoniae* of which 8-10 cause two-thirds of serious infections in adults. The infections caused by pneumococci include pneumococcal pneumonia, bacteremia and meningitis. Pneumococcal diseases are serious and associated with significant mortality.

Factors predisposing to pneumococcal disease are age, chronic illnesses, functional or anatomical asplenia, immunodeficiency, environmental factors like communal living, nursing home, hospitals for elderly persons, prisons and shelters for homeless persons

Factors predisposing to pneumococcal disease are chronic diseases like pulmonary disease, cardiovascular disease, renal disease, Diabetes, Liver cirrhosis which lead to risk of decompensation of the underlying disease and increased risk of severe pneumococcal disease.

In Chronic pulmonary diseases risk factors that lead to chronic inflammation are hereditary deficiency of the protein Alpha1-antitrypsin (AAT), exposure to particles, tobacco smoke, occupational dusts and chemicals, indoor air pollution from heating and cooking in poorly vented dwelling, outdoor air pollution, and other factors like lung growth and development, oxidative stress, gender, age, respiratory infections, socioeconomic status, nutrition and co-morbidities.

Pneumococcal vaccination is recommended for patients with COPD. Antigen composition. 23-valent pneumococcal vaccine contains purified capsular polysaccharides derived from 23 *S. pneumoniae* serotypes. Antigen covers 85-90% of serotypes responsible for all cases of IPD. Vaccine includes major serotypes that have developed antimicrobial resistance (90%). Several associations have recommend routine administration of 23 valent polysaccharide vaccine to all ≥ 65 yrs, and for younger at-risk individuals administration of 23 valent polysaccharide vaccine to all at-risk children ≥ 2 yrs. For children 24-59 months of age, with a high risk of Pneumococcal infection vaccine can benefit more from a sequential schedule, i.e. children who have received 4 doses of Pneumococcal Conjugate Vaccine (7-valent PCV) should get a single dose of 23-valent PPV 6-8 weeks after the last dose of PCV.

WHO recommends pneumococcal vaccination for healthy elderly (over 65 years of age), particularly those living in institutions and patients with chronic organ failure, heart, lung, liver or kidney, diabetes mellitus, alcoholism, Children ≥ 2 yrs at high risk for disease (splenectomised children and sickle-cell disease), patients with immunodeficiencies particularly those with functional or anatomical asplenia.

Several other associations have recommended both pneumococcal and influenza vaccination. According to the American Thoracic Society, patients at risk for community-acquired pneumonia should be vaccinated with both pneumococcal and influenza vaccine. Vaccines can be given simultaneously but at separate sites of injection.

According to the American Lung Association, the National Heart Lung and Blood Institute, Pneumococcal and influenza vaccines should be given to patients with chronic pulmonary conditions and other high risk groups

Indian Medical Association recommends administration of pneumococcal vaccine in special circumstances such as, Chronic Renal Disease, Immuno-deficiency conditions, Congenital or acquired asplenia/ splenic dysfunction, HIV infection, Chronic cardiac and pulmonary disease, Cerebrospinal fluids leaks, Diabetes mellitus

IAP recommends Pneumococcal vaccination in all children with Sickle cell disease, Nephrotic syndrome on remission, especially those with a previous episode of erythrititis, Congenital or acquired asplenia/ splenic dysfunction, HIV infection, Chronic cardiac and pulmonary disease, Immunodeficiency conditions, Cerebrospinal fluids leaks Diabetes mellitus.

S. pneumoniae colonizes the throats up to 91% of children of 6 months to 5 years of age. 23-valent polysaccharide vaccine is capable of prevention of 85% of meningitis and bacteremia caused by pneumococcus. A single IM injection is recommended after the age of 2 years with revaccination every 3-5 years till the age of 10 years.

Indian Society of Nephrology recommends 23 valent pneumococcal vaccination in patients with chronic renal disease. Single dose to be given IM or SC to all dialysis patients ≥ 2 yrs. Revaccination is recommended 3 years after previous dose for children with chronic renal disease who will be ≤ 10 yrs at time of revaccination. It is also recommended for other dialysis patients, provided 5 yrs have elapsed since first dose.

Rationale for administering the vaccine is that chronic renal failure patients are prone for pneumonia and $\geq 75\%$ patients have an adequate response to the vaccine. In healthy person antibody titer remains elevated for 5 years and decreases to pre vaccination level after 10 years. But in chronic renal failure patients, a rapid decline occurs in 6 months to 5 years after vaccination

Pneumococcal vaccine is well tolerated and patients with COPD respond to pneumococcal and influenza vaccination

The immunogenicity of the pneumococcal polysaccharide vaccine in patients with bronchopulmonary disease equals that of healthy controls.

Following influenza vaccination, COPD patients experience a significant increase in HI (haemagglutinin) and NI (neuraminidase) antibody titres which is not significantly different from that of healthy controls.

Pneumococcal vaccination of elderly with chronic lung disease is cost-saving. Studies have demonstrated that over the 2 yr outcome period, pneumococcal vaccination is associated with reduction in the number of hospitalizations for pneumonia by 43% and reduction in the risk of death by 29%.

The Pneumo 23™ vaccine contains a mix of equal parts of capsular polysaccharide preparations from the 23 most important *Streptococcus pneumoniae* strains. These are made up in phosphate buffered saline containing phenol as a preservative and packaged in ready-to-use prefilled syringes. The preferred route of administration is intramuscular, although the vaccine may also be given subcutaneously. The main advantage of the Pneumo 23™ presentation is its ease to use due to its prefilled syringe. Moreover, no dilution or reconstitution is needed. This presentation is easy and safe to use for doctors, decreases the time needed to make the injection to the patient and is practical for field vaccination campaigns.

DR. J.K.SEHGAL MEMORIAL ORATION

DISEASE CONTROL PRIORITIES IN INDIA AND OTHER DEVELOPING COUNTRIES

Chairperson: Dr.Samir Dasgupta, Professor and Head, Department of Community Medicine, N.R.S.Medical College, Kolkata



Dr. P.L. Joshi, Deputy Director General (Leprosy), Directorate General of Health Services, Ministry of Health & Family Welfare, Government of India, New Delhi
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India is in the process of both demographic and epidemiological transition. Urbanisation, industrialisation, expansion of education and improved medical and public health technology are leading to decline in the mortality due to infectious diseases as well as fertility declines. These transitions are resulting in change in age groups of population creating economic recession, increasing inequalities. On the epidemiological side, the pattern of diseases is changing, with emergence of chronic and communicable diseases as well as reemergence of some communicable diseases.

Situation Analysis of Health Sector and Reforms reveals many constraints in various facets of the programme which require concerted actions. National Rural Health Mission actions are planned to take care of the above aspects as follows.

Institutionalizing community led action for health

- Promoting Equity
- Promoting Preventive Health
- Dealing with Chronic Diseases
- Reducing child and maternal mortality and fertility through quality services
- Management of NRHM activities at State / District / Sub district level Block Level
- Pooling Human resources for rural areas
- National and State level Resource Centres for capacity development
- Drug supplies and logistics management
- Monitoring / Accountability Framework
- Convergence within the health department
- Convergence with other departments
- Role of Non Governmental Organizations
- Risk pooling and the poor
- Reforms in Medical/Nursing Education
- Pro-people partnerships with the non-governmental sector

Action at Central Level

- Setting standards for measuring performance
- Effective monitoring
- Support for capacity development
- Providing sufficient financial resources
- Development of partnership with non governmental stakeholders

Management of NRHM activities at State / District / Sub district level Block Level

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- Setting standards for measuring performance
- Effective monitoring
- Support for capacity development
- Providing sufficient financial resources
- Development of partnership with non governmental stakeholders

Leadership of States

- Flexibility under NRHM to states
- Decentralized planning and implementation to meet diverse health needs
- Innovative schemes for local issues

Institutionalizing Community Led action

- Reform process at village & health facility through-Rogi kalyan Samiti, Village Health & Sanitation Committee and ASHAs

Empowerment of community by involvement of Panchayati Raj Institutions and

Promoting Equity

- Empowering vulnerable population through health education
- Fully functional health facilities
- Schemes for BPL families
- Recruiting Community Volunteers

Promoting Preventive Health

- Strengthening health education/ IEC programme
- Co-ordination of education department for health promotion
- Co-ordination with ministry of labour and women & child health
- Strengthening health education/ IEC programme
- Co-ordination of education department for health promotion
- Co-ordination with ministry of labour and women & child health

Dealing with Chronic Disease

- India with highest disease burden
- Preventive & curative strategies required
- Mobilization of additional resources
- Integration with GHC at all levels

Reducing Child, Maternal Mortality and Fertility

- Safe institutional deliveries
- Upgrading CHCs to FRUs
- Training & multiskilling of medical & paramedical staff
- Intensified IEC for behavioral change
- Range of contraceptive choices

Management of NRHM Activities

- Developing health management capacities-
- Finance Management Group (FMG)
- State Programme Management Unit (SPMU)
- District Programme Management Unit (DPMU)

Skill development in finance, procurement & logistics, data management, HMIS etc.

NRHM aims to provide – 4 lakh ASHAs/Community Health Workers, 2 ANM per health sub-centre, 3 staff nurse every PHC, AYUSH doctors as MO for out patient services, 7 specialists & 9 staff nurses in CHC , Separate AYUSH setup in CHC

National & State Level Resource Centres for Capacity Development

National Health System Resource Centre (NHSRC) to provide technical assistance for capacity building

NHSRC at national level, propose to have one at NE region & at each state level for EAG states

Strengthening of existing reputed bodies at State & district

Drug Supplies and Logistics management

Development of capacity and effective system at state level for procurement

Monitoring /accountability framework

3 pronged process- community based monitoring, external surveys, internal monitoring
Facility survey, household survey, NFHS – II, RHS to act as baseline to measure the progress

Convergence within health department

Strengthen public health institutions.

Bringing all health programmes under village/district/state health plan

Convergence would result in more human resource availability and effective interventions

Convergence with other departments

Convergence in areas like drinking water, nutrition, sanitation, education, women & child development

Inter departmental Committee on convergence at central & state level

Anganwadi centre & Village Health Committee as focal point of action

Role of NGOs

Involvement in advocacy, capacity building, delivery of services, monitoring & evaluation

Risk Pooling and the Poor

Small proportion of poor covered under Health Insurance Schemes

Involvement of NGOs & community based organizations as insurance providers

More insurance products required to provide risk pooling

Reforms in Medical/ Nursing Education

Strengthening of existing medical colleges

Promoting new colleges in deficient states

Norms for setting medical colleges to be relooked

Ultimately NRHM seeks to provide Accessible, Affordable & Quality Health Care to the rural population, especially the vulnerable sections. To raise public spending on health from 0.9% GDP to 2-3% of GDP with improved arrangement for community financing and risk pooling, to reduce Maternal Mortality Rate, Infant Mortality Rate and Total Fertility Rate.

SESSION X: NATIONAL VECTOR BORNE DISEASE CONTROL PROGRAMME

Sponsored by National Vector Borne Diseases Control Programme, GOI

Chairperson: Dr. Shyamal Biswas, Joint Director, Plague Surveillance Unit, NICD,
Bangalore

NATIONAL VECTOR BORNE DISEASE CONTROL PROGRAMME



Dr. C.Nagaraj, Research Officer, Regional Office for Health and Family Welfare, Govt. of India, Bangalore.

Malaria Filariasis, Kala-azar, Dengue Chikungunya and Japanese Encephalitis are included under Vector borne diseases. Programmes for control of these diseases are described below.

Malaria

NMEP was launched in 1958 and by 1966 number of cases reduced to less than 0.1 million. In early 70s there was resurgence of Malaria with cases 6.46 Million and 59 deaths. In 1977 Modified Plan of Operation was introduced with Pf Monitoring teams consisting of activities of detecting parasite sensitivity and treatment with anti-malarials. In 1981 National Drug Policy for Treatment of Malaria was introduced. Again in 1994 again there was resurgence of malaria outbreaks in some States. In 1995 Expert Committee on Malaria was formed and in 1997 World Bank Assisted Enhanced Malaria Control Project was launched and NMEP was named as National Anti Malaria Programme.

In 2003 the programme was integrated for five diseases and renamed as National Vector Borne Disease Control Programme. In 2004, ACT for Pf cases in drug resistant areas was introduced. Again in 2007, National Drug Policy was revised and in 2008, a new project on Malaria Control & Kala Azar Elimination was started with World Bank Assistance.

Strategies for Malaria control consist of surveillance, early diagnosis and prompt treatment with alternative drugs for drug resistant cases, selective vector control activities, promotion of personal protection methods like bed nets for high risk rural tribal areas for priority beneficiaries below poverty line, especially pregnant women and children. Strengthening management information system, early detection and containment of epidemics, promotion of IEC/BCC activities with community involvement, and capacity Building. In 20 States/285 PHCs which were declared Chloroquine resistant, Artesunate combination therapy (ACT) was introduced as first line treatment.

Filariasis

250 districts are endemic (in 20 States/UTs) with 600 million population endemic for Lymphatic Filariasis. Govt. of India is signatory to the WHO resolution in 1997 which resolved to globally eliminate lymphatic filariasis as a public health problem. and aimed to eliminate the disease by 2020 and Our National Health Policy (2002) envisages the goal of elimination of Lymphatic Filariasis by 2015. Mass drug administration (MDA) was initiated as pilot project in 13 districts of 7 states in 1997 and extended to 31 districts by 2003. MDA was expanded in 2004 to 202 filaria endemic districts in 20 States/UTs and by 2007, all filaria endemic 250 districts were covered.

Strategies of the programme consist of interruption of transmission of filariasis through MDA with DEC and Albendazole for 5 years to the population except to children

below 2 years, pregnant women, seriously ill persons in selected districts and DEC in other districts. Home based management of morbidity of lymphoedema cases and upscaling of hydrocele operations in the identified CHCs / Districts, hospitals/ medical colleges.

Important activities of the programme are that States to initiate preparatory activities for MDA, timely completion of activities, adequate social mobilization, training & IEC activities for better drug compliance. Drug distributors at sub centre and village level including MPWs, ANM, Aganwadis, ASHA & volunteers need to be identified & trained. States to intensify the hydrocele operations and home based management for lymphoedema patients.

Kala-Azar

Insecticide residual spraying with DDT under National Malaria Eradication Programme initiated in 1953-58, resulted in marked decline in disease incidence. In 1970, there was resurgence of Kala-azar subsequent to withdrawal of IRS, with reporting of cases initially in four districts of Bihar and then from other parts in 1992. Now 52 districts are endemic to Kala-Azar.

Centrally Sponsored Kala-azar Control programme was launched due to high incidence (77102 cases and 1049 deaths) in 2000. Recommendation for elimination of Kala-azar by Expert Committee in 2002 Policy was set with a goal for elimination of KA by 2010- 2005. A Tripartite Memorandum of Understanding was signed between India, Bangladesh and Nepal for elimination of Kala-azar by 2015.

The goal envisaged under the programme is to improve the health status of vulnerable groups and at risk population living in Kala-azar endemic areas of India by elimination of Kala-azar by 2010. Target is to reduce the annual incidence of Kala-azar to less than one per 10,000 population at the sub-district level preferably by 2010, aimed at elimination of Kala-azar in South East Asia region by 2015.

Strategy of the programme is three pronged with parasite elimination, early case detection coupled with complete treatment, introduction of Kala-azar rapid test - rK39 for use at peripheral level and introduction of oral drug – Miltefosine on pilot basis as first line treatment and strengthening of referral services.

Vector control is to be achieved through indoor residual spraying with DDT twice annually. Maintenance of hygiene and environmental sanitation, advocacy for use of Insecticide treated bed nets/long lasting insecticide nets is to be strengthened. Supportive interventions consist of communication for behaviour impact, inter-sectoral collaboration, capacity building and monitoring and supervision with periodic reviews/evaluations

Chikungunya fever

In 2006, 16 States/UTs were affected, with 1390322 suspected cases. 15961 samples sent for sero-diagnosis out of which 2001 (12.54%) were confirmed. In 2007 17 States/UTs were affected with 56140 suspected cases. Out of 7575 samples tested, 1779 were confirmed(23.49%).

Strategic Action Plan for prevention and control of Dengue & Chikungunya was formulated and circulated. Guidelines on clinical management of Dengue/DHF cases were sent to the States for wider circulation. 13 Apex Referral Laboratories for advanced diagnosis and regular surveillance of Dengue and Chikungunya were identified. 137 sentinel surveillance hospitals for proactive surveillance for Dengue and Chikungunya were also identified. NIV Pune was entrusted to supply ELISA test kits to these Institutes. Contingency grant was made available. Emphasis was laid on intensive IEC/Behaviour change communication activities through print, electronic media, inter-personal communication, outdoor publicity as well as inter-sectoral collaboration with civil society organizations. (NGOs/CBOs/Self-Help Groups), Panchayati Raj Institutions, for taking community based measures.

Japanese encephalitis

Disease is endemic in 135 districts in 15 States/UTs affecting a population of 330 million. Number of cases reported in 2005 were 6727 with 1682 deaths and in 2007 they were 4024 and 963 respectively. Initiatives taken for Prevention and Control of disease are strengthening of AES/JE surveillance through 50 sentinel sites, setting up of 12 Apex Referral Laboratories for advanced diagnosis, setting Standard Guidelines for AES/JE surveillance, continuation of “Vector Borne Diseases Control Surveillance Unit” at BRD Medical College, Gorakhpur, UP with Sub-office, ROH &FW, Lucknow functioning in Gorakhpur, release of funds for functioning of this unit by GOI through ICMR, undertaking JE vaccination in age group 1-15 years 11 districts in 4 states (Assam, Karnataka, Uttar Pradesh, West Bengal). In 2007 the programme was expanded to 27 districts in 9 states. In 2008, 23 districts in 9 states are covered.

SESSION XI

Sponsored by Hindustan Unilever Pureit

Chairperson: Dr.B.G.Parasuramulu, Professor and Head, Department of Community Medicine, Kempegowda Institute of Medical Sciences, Bangalore

MICROBIOLOGICAL WATER PURIFIER DESIGNED FOR HOUSEHOLD USE IN DEVELOPING COUNTRIES: PERFORMANCE, HEALTH IMPACT AND SCALING UP



Dr. Suresh Nadakatti, Principal Research Scientist,
Hindustan Unilever Ltd. (Suresh.nadakatti@unilever.com)

Pureit is a mmicrobiological water purifier designed for household use in developing countries which works without electricity, without running piped water and with end-of-life indicator. It meets germ kill standards set by US EPA (Log 6/4/3 inactivation/removal of bacteria/viruses/parasites). It removes pesticides and is certified by several institutions in India & Abroad.

Pureit field evaluation is carried out by Institute of Public Health Engineers (IPHE), India. At the Kolkata study a total of 990 water samples were collected and analyzed in the laboratory. Out of the 990 samples, 600 from corporation's consumer points, 150 from KMC's hand pumps, 40 from house owners' own deep tube wells and 200 from underground or overhead tanks inside houses.

A total of 155 households were randomly visited across various urban areas around Kolkata to cover various socio-economic strata for collecting information on socio-economic & health status, drinking water consuming pattern and purification practices using structured questionnaire

In the study area only 46% purify water before drinking. Method of purification adopted by these families consisted of Cloth filter (12%), Boiling (33%), Candle filter (36%), On-tap device (2%), UV- device (1%), Zeoline (12%), Halogen tab (2%), Alum (1%) and Camphor (1%).

33 households were selected out of the 155 households, which were found to be using worst quality of input water as a panel for installation of Pureit. Out of these 33 households, 4 samples locations were purposively selected as control group which used water from dug wells (2 nos), pond and river to test the efficacy of the device.

The panel households were visited daily for 3 weeks to ensure usage of the device and collection of data. The water quality was monitored twice a week for testing water quality of input and output water of Pureit. Parameters monitored were faecal coliform, turbidity, pH value and total dissolved solids. Results of the study indicated that only in 47% of the raw water samples turbidity was less than 1 (NTU) as compared to 94% in treated water samples. Only 4% raw water samples did not have any coliform as compared to 100% in treated water samples. Faecal coliform was absent only in 18.7% of raw water samples as compared to 100% in treated water samples.

These studies demonstrated that Puriet Water Purifier is capable of producing microbially safe and clear water even from highly contaminated water sources

A health intervention study conducted by National Institute of Epidemiology (NIE), Govt. of India over a year, in the slums of Chennai, demonstrated that in the Intervention group there was a significant (~49%) reduction in prevalence of diarrhoea

and proportion of children with at least one diarrhoea reduced by 21% and the gravity/length of diarrhea was also reduced.

Awareness, availability and affordability are the key barriers experienced for the introduction of the device and to identify means to reach low income sections of society.

Scale Up initiatives undertaken were starting of the School programs and Micro-finance model. UNICEF School program consisted of installing Pureit in low income schools, a rapid intervention that provides children from low income homes enabling access to safe drinking water. This programme also educated children on the importance of hygiene and safe water for health and provided an opportunity of working with the school and local community. As a part of this programme Pureit was installed in 100 government schools and 100 anganwadis and 15,000 children from low income homes were protected with safe drinking water.

Micro-finance Model was in terms of safe water education through SHG Members and making Pureit available for purchase and installation at SHG members' premises, arranging loan for purchasing Pureit and facility to repay loan through instalment.

AWARD SESSION

Chairperson : Dr. V.M.Gupta, Former Professor and Head, Department of Community Medicine, Institute of Medical Sciences, Varanasi, UP.

Co-chairpersons: Dr. Dominiq Misquith, Professor and Head, Department of Community Health, St.Johns Medical College, Bangalore.
Dr. Sara Varghese, Professor of Community Medicine, Govt. Medical College, Thiruvananthapuram, Kerala

Dr. P.C.SEN AWARD PAPER

A STUDY OF HEALTH PROVIDER PRACTICES AND THE FACTORS INFLUENCING THEM IN RURAL AREAS OF UDUPI TALUKA, KARNATAKA



Dr.Karthikeyan Kulothungan, Kasturba Medical College, Manipal, Karnataka.

Study was conducted with Allopathic practitioners (Government and private practitioners), Indigenous practitioners, registered medical practitioners and unqualified practitioners at Udupi Taluk of Karnataka on a random sample of 150 practitioners selected using cluster sampling technique. Data was collected by interviews with doctors in the clinics and primary health centers using pre-tested semi-structured questionnaire after obtaining the written informed consent from the practitioner.

Objectives of the study were to know the range of health services provided by the various health care providers, to study the criteria for determining charges (fees) for the services provided by the health care providers, to study the knowledge and perceptions of providers regarding, various regulations governing private practice, to understand the barriers in providing the services as perceived by the providers and to examine the factors responsible for job satisfaction and dissatisfaction among the health providers

Results indicated that majority of the practitioners belong to Ayurvedic system of medicine by qualification. Irrespective of their qualification, majority of the practitioners practice Allopathy system of medicine. Provision of preventive health services and participation in National programmes by the private practitioners was found to be inadequate. Most of the practitioners determine their fees based on the economic status of the patient and the cost of medicines dispensed. Practitioners in both private and government sector expressed a number of barriers. Patient's ability to pay was expressed by private practitioners while government practitioners felt inadequate income, inadequate workforce and inefficient management of the PHC. Most of the practitioners were moderately satisfied with their job.

MUNICIPAL SOLID WASTE MANAGEMENT IN VIJAYAWADA MUNICIPAL CORPORATION



Dr.Sree Karuna Murthy Kolli, Health Officer, Municipal Corporation, Vijayawada, AndhraPradesh.

Paper describes the actions taken under Municipal Corporation, Vijayawada for solid waste management. Aim of the Municipal Corporation is to ensure Litter Free Vijayawada City on roads, drains and vacant places.

One hundred percent door to door collection of waste is ensured in 1.8 lakh residences including slums in 200 Resident welfare associations (RWA). Segregation of waste is carried out at source at 29 Colonies. Twin Bin system is followed. Rationalization of dumping places is done to decreasing the number of bins. RCC bins are replaced with saved Dumper bins in 6:1 ratio. Again re-rationalization was carried out of new dumping places, ultimately aiming at total removal of traditional RCC bins.

IEC activities are carried through mobile public addressing system, pamphlets, and stickers. Awareness meetings are held with RWA/CWAs, residents, commercial groups and hawkers. Educational booklets are also issued to all students. Fines are imposed on violating persons by squads of S.Is.

To ensure open defecation free City, ILCS, Sulabh International and Pushkar Toilets and BOT are constructed.

Treatment of waste is carried out through 15 Vermi compost plants, Excell plant, Bio-methanization plant, Power plant (Sri Ram energy) and Sanitary Land filling.

Other aspects implemented under the programme are construction of Electrical Crematorium, Night Sanitation work and Mop-up Sanitation activities. Complaints are attended through 'Dial your Commissioner' programme. Awards are instituted to encourage staff. Punishments are also there for workers who are not carrying out work according to standards. Fines are also imposed on citizens for littering or throwing waste on streets.

STAFF

SESSION I:

Chairperson: Dr. (Col) A.L.Sharma, Professor of Community Medicine, RRMC, Chidambaram, Tamil Nadu.

1. PHYSICAL GROWTH AND SEXUAL MATURITY IN MILD TO MODERATELY MALNOURISHED RURAL GIRLS

Bhalla A K, Walia B N S and Chopra K (anilbhalla@sify.com)

Department of Paediatrics, Postgraduate Institute of Medical Education & Research, Chandigarh.

Body weight, height and pubertal changes were studied amongst 179 and 180 girls diagnosed as cases of protein-energy malnutrition (PEM) Grade I and II respectively at 5-7 years of age. 112 girls having normal nutritional status and living in similar surroundings of 16 villages of district of Ambala served as controls. Every girl was followed up at half yearly age interval (± 15 days) from 9 to 20 years of age either at school or at home using a mixed-longitudinal survey design. Standardised anthropometric techniques and instruments were used to measure body weight and height. Tanner's five – point sexual maturity rating scale was used to assess pubertal changes in girls. Girls who were malnourished at the beginning of the study continued to remain significantly lighter and shorter than their normal counterparts throughout the age range considered. Peak height velocities (PHV) were noticed to be lower in mildly (6.1 ± 2.7 cm/yr) as well as moderately (4.9 ± 1.5 cm/yr) malnourished girls as compared to controls (8.6 ± 3.2 cm/yr). The attainment of PHV in moderately malnourished girls (13.5 yrs) was delayed by a year. Development of breasts, pubic and auxiliary hair was also found to be delayed amongst malnourished girls. Menarche was attained at a median age of 15.0 years in malnourished girls (Grade I & II) which indicated a delay of 1.0 year as compared to controls.

2. PREVALENCE OF ANEMIA AMONG FEMALES IN REPRODUCTIVE AGE GROUP

R C Goyal (dr_goyal_45@rediffmail.com)

Dept. of Community Medicine, J N Medical College, Sawangi (M), Wardha, Maharashtra

A comparative study was conducted among females in reproductive age group between pregnant and non pregnant females in a rural area of Wardha district where 400 women each from pregnant and non-pregnant group were studied. Hemoglobin was estimated by Sahli's method. Level of anemia was categorized as per WHO criteria. Mean hemoglobin percentage

among non pregnant women was 9.00 as against pregnant 6.5. Non pregnant females were less (54%) anemic as compared to pregnant females (70%). Among the non pregnant females with more than two children, with spacing less than three years and who suffered with malaria in recent past were more anemic. There was no significant difference in nutritional status among pregnant and non pregnant females. However, caloric intake was less in pregnant women.

3. REVIEW OF UNDER-FIVE MORTALITY AT RAJIV GANDHI INSTITUTE MEDICAL OF SCIENCES, ADILABAD

Naik D B, Shelke A D, and Rathod S B (dr_dhananjaynaik@yahoo.co.in)

Rajiv Gandhi Institute of Medical Sciences, Adilabad, Andhra Pradesh

A retrospective study was conducted to study the various causes of under-five mortality and the duration of their hospital stay amongst cases admitted at the hospital attached to the Institute during the year 2007. 792 deaths occurred in the hospital during the year. Of them 20.9% were under-five deaths. 55.4% were males and 44.6% were females. Among these deaths 62% constituted neonatal deaths. Significant causes for under-five mortality were prematurity & LBW (20.5%) followed by severe infections (18.1%), birth asphyxia (15.1%) and acute respiratory infections (6.6%). 57.2% deaths occurred within 24 hours of admission.

4. ASSESSMENT OF COVERAGE OF ROUTINE IMMUNIZATION IN SLUMS OF DIBRUGARH DISTRICT

Mahanta T G, Bhattacharjee B, Baruah J, and Deb A (drtulikagoswami@yahoo.co.in)

AMC, Dibrugarh, Assam

Administrative data analysis and focus group discussions amongst service providers, utilizers and non utilizers was conducted from July to September 2008, to assess the coverage of routine immunization and reasons for nonacceptance in urban slum areas of Dibrugarh.. 63% of children were fully immunized with a drop out rate of 2.7%. Qualitative study indicated lack of manpower and infrastructure. Lack of awareness and misconception regarding immunization were the main reasons for non compliance.

5. EVALUATION OF COLD CHAIN PRACTICES IN URBAN HEALTH CENTRES OF BANGALORE MAHANAGARA PALIKE AREA

Lalitha K, Arvind*, Sudarshan**, NHolla***, Pruthvish S* (lalithakgs@yahoo.co.in)*

* MS Ramaiah Medical College, ** Immunization Officer, BBMP, *** SMO, NPSP, Bangalore

Study was conducted during October-November 2008 in 3 zones of Bangalore Mahanagara Palike, consisting of 98 health-centres and 6 referral hospitals. All Medical Officers and ANMs were trained in RI. Of 31, 35 and 32 health-centres, in East, West and South Zone respectively, 21, 16 and 20 centres have Ice lined refrigerators (ILR); only 14, 8 and 21 centres have deep-freezers; other centres still use domestic refrigerators. All referral hospitals have ILR and Deep freezer. All centres have adequate cold boxes and vaccine carriers.

6. A CROSS SECTIONAL STUDY ON HEALTH STATUS OF ADOLESCENT GIRLS IN AN URBAN COMMUNITY

Swati I A and Ray S K (swatisirwar@rediffmail.com)

Dept of Community Medicine, KBNIMS, Roza-B Gulbarga, Karnataka

A community based study was carried out through interview technique, clinical and anthropometric assessment. The data was collected on a pre-designed and pre tested proforma. Out of 250 adolescent girls aged 13 -19 years, 94% were anemic, 52.4% were of chronic energy deficiency, 37.2% had menstrual problems, 20% had skin infection, 14.01% had respiratory infections and 11.3% had other health problems.

SESSION II:

Chairperson: Dr R K Jain, Director (H&FW), Railway Board, New Delhi

7. A POST EPIDEMIC EVALUATION OF THE AWARENESS OF VECTOR HABITS OF CHIKUNGUNYA AND ITS PREVALENCE IN A RURAL AREA OF KERALA

Beteena K Aswathy S, Johnson AJ, Valsala L S, and Dinesh S (aswathys@aims.amrita.edu)
School of Medicine, Amrita Health Care Campus, Kerala

Study was conducted in 50 houses from 6 randomly selected wards of Nayarambalam Panchayath, Ernakulam district, Kerala. An adult family member was interviewed with semi-structured questionnaire and the environment around was observed. Type of mosquito that spreads Chikungunya was known to only 31 % of the respondents although 69% knew that the mosquito breeds in artificial water collections. Houses of those who had participated in mosquito control activities were two times more likely to be free of vector breeding. (C.I. 1.3 – 4.3.) Respondents who had received information regarding Chikungunya were significantly more likely to participate in future control activities. House Index of the panchayat was 18 and that of 4 wards were high (>10). Breteau Index (BI) of two wards were high (>50). All the mosquito samples identified were *Aedes Albopictus*.

8. PROFILE OF MORBIDITIES AMONG ADOLESCENTS AND THEIR HEALTH UTILIZATION PATTERN IN A TRIBAL BLOCK OF ORISSA

Pratap A K, Reddy S S S, Jena D, Malini D S, Satapathy D M, and Tripathy R M
Department of Community Medicine, MKCG Medical College Hospital, Brahmapur

Study was conducted in a sub center area of tribal district of Kandhamal among 116 adolescents of both sexes from 11 villages, selected randomly during August 2008. Interviews were conducted using pre-tested proforma to collect information about the illness in the previous two months. 70% suffered from different illnesses. No significant difference in prevalence rate between the sex was seen statistically. The incidence (spell) of illness was 90.5% with 50.4% fever, 29.5% skin infections, 10.4% GI disorders and 6% genitor-urinary disorders. Only 18.9% received treatment from near by PHC showing utilization service was poor.

9. HEARING ASSESSMENT OF WORKERS OF A POWER GENERATING UNIT

S R Tripathi, R C Patel, Raksha Agrawal and Divija Patel (tripathinih@yahoo.co.in)
National Institute of Occupational Health, Meghaninagar, Ahmedabad-380016

A study was conducted in a power-generating unit involving a total of 100 noise exposed workers (age range 25-55 years and employment up to 32 years). 27 workers unexposed to noise were selected as comparison group. The Sound Pressure Level (SPL) was between 72-96 dBA. The threshold of hearing of exposed workers were found to be on the higher side in the range of the normal threshold of hearing in both the ears particularly at the frequency of 4000 Hz-8000Hz. At the 4000Hz workers reported more than 60dBA sound for “Just hearing” in both the ears amongst the workers in the 35-39 years of exposure group as compared to 55dBA in 30-34 years of exposure. The risk of auditory symptoms rose with years of employment in noisy job in comparison to those who has never occupationally exposed to noise. Further, the hearing thresholds of the control group were below the normal value.

10. RISK OF TUBERCULOSIS IN RELATION TO FUEL USE: A POPULATION SURVEY

Saha A, Sharma Y K and Kulkarni P K (asimsaha2311@yahoo.co.in)

National Institute of Occupational Health, Meghani Nagar, Ahmedabad

A survey was initiated in a village involving 442 randomly selected subjects. All the subjects were interviewed and were subjected to medical examination. Subjects with and without tuberculosis were compared with reference to their fuel use using logistic regression technique taking care of the possible confounders. Biomass fuel (wood, cattle dung) was used. Age, sex and per capita income did not have any significant contribution in the causation of tuberculosis. However, smokers (OR 1.28, 95% CI 1.03-1.80) and residents of mud made houses (OR 1.86, 95% CI 1.23-2.57) had increased risk of tuberculosis. Causation of a disease like tuberculosis being highly multifactorial, this study reiterates that while finding a new risk factor, a study should critically deal with methodological details including confounding role of other variables.

11. ASTHENOPA IN WORKING CHILDREN OF GEM POLISHING INDUSTRIES JAIPUR, INDIA

Tiwari R R, Saha A and Parikh J R (rajtiwari2810@yahoo.co.in)

Occupational Medicine Division, National Institute of Occupational Health

Study was conducted on working children of gem polishing units on 432 exposed and 569 comparison group subjects. Self reported eyestrain was recorded through personal interview. Eyestrain included were symptoms like itching, burning or irritated eyes; tired or heavy eyes; difficulty in seeing clearly (including blurred or double vision); and headache. The study variables included age, sex, daily working hours and duration of exposure. Prevalence of eyestrain in child labourers was 32.2%, which was significantly more than in the comparison group subjects. Also the working children of gem polishing units were at 1.4 times higher risk of developing eyestrain. Age ≥ 14 years and female sex was significantly associated with the eyestrain.

12. EFFECTS OF CHRONIC EXPOSURE TO VARIOUS PESTICIDES ON GRAPE GARDEN WORKERS

Lale S V and Chavan BG (swsipn@gmail.com)

Zilla Parishad, Beed district

Study was conducted on 204 male workers, applying pesticides in grape gardens and 200 male workers never exposed to pesticides. Symptoms observed were CNS related (anxiety, confusion, apathy, nervousness), peripheral nervous system related (burning/ loss of sensation, weakness of fingers & toes), general (anorexia, weakness), & cutaneous (rash, eruptions, itching, acne). CNS & PNS related symptoms were significantly more in study group, while cutaneous & general symptoms were common in control group. Serum cholinesterase was estimated by both kinetic as well as simple colorimetric methods. Significant depression was observed in study group. In both the groups, frequency of symptoms of CNS & PNS increased with increasing duration of service, however general & cutaneous symptoms showed mixed picture. Serum cholinesterase levels significantly decreased with increasing length of service suggesting chronic, cumulative depression of serum levels and its impact on human morbidity.

13. TO STUDY THE EFFECT OF EDUCATION ON AWARENESS OF OUTREACH WORKERS IN HIV/AIDS AT ANDHRA PRADESH

Sigi Swarna Latha D, Linclon Singh D, Reema Preethi D, and M Lsurya Prabha
(sigidarla@yahoo.com)

A study using partially closed ended questionnaire was conducted on 112 outreach workers. 54% had secondary education ($\leq 10^{\text{th}}$ standard) and 46% had higher education (10+2, graduation, post graduation). 85% with secondary education and 100% with higher education knew about HIV diagnostic tests. Both groups had 100% knowledge of modes of transmission of HIV, misconceptions of transmission, preventive measures of transmission of HIV, TB as the most common opportunistic infection in people living with HIV. 84% were trained for more than one day and among these 95% knew about diagnostic tests, 77% knew about opportunistic infections. 16% of them had one day training, of which 63% & 50% knew about diagnostic tests and opportunistic infections respectively.

14. ANALYSIS OF CASES OF DECATEGORISATION AND INVALIDATION ON MEDICAL GROUNDS IN WESTERN RAILWAY

N K Depal (naren113@hotmail.com)

Health and Family Welfare

A retrospective study of the employees who were decategorised in the year 2007 and were invalidated on medical grounds in previous 3 years was undertaken. to analyze data relating to decategorisation and invalidation on Medical grounds in Western Railway. 288 employees were decategorised, 26.04% of employees were in age group of 51-55 years. 28.12% employees had put in 25-30 years of service. Diabetes and Hypertension were principal reasons for decategorisation. Of 140 cases invalidated, 93.57% were males and 6.43% were females. Hypertension was the primary cause of invalidation, 15.71% were having injuries, 13.57% cases had suffered from Diabetes Mellitus. 44.2% of employees were invalidated because of stroke.

SESSION III:

Chairperson: Dr Thomas Mathew, Professor & HOD of Community Medicine
TDMC, Alappuzha, Kerala.

15. STUDY OF CHEST SYMPTOMATICS WITH COUGH OF TWO TO THREE WEEKS DURATION IN A RURAL HOSPITAL

Mehendale AM, Nimbarte SB, and Garg BS (mehendaleam@gmail.com)

Mahatma Gandhi Institute of Medical Sciences, Sewagram, Wardha (MS)

Study was carried out among 1308 chest symptomatics who presented at general out-patient Department of Kasturaba Hospital, Sewagram with productive cough of duration ≥ 2 weeks. Three sputum samples were collected from each of them and subjected to sputum microscopy. Sputum positivity among males was 11.6% and among females 8.2%. Sputum positivity among regular smokers was 16.9%. Smear positivity among those with cough of 2 week duration was 10.6% and with cough of 3 weeks and more duration was 12.3%. Difference between sputum positivity of chest symptomatics with cough of 3 weeks and more and of 2 weeks was statistically not significant ($p \geq 0.05$).

16. EVALUATION OF MASS DRUG ADMINISTRATION FOR ELIMINATION OF LYMPHATIC FILARIASIS IN ENDEMIC AREAS OF KARWAR, KARNATAKA- 2007

Ranganath T S and Biradar M Santosh (ranga_ts321@yahoo.co.in)

Bangalore Medical College, Bangalore

Population based house-to-house visit was done in rural & urban areas of Karwar district. Coverage rate was 98.96% with variation across different areas. The compliance with drug ingestion was 95.64%. The effective coverage was above the target (85%). Side effects of DEC were minimum, transient and drug-specific.

17. ANTIBIOTIC RESISTANCE AMONGST COMMENSAL STAPH AUREUS IN TWO HOSPITALS AT UJJAIN - FIRST RESULTS FROM A LONGITUDINAL STUDY

Iyer R V, Marothi Y, Pathak A, Macaden R, and Stålsby Lundborg C (meghasharma27@rediffmail.com)

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A study to determine and analyse antimicrobial resistance in *Staphylococcus aureus* in children below the age of 5 years attending the OPD of the two hospitals CRGH and UCTH in Ujjain, during the period Nov 07 to May 08 was done. Resistance to beta-lactam group were 59% to ampicillin, 32% to amoxyclave, 14 to 18% amongst the quinolones group, 15% to amikacin and 14% to doxycycline and erythromycin. MRSA was 4 in bacteria from both the two hospitals. The newer drugs like linezolid, tecoplanum or vancomycin have not developed resistance so far.

18. ASSESSMENT OF SPUTUM CONVERSION AND OUTCOMES OF NEW SMEAR POSITIVE CASES UNDER RNTCP IN A DISTRICT OF KARNATAKA

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Department of Community Medicine, M R Medical College, Gulbarga

Study was conducted at six TUs of Gulbarga district by analyzing quarterly reports. NSP patients at three months, 77.48% became smear negative, 1.42% remained smear positive and no data was available for 21.10%. Of the 1296 NSP cases registered during previous 12-15 months, 64.66% were cured, 11.11% treatment completed and 5.87% died, failure was 5.87%, 12.43% defaulted while 0.07% transferred out.

19. CHIKUNGUNYA OUTBREAK IN KASARGODE, KERALA, 2008: SITUATIONAL ANALYSIS OF CONTROL MEASURES

Thomas Mathew, Dinesh Arora IAS, Divya Bhagianadh, Sairu Philip et al. (thomasmathew08@gmail.com)

Department of Community Medicine, TDMC, Thiruvananthapuram

Study was undertaken on the CG epidemic in Kasargode district. Average daily number of CG cases reported has come down drastically in the district. Surveillance, BCC initiatives and vector control measures all were found to have reached the peripheral institutions. Improvement is required in some areas especially inter-sectoral coordination and utilization of funds. The standard management protocol and diagnostic facilities at field station of NIV in the state were utilized well. The control measures initiated by the Epidemic Control Cell were found to be instrumental in controlling the epidemic in the district.

20. KNOWLEDGE ABOUT HIV/AIDS AMONG FEMALE HIGH SCHOOL STUDENTS IN URBAN AREA

Dambhare D G, Bharambe M S, Gupta S S, and Garg B S (darampal21@yahoo.com)
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Study was conducted among 188 female students in the age group 14-19 years studying in a High school, Wardha. 84.04 percent of the students had heard of HIV/AIDS. 31.91% girls had no idea about the possible modes of transmission. Modes of HIV transmission identified by most of the girls were: 68.09% sex with an infected person, 61.17% with use of infected blood, 64.36% with injecting drug user. 55.85% were aware of the fact that HIV could be transmitted from mother to child. Only 36.70% of the students were aware about HIV/AIDS as being preventable. 22.87% of the students knew about the availability of drugs for HIV/AIDS. Sources of information about HIV/AIDS to students were: teachers (70.74%), television (32.45%), newspaper (2.66%), health personnel (2.66%), radio (1.06%) and books (1.06%).

21. ASSESSMENT OF KNOWLEDGE BASED PRACTICES ON NOSOCOMIAL INFECTIONS OF HEALTH CARE PROVIDERS IN A TERTIARY CARE SETTING IN KERALA

Dinesh Arora IAS, Sara Varghese, P Khuraisha Beevi, Divya Bhaginath
(drsaravarghese@gmail.com)
State PEID Cell, Medical College, Trivandrum

An interventional study among health care providers was done by assessing pre and post exposure awareness among health care providers regarding infection control procedures at the Medical College Hospital, Thiruvananthapuram, Kerala using structured closed ended self administered questionnaire. Convenient sampling technique was adopted and a sample of 1360 was selected for the study. There was a significant difference in the level of knowledge among the health care providers.

22. OPTIMIZATION OF ANTI RETROVIRAL TREATMENT CARE SERVICES IN A LOW RESOURCE SETTINGS

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* Dept. of Community Medicine, ** Dept. of Pharmacology, Medical College, Calicut

Data about the cohorts of AIDS patients who had under gone treatment from ART center Calicut in Kerala during the year 2007 was collected prospectively. Male female ratio was 2:1 and mean age was 38 ± 9 years. 805 were married and 60% the spouses were infected and >70% were from other districts. Most of them were reported at the advanced stages 3 and 4. 12% were bed ridden.

23. A PROFILE OF ICTC ATTENDEES AT RIMS, KADAPA

Dondapati S S K, Chadaram B K, Kallepalli J K K, and Kalevaru C S
(doctorsujith@rediffmail.com) Rajiv Gandhi Institute of Medical Sciences, Kadapa

An analysis of records of attendees of ICTC, RIMS, Kadapa was done to identify the risk factors for HIV infection. Out of 3218 persons who attended ICTC, 18.18% men, 20.17% women and 55.56% TG/TS were positive for HIV. Age wise, 9.19% of children below 14 years, 21.39% of persons in the age 14-49 yrs and 15.28% of elders above 50 years were positive. Persons with education level of college and above are more affected (26.92%) with least among illiterates (17.98%). HIV is more in daily wagers (27.64%) and least among business class (2.37%). More HIV infection was observed among married (21.77%) and least among divorced or separated (12.71%). Risk groups like MSM had more HIV cases (28.57%) and least among STD cases (8.87%).

24. FACTORS INFLUENCING THE LEVEL OF SOCIAL SUPPORT AND SOCIAL STIGMA OF PEOPLE LIVING WITH HIV/AIDS

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Sri Manakula Vinyagar Medical College, Hospital, Puducherry

A study was done among 200 PLWHA attending JIPMER, and three NGOs to assess perceived social support on a 7 point Likert scale and perceived social stigma using HIV Stigma Scale on 4 point Likert scale. Mean score in the 'Multidimensional Scale of Perceived Social Support' was 58.2 (score range 12 to 84), indicating that the subjects had relatively better social support. Average social stigma score was 88.2 (score range 28 to 112), indicating a greater stigma perceived by the subjects. Social support was negatively influenced by stigma. Those PLWHA whose occupation had deteriorated after the diagnosis of HIV had poor social support. Older PLWHA and those with longer duration since diagnosis had lower stigma. Stigma was more among those who had not disclosed their HIV status. Support and stigma did not significantly differ between genders.

25. INVESTIGATION OF OUTBREAK OF HEPATITIS-B IN A RURAL VILLAGE IN KERALA

Sairu Philip, Thomas Mathew*, Saradadevi**, Krishnadas**, Sajimol*, and Dinesh*

*Arora****

(thomasmathew08@gmail.com)

T D Medical College, Alappuzha, Kerala, ** Trivandrum Medical College, * NRHM*

House to house survey was conducted to identify cases with history of hepatitis and to conduct serological examination for those with history of hepatitis (HBsAg, antiHBsAg, IgM antiHBc, IgM HAV, IgGHAV & IgM HEV). Study revealed that of the 762 subjects screened 12.4% had history of hepatitis, associated with male gender, history of hospitalisation, injections taken, dental procedures, visit to barbershop and outstation travel within six months of onset of disease. Of these identified cases with history of hepatitis, only 30.5% underwent serological examination on the second day, 29 had Hepatitis B alone, 5 had Hepatitis B and Hepatitis A infection combined, 5 had Hepatitis A infection alone, and 1 had combined Hepatitis A and Hepatitis E infection. Of the 34 hepatitis B cases, 5 were chronic carriers, 8 had remote infection and 21 had recent infection. Of the 5 chronic carriers, only 1 had past history of hepatitis. Others were unvaccinated contacts of hepatitis B. (sexual contacts-2, household contacts-3). Serologically confirmed hepatitis B cases were found to be more among males, those with history of dental procedures, visit to barber shop and outstation travel when compared to others without Hepatitis B. ($p>0.05$). Chronic carriers formed 14.7% cases of hepatitis B and the minimum chronic carrier rate for Hepatitis B in this population is 0.65%

SESSION IV:

Chairperson: Dr Kuntal Biswas, IPHA, Kolkatta.

26. SITUATIONAL ANALYSIS OF COMMUNITY LEVEL INFORMATION EDUCATION AND COMMUNICATION ACTIVITIES OF THE HEALTH CARE PROVIDERS IN FOUR STATES OF INDIA

Mandal R N, Dobe M and Mondal B (madhumita_dobe@rediffmail.com)

Department of Health Education, All India Institute of Hygiene & Public Health, Kolkata

A cross sectional study was conducted among selected Community Level health care providers (HCP)(n= 188) of Himachal Pradesh, Orissa, Andhra Pradesh and Sikkim with structured pre-tested interview schedule. The study revealed that 90% of HCPs conducted IEC activities related to different National Health Programs. 10% of them (Anganwadi Workers) did not carry out any IEC activities during the study period. Majority (62.72%) had conducted only group meetings with the mothers of under five children. Though different types of printed IEC materials were available with the HCP only posters were used most commonly.

27. HEALTH COMMUNICATION-GAPS IN IMPLEMENTATION

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Department of Health Education, All India Institute of Hygiene & Public Health, Kolkata

Study was conducted among selected Community and Health Care Providers of Himachal Pradesh, Orissa, Andhra Pradesh and Sikkim with the help of semi-structured pre-tested interview schedule. 80.85% of 188 health care providers reported assessing educational need of the community before implementing health education intervention. Among them 44% reported assessing these needs through interpersonal communication (IPC) within the community. All the HCPs reported that they had disseminated relevant information to the community regarding immunization, ANC, ORT, Malaria and Filariasis. However, recall rates from respective community was only 26.29% for immunization and less than 15% for ANC, ORT, Malaria and Filariasis.

28. KNOWLEDGE ON PROTECTING FROM CLIMATE CHANGE: PREPAREDNESS OF MEDICAL INTERNS

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K S Hegde Medical Academy, Mangalore

Study was conducted among medical interns from five medical colleges. 90% medical interns were aware about the climate change and that the human activities that were playing a major role for this change. 90% were aware about the direct health impacts due to higher temperature and 92% about depletion in ozone concentration and 78% were aware about change in frequency/distribution of vector borne diseases, 75% were aware about water borne/related diseases, 78% about malnutrition and health impact of population displacement. Knowledge regarding health protection was limited to mitigation of climate change and training/ education. Options like adaptation, establishing/ strengthening climate and disease surveillance system and health action in emergency were known to only 7%, 6% and 13% respectively. College wise difference was statistically not significant. Extra/co-curricular activities were the major source of knowledge.

29. STUDY OF DRUG PRESCRIBING PRACTICES AT A TERTIARY CARE HOSPITAL

Vaz F S, Ferreira A M, Pereira-Antao I, Motghare D D and Kulkarni M S
(frederickvaz@rediffmail.com) Goa Medical College, Goa

Study was conducted at Goa Medical College Hospital using some of the WHO core drug prescribing indicators. Fifty prescriptions were selected per month over a period of one year and a total of 600 drug prescriptions were studied. WHO drug use core indicators were analysed. On an average 2.9 drugs were prescribed per prescription. Of them 13.3% were under generic names, 6.4% contained an anti-biotic, 2.6% were injections, 61.0 % were from essential drugs list.

30. A COMPARATIVE ASSESSMENT OF PHCS AS PER INDIAN PUBLIC HEALTH STANDARDS BETWEEN AN EAG STATE AND A NON EAG STATE OF INDIA

Zaman F A and Laskar N B (drforhadzaman@rediffmail.com)
KBN Institute of Medical Sciences, Gulbarga

An assessment was done on the infrastructure, services and manpower of Primary Health Centers as per Indian Public Health Standards and to compare these aspects between 5 PHCs of Dhubri district of Assam, an EAG State with 10 PHCs from Gulbarga district of Karnataka, a non EAG State. New born care facilities were absent in all the selected PHCs of Dhubri district while it was available in 70% of the selected PHCs of Gulbarga District. Monitoring and Supervisory activities were satisfactory in both the states. Manpower availability was better in the EAG state as compared to the non EAG state while infrastructure adequacy was better in the non EAG state. Availability of diagnostic facilities including routine tests was better in the non EAG state while tests for TB and Malaria in specific were better in the EAG state. All the selected PHCs of Gulbarga district were catering a population below the 30,000 norm while all the selected PHCs of Dhubri district were catering a population above 200,000 which is about 6 to 10 times more than the defined norm.

31. MORBIDITY PROFILE OF TRIBAL PEOPLE IN A VILLAGE HEALTH CAMP, DIST. ADILABAD

Mitkari P P, Shelke A D, Naik D B, and Rathod S B (drdhananjaynaik@yahoo.co.in)
Dept. of SPM, Rajiv Gandhi Institute of Medical Sciences, Adilabad (AP)

Study conducted amongst patients examined by doctors in a tribal village attached to Rajiv Gandhi Institute of Medical Sciences, Adilabad, showed that of total 160 patients examined in the camp, 52.5% were males and 47.5% were females. 45% were in the age group of 15-45 yrs and 23.8% were below the age of 15 yrs. Common diseases found were Arthritis (31.3%) followed by URTI (26.3%), General Debility (13.8%) and Fever cases (11.3%).

32. VOUCHER SCHEME FOR EQUITY IN HEALTH

Chaudhary Nidhi (nchaudhary@constellagroup.com)
Futures Group International, New Delhi

An operations research was conducted to evaluate the feasibility of the Voucher Scheme so as to improve access to RCH services. Voucher Scheme is a demand-side financing public private partnership (PPP) model to provide select RCH services to 1.5 lakh BPL populations in 2 blocks of Haridwar district. Vouchers are distributed to BPL beneficiaries in exchange for which, they can avail services free of cost from any of the

select accredited private healthcare providers. Services provided by the private providers include, antenatal and postnatal care, diagnostics for pregnant women, delivery, neonatal complications, and family planning. The providers redeem the vouchers from the VMU, per the pre-negotiated fixed cost for each service. The district quality assurance team accredited 7 private providers for service delivery based on established standards. 48 auxiliary nurse midwives (ANM) and 376 accredited social health activists (ASHA) in 2 blocks were trained by VMU on voucher distribution. The services delivered over a period of 16 months included: 4824 antenatal care and 1135 postnatal care checkups; 1803 deliveries (330 Caesarean sections); 65 neonates treated for respiratory distress syndrome; 85 given phototherapy for jaundice; 25 required incubator care; 85 treated for sepsis and other neonatal problems and 94 female sterilizations.

33. NEED TO UPGRADE KNOWLEDGE OF PRIVATE PRACTITIONERS FOR IMPLEMENTATION OF IMPORTANT NATIONAL HEALTH PROGRAMMES

B R Goyal (drgoyal_45@rediffmail.com), FNTCN, DMIMD, Wardha

Two hundred Private practitioners from different system of medicine were interviewed using a pre-designed questionnaire from four blocks of Wardha district. Tuberculosis, Leprosy, Blindness, RCH including diarrhea and acute respiratory illness among private practitioners were studied. More than half (52%) practitioners of whom 80% were MBBS, had complete knowledge regarding tuberculosis and RNTCP but only a few MBBS doctors were practicing the same. 66% practitioners, of whom 90% were MBBS, were having complete knowledge regarding leprosy and its National health programme. 59% practitioners, of whom 70% were MBBS, had complete knowledge regarding blindness and its National health programme. 80% practitioners were having complete knowledge regarding universal immunization programme and only few of them were giving the immunization. 65% practitioners had partial knowledge regarding RCH programme, 76% about diarrhea and its management. Less than 50% had knowledge regarding acute respiratory illness and its management.

SESSION V:

Chairperson: Dr Rupali Baruah, Professor of Community Medicine, AMC, Dibrugarh, Assam

34. MORBIDITY PATTERN AMONG WOMEN OF REPRODUCTIVE AGE GROUP IN FIELD PRACTICE AREA OF COMMUNITY HEALTH TRAINING CENTRE, RAJAPUR

Cherian S M and Tenglikar S G (shilucherian@gmail.com)

Department of Community Medicine, Dr. B R Ambedkar Medical College, Bangalore

Study was carried out among women of reproductive age group 15-44 years in field practice area of CHTC, Rajapur, Gulbarga. Prevalence of general morbidity among the group was 31.03%. General health problems detected were dental caries in 6.40%, body aches in 5.91% and respiratory tract infections in 5.42%. Education and anemia were significantly associated with general morbidity. Prevalence of gynecological morbidity was 52.22%. Common gynecological problems were menstrual problems in 41.38% and white discharge in 12.81%. Association between anemia and gynecological morbidity was significant. 59.61% of women were diagnosed to have anemia. Occupation, parity and BMI were significantly associated with anemia.

35. STUDY OF SEXUAL GROWTH AND DEVELOPMENT OF ADOLESCENTS IN DISTRICT DEHRADUN

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Department of Community Medicine, Muzaffarnagar Medical College, UP

Study was conducted in Doiwala Block, District Dehradun (Uttarakhand) on a sample of 840 adolescents, selected by multistage stratified random sampling. 91.7 % of the adolescent boys and 89.7 % of the adolescent girls had given the consent for assessing the Tanners' Sexual Maturity Rating (SMR) stages. The mean weight of the late adolescent boys (52.7 Kg) and girls (50.61 Kg) was found to be highest in those who were having SMR IVth stage and SMR Vth stage respectively. About 46.4 % of the adolescent boys had attained spermarche and majority of them (45.1 %) were 15 years old. A maximum of 45.1 % of the girls who had menarche belonged to 12-13 years of age.

36. KAP STUDY OF IMMUNIZATION AMONG RESPONDENTS OF CHILDREN AGED 12-24 MONTHS

Keerti P Yerpude and Pravin N Yerpude (drrajupravin007@yahoo.com)

Department of Community Medicine, Katuri Medical College and Hospital, Katuri Nagar, Chinakondrupadu, Guntur (Andhra Pradesh)

300 respondents were interviewed in RHTC, Prathipadu of Guntur district using universal sampling technique. Knowledge regarding disease prevention, number of doses and correct age of administration of BCG was highest among all the categories of respondents. Paramedical worker was the main source of information to respondents (52%). 92% of respondents received BCG, DPT1 whereas only 36% children received measles vaccine. Major causes for non/partial immunization were fear, complication after receiving DPT injection and being not aware of importance of immunization.

37. A CROSS SECTIONAL STUDY TO ASSESS FACTORS AFFECTING FAMILY PLANNING PRACTICES IN TWO SEMIURBAN COMMUNITIES

Dudeja P (puja_dudeja@yahoo.com) ARMY, Ambala, Panjab

Study was carried out at two semi urban communities amongst married woman in reproductive age group 16-45 years. Prevalence of current contraceptive use in the study population was 57.87%. Majority of users belonged to age group 25-34 years (65.17%). Contraceptive use among eligible respondents varied significantly with number of living children. The prevalence of tubectomy was maximum (48%) in the category of couples with two children but declined among those with three (29.66%), four (16.94%), five or more children (5.26%). The use of temporary methods was maximum (55.17%) among those with one child and decreased as the number of children increased. The prevalence of contraceptive use increased with increasing literacy levels up to middle school level as compared to literates up to or beyond high school level. There was no significant relationship between type of family and contraceptive use. Contraceptive prevalence was low (29.38%) in the lower and upper lower class when compared to the lower middle and upper middle class (45%). Contraceptive use by the couple and inter spouse communication about family planning are significantly related.

38. MONITORING OF IMNCI ACTIVITIES IN DIBRUGARH DISTRICT, ASSAM

Baruah J, Mahanta T G, Barua A, and Jentia Baruah (jenita_19baruah@rediffmail.com)
AMC, Dibrugarh

Administrative data analysis and cross-sectional study in a block of Dibrugarh district was conducted to assess the quality of IMNCI training and evaluate its implementation in a PHC area. 87.6% of health and nutrition workers were trained in IMNCI. Mean of the quality of training, assessed by scoring system was 87.5 (SD 4.8 and range 74 – 94). Post training follow-up of trained worker was not done within 4 to 6 weeks of training. Drug supply was irregular. Trained workers visited 48.2% of newborns within 24 hours of birth. 64.8 % babies got three post natal home visits within 10 days of deliveries. 34.1% sick infants between 0-2 months and 25.05% between 2 months to 5 years were referred.

39. PREVENTIVE HEALTH CHECK UP OF STUDENTS IN SYMBIOSIS EDUCATIONAL INSTITUTES

Bhide D S, Deodhar P A, Chandak A O, Yeravdekar R C, and Tilak V W (cmo@schcpune.org)
SCHC, Pune, Maharashtra

Study was carried out on 3531 school students from Symbiosis Schools and 7824 college students from Symbiosis Institutes. In school students, 32.3% had refractive errors. Caries tooth were detected in 26.3%. Malocclusion of teeth was detected in 7.8%. College Health Check up revealed that 21.19 % had refractive errors. 23 % had dental problems such as Caries tooth (10.64 %), Malocclusion (1.41 %), and Stains (11.06 %). On Sonography of abdomen and pelvis, renal calculi were detected in 0.55%, Gall stones were diagnosed in 0.32%, Fatty Liver was detected in 1 % and ovarian cyst was detected in 1.20%. 10 students had hypertension. 178 students were diagnosed to have Anemia. 188 students had Eosinophilia. One case of Chronic Myeloid Leukemia was detected in a totally asymptomatic student by the simple WBC count done during his annual medical check up.

40. HEALTH CARE WASTE MANAGEMENT PRACTICES DURING ROUTINE IMMUNIZATION AT SELECTED PHC'S IN CHINTAMANI TALUK

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Dept. of Community Medicine, M S Ramaiah Medical College, Bangalore

An observational study was undertaken in four randomly selected PHCs of Chintamani taluk, Karnataka. The immunization sessions in these four PHCs were observed for two consecutive weeks using a pre-designed check list. Syringes, vials and cotton were weighed using an electronic single pan balance, quantified and volume measured. Average waste generated in all the four PHCs was 1449.98 grams. In two PHCs immunization waste was segregated in a cardboard container. The containment was not appropriate in all PHCs. In one PHC disinfection was done with bleaching powder and disfigurement was done with needle destroyer. Though sharps pit was provided, final disposal was not appropriate. The waste handlers were provided with protective equipments, but none were using them. None of the waste handlers were immunized against tetanus, typhoid and hepatitis B. None of the medical officer's maintained injury register or immunization register and the waste handlers had not undergone annual health check up.

41. AGE AT MENOPAUSE AND PERCEPTION OF MENOPAUSE AMONG RURAL WOMEN IN CHANDIGARH, INDIA

Kaur Sukhwinder^{}, Walia Indarjit^{*}, and Singh Amarjeet^{**} (jssahota@bsnl.co.in)*

^{*}National Institute of Nursing Education, ^{**} School of Public Health, PGIMER, Chandigarh

House to house survey was undertaken amongst women aged 40-60 years with over 12 months since last menses, in a suburban area of Chandigarh. Out of a total 725 women, 41.1% had attained menopause. Of these 82.2% women were in the early post menopausal phase of their lives. Mean age at menopause was found to be 46.85±3.8 years. Majority 64.8% did not report any adverse effect of menopause on health, whereas 11.4% reported weight gain as an adverse effect of menopause. No changes were experienced by 74.2% women prior to onset of menopause, whereas 21.1% women reported heavy bleeding and irregular menses. 94.3% welcomed cessation of menses. The reported reactions were, 'got rid of botheration' (52.3%), 'free from worries' and 'freedom to go anywhere /wear any type of clothes' (21.8%), 'had attained manhood' (7.7%). None of the women used HRT.

42. KNOWLEDGE AND ATTITUDE OF SCHOOL GIRLS REGARDING MENSTRUATION AND MENSTRUAL HYGIENE AT COIMBATORE, TAMIL NADU

K Jeyanthi Shanmuga (k.jeyanthishanmugam@yahoo.in)

R V S College of Nursing, Coimbatore, Tamil Nadu

Study was done in a private school at Coimbatore, Tamil Nadu on a sample of 70 girls aged between 13- 19 years. 51% of girls had inadequate knowledge on menstruation, 49% girls had moderately adequate knowledge on menstrual hygiene. Regarding attitude on menstruation and menstrual hygiene, 8% had highly or some negative attitude, while 14% girls had neutral attitude. However, 7% had highly positive attitude while 71% girls had positive attitude.

SESSION VI:

Chairperson: Dr. V Chandrasekar, Prof & Head of Community Medicine, RMC, Kakinada, Andhra Pradesh

43. A STUDY OF PHYSICAL ACTIVITY HABITS OF YOUNG ADULTS

Banerjee Amitav and Khatri Swati (amitavb@gmail.com)

D Y Patil Medical College, Pune

Out of the 189 medical students approached for the study, 170 agreed to participate in the study. Only 39.4% of the respondents indulged in vigorous physical activity so as to work up a sweat at least 3 times a week. There was no association of activity with gender. People with higher Body Mass Index exercised more frequently. More than 20% of the students were overweight / obese while 9.4% were underweight. More female subjects (13.8%) were underweight as compared to male subjects (4.8%).

44. STATUS ASSESSMENT OF CATARACT SURGERY IN A TERTIARY LEVEL HOSPITAL IN HARYANA

Malik J S^{} and Dhull C S^{**} (jsmalik124@rediffmail.com)*

^{*}Department of Community Medicine, ^{**} Regional Institute Of ophthalmology, PGIMS Rohtak

Record analysis of cataract surgeries was done in the ophthalmology department of PGIMS Rohtak hospital. 20178 cases attended the ophthalmology department OPD for

consultation. Of them 41.10% were above 50 years of age and cataract was detected among 55.92% cases. 1329 cataract surgeries were performed. 1209 surgeries were performed in PGIMS Rohtak and 126 in base camps. 51.46% cataract surgeries were on females above the age of 50 years and 38.44% were on bilaterally blind. Visual acuity was measured before and after cataract surgery and improvement in vision was observed which is significant. 98.87% were IOL surgeries and only 1.13% were conventional surgeries. Complications were reported in 14 cases. In 20% of conventional cataract surgeries vitreous loss was reported. Major complications reported with IOL surgery were iris prolapse and IOL displacement. It can be concluded from above data that more than 50% cases above the age of 50 have cataract which was more with females

45. PREVALENCE OF REFRACTIVE ERRORS AMONG SCHOOL CHILDREN IN A RURAL BLOCK OF HARYANA

Vashisht B M, Sharma S, and Kalhan M (drbmvasisht@rediffmail.com)

Department of Community Medicine, PGIMS, Rohtak

Study was done at Govt. Senior Secondary Schools of Block Lakhanmajra. Out of 1265, 172 children (13.6 %) were found to have defective vision ($VA \leq 6/9$). Myopia affected only one eye in 1.74% students while both eyes were affected with 10.36% students. Hyperopia affected one eye only in 0.16% students while with 1.34% students both eyes were affected. The prevalence of myopia, hyperopia & astigmatism was more among girls (23.7%) as compared to boys (12.2%). The prevalence of myopia and astigmatism was more among higher age groups and the prevalence of hyperopia was in lower age groups.

46. PREVALENCE OF OBESITY AMONG RURAL SCHOOL CHILDREN IN UDUPI DISTRICT, KARNATAKA

Kamath V G, Kamath A, and Lena A (venkamath@yahoo.com)

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A cross sectional study was carried out in the rural schools of Udupi district, Karnataka amongst children aged 6-15 years. Prevalence of overweight and obesity as per the WHO criteria were 1.1% and 0.5% respectively. There was no significant difference of prevalence of obesity and overweight across the age groups or between sexes.

47. PREVALENCE OF HYPERTENSION IN A COMMUNITY OF COASTAL KARNATAKA

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A community based study was carried out on a population of 1,239 respondents. Study included 1,419 subjects with a response rate of 87.3%. Among the respondents, 35% were males and 65% were females. The prevalence of hypertension was found to be 43.3%. Based on JNC VII classification, pre-hypertension was noted among 41.4% of the subjects, with 43.7% individuals being in 30-39 year age group. Advancing age, male gender, current diabetic status, central obesity, overweight and obese as defined by BMI were identified by the multivariate logistic regression model to be associated with the presence of hypertension.

48. RISK FACTORS OF BREAST CANCER AND VALIDATION OF GAIL MODEL BREAST CANCER RISK ASSESSMENT TOOL IN ESTIMATING THE RISK FOR DEVELOPMENT OF BREAST CANCER IN WOMEN OF KERALA, INDIA

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^{*}Dr. Somervell Memorial CSI Medical College Karakonam,

^{**}Division of Surgical Oncology, Regional Cancer Center, Trivandrum

Study was conducted at Regional Cancer Center Trivandrum by including all breast cancer patients admitted for surgery, amongst 60 cases and 920 controls. Major risk factors of breast cancer included were age, irregular periods, previous history of breast biopsy, presence of first degree relatives with breast cancer, history of abortion, absence of live birth; age at first live birth, post menopausal status and absence of breast feeding. A new model was made using the identified risk factors. It is concluded that Gail Model cannot be used for predicting high risk women in Kerala. A new model formulated based on the above identified risk factors should be more useful in community wide screening programmes in Kerala.

49. A STUDY ON THE PROFILE OF GASTRIC CARCINOMA PATIENTS ADMITTED TO KASTURBA HOSPITAL, MANIPAL, KARNATAKA

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Record based study was done at Kasturba Hospital, Manipal. Of 267 gastric carcinoma cases admitted, majority of patients (77.5 %) were in the 6th to 8th decade of life and three quarters of patients were males. 56.3% smoked and 49.7% consumed alcohol regularly. Most common symptom seen was pain in abdomen and most common sign was pallor. Most of the cases (45.9%) were diagnosed in stage IV.

50. EXPENDITURE ON HEALTH CARE INCURRED BY DIABETIC SUBJECTS IN THE URBAN FIELD PRACTICE AREA OF KEMPEGOWDA INSTITUTE OF MEDICAL SCIENCES, BANGALORE

Chitra Nagaraj, Nagaraj C, Jayanthi S, and Seema K S (chitranagaraj@hotmail.com)

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A house to house survey was undertaken in the urban field practice area of Kempegowda Institute of Medical Sciences, Bangalore. Self disclosing diabetics were identified and administered a questionnaire to know the expenditure they incurred for the management of diabetes and associated illnesses. 168 self disclosing diabetics were identified, with a slightly female preponderance and an age distribution across a median of 56 years. Only 14% of the study subjects were on Insulin while the majority, were on oral tablets. The private health sector met the health needs of 82% of these subjects and 90% of the study subjects did not have any health insurance. Mean monthly average expenditure for management of their disease was Rs. 368. Those without associated diseases spent less (mean Rs. 313) compared to those with associated diseases like hypertension (mean Rs. 424). Hospitalization of these diabetic patients further enhanced the cost of health care. The mean per capita income of these patients was Rs. 1525 (range 250 to 15000). The diabetic subjects on an average spent 17% of their median per capita monthly income for the management of their diabetes.

SESSION VII:

Chairperson: Dr V Venu Gopala Reddy, Professor of Community Medicine, NMC, Nellore

51. HEALTH PROFILE OF HIV POSITIVE INDIVIDUALS AT ANTI RETROVIRAL TREATMENT CENTRE AT KADAPA DISTRICT

Kalevaru Chandra Sekhar, D S Sujith Kumar, Bala Krishna C (cskalevaru@yahoo.com)
Dept. of Community Medicine, RIMS, Kadapa, AP

Study was carried out at Anti Retroviral Treatment centre at RIMS Hospital. About 7483 HIV positives were interviewed with pre structured questionnaire. Out of them 91.6% people were in the age group of 15-49 years. About 28% people were having less than 200 CD4 count before initiation of treatment. Literacy status was significantly associated among HIV positive males ($P < 0.001$). 82.6% of HIV positive individuals were from daily labour occupation. In the present study most common opportunistic infection was pulmonary tuberculosis among the HIV positive individuals and was 31%. Out of 2113 ART individuals, about 35% of people developed different adverse reactions during the course of treatment. Before initiation of ART treatment, the mean value of CD4 counts was 76.8. After one year with ART the mean CD4 count raised to 219.65.

52. A STUDY ON PERFORMANCE INDICATORS OF DOTS THERAPY AT TUBERCULOSIS UNIT OF KADAPA DISTRICT, ANDHRA PRADESH

Kallepally J, Kishore Kumar, K Chandra Sekhar, and C
Balakrishna (commedicine_kj@yahoo.com)

Rajiv Gandhi Institute of Medical Sciences Hospital, Kadapa

Hospital based study was carried out among the outpatients attending designated microscopy centre (DMC) at RIMS Hospital, New Delhi. Adult OPD turnover was 4,73,053 patients of which 7884 were identified as T.B suspects out of whom 456 patients were referred to various PHI. 99.2% of T.B patients were in the age group of above 15 years. 0.8% of TB patients were < 15 yrs of age group. Among the 295 sputum smear positives the cure rate was 83.7% and 4.1% patients died during the course of treatment. Overcrowding and Low Socio-Economic Status significantly associated with Tuberculosis.

53. EFFECTIVENESS OF AWARENESS SESSIONS FOR ENHANCING KNOWLEDGE REGARDING RABIES AMONG COLLEGE STUDENTS

Vinay M, Mahendra B J, Harish B R, and Shivaramakrishna H R
(drvaym@rediffmail.com)

Mandya Institute of Medical Sciences, Mandya, Karnataka

Study was undertaken at Maddur town of Karnataka. Students were administered questionnaire before the 'Rabies Awareness Session'. Then 'Rabies Awareness Session' was conducted, in batches of about 100 students, using Power Pont Presentation, Video Clips and Question-Answer session. One month later, the students answered the same questionnaire. The answers of the pre-session questionnaire and the Post-session questionnaire were compared. Before the 'Rabies Awareness Session', 46.4% knew that rabies is caused by a virus. 52.6% knew that it is transmitted by dogs & cats. 42.6% knew that rabies is 100% fatal. 16.3% knew that symptom of rabies in man is hydrophobia. 53.1% knew that the bite wound should immediately be washed with soap & water. After attending the 'Rabies Awareness Session' the knowledge of the students regarding various aspects of rabies and its prevention significantly increased.

54. COMMUNITY PERCEPTION REGARDING MOSQUITO-BORNE DISEASES IN RURAL AREA

Yerpude Pravin, Yerpude Keerti (drrajupravin007@yahoo.com)

Department of Community Medicine, Katuri Medical College and Hospital, Katuri Nagar, Chinakondrupadu

Study was undertaken in the catchment area of RHTC, Prathipadu of Guntur district. 430 households were selected by systematic random sampling method. Predesigned and pretested proforma was used to collect information. 86% of respondents had heard about malaria and 56% were aware of the mode of transmission. 41 % had proper knowledge of the mosquito breeding. Majority of the respondents knew that fever with chills was the most common symptom of malaria. 27% did not practice any personal protective measures at all, despite widespread prevalence of diseases.

55. STUDY ON AWARENESS OF DOTS AND MDR-TB AMONG INTERNS IN MEDICAL COLLEGES OF BANGALORE

Kutare Amita (amurinku12@yahoo.co.in) Dr. B R Ambedkar Medical College, Bangalore

A pre-tested semi-structured questionnaire consisting of 33 items was administered to 207 young medical graduates/interns posted in different departments. The questions covered mode of transmission, symptoms of pulmonary TB, investigations, short course chemotherapy including DOTS as well as conventional anti-tubercular treatment, special situations, chemoprophylaxis and questions on MDR-TB and XDR-TB. 38.16% interns correctly responded to cardinal symptom of tuberculosis. However, a mere 18.84% were aware of all the modes of transmission. 59.9% correctly chose sputum examination for acid fast bacilli as the single most confirmatory test for diagnosing pulmonary TB. Only 0.48% could correctly mention the duration of conventional chemotherapy. 69.57% marked streptomycin as the agent to be avoided in pregnancy. A mere 7.25% of them could correctly write the Cat-II regime.

56. INCIDENCE OF ANIMAL BITES AND HEALTH SEEKING BEHAVIOR OF ANIMAL BITE VICTIMS IN RURAL ANEKAL TALUK

Pretesh R K (preteshkiran@gmail.com) Dept of Community Health, St John's Medical College, Bangalore

Study was undertaken at rural areas of Anekal Taluk, South India surveying 13,398 persons. 225 episodes of animal bites were reported during the year preceding the survey, annual incidence of all bites being 16.8 per 1000 population surveyed. No mortality was attributed to animal bites during the period. Dog was the biting animal in 68.9% cases. Most affected were aged 15-44 years, males, hailing from middle and lower classes, engaged in outdoor vocations sustaining bites enroute to work/school. Wound toileting and application of indigenous substances was done by most victims. 80% of victims sought some form of treatment, majority seeking treatment within 3 hours of bite, first visiting a government facility. Treatment seeking was significantly higher among those aged less than 15 years. Non-treatment was significantly higher among the lower class and due to lack of treatment facilities. Cost and workdays lost for treatment was highest for dog and snakebites.

57. PREVALENCE OF RISK FACTORS AMONG HIV POSITIVE CASES IN UDUPI MUNICIPALITY AREA, KARNATAKA

*Lena A**, *Ashwini Kumar***, and *Indira Baiyy*** (lenamrinal@yahoo.com) *Mangalore University **Kasturba Medical College, Manipal

An analysis of 467 individuals' data from counseling forms of HIV positive cases from two ICTCs in Udupi Municipality was carried out. Of 467 HIV positive cases, 66.3% were males, 69.6% were within the 30-49 age group. 70.9% of them were married and 27.9% of patients were educated only up to secondary level. 83.8% cases gave a history of unprotected sexual intercourse and 19.3% had intercourse with commercial sex workers. 68.7% consumed alcohol before intercourse. High risk sexual behaviour of the partner was seen to be the most common risk factor, seen in 52.9%. Only 12.2% of individuals got their spouse tested and 78% of them were positive.

58. A STUDY OF ENVIRONMENT IN RELATION TO CERTAIN ENTERIC INFECTIONS WITH SPECIAL REFERENCE TO WATER SUPPLY IN RURAL AREAS

Dr. (Col.) Hans Raj (kemvnr@vsnl.net) NRHM

Study was undertaken in two selected areas located on Lucknow-Kanpur Road, one area where 87.4% population are dependent on shallow wells and 7.92% on hand pumps, (shallow tube wells) and another area where 65.42 percent had water supply from deep tube wells and the remaining from hand pumps and shallow wells. Prevalence of enteric infections amongst individuals dependant on shallow wells and hand pumps was 84/1000, and those dependent on deep tube wells was 44/1000, difference being statistically significant. Prevalence rate of the disease between households with satisfactory and unsatisfactory stored water at domestic end was not statistically significant. Significant difference was observed in the prevalence amongst those observing 'good' and 'fair' personal hygiene. Significant difference was also observed in the prevalence between two Areas, when 'high' and 'moderate' fly density was considered.

59. ANTIBIOTICS IN THE AQUATIC ENVIRONMENT OF INDIA: A CASE STUDY OF HOSPITAL WASTE WATER

Vishal Diwan¹, *Ashok J. Tamhankar²*, *Manjeet Aggarwal³*, *Shanta Sen³*, *Rakesh K. Khandal³*, *Cecilia Stålsby Lundborg^{1,4}* (vishaldiwan@hotmail.com)

¹ Department of Community Medicine, ² Department of Environmental Medicine, R.D. Gardi Medical College, Ujjain, ³ Shriram Institute for Industrial Research, New Delhi, ⁴ Division of International Health, Karolinska Institute, Stockholm, Sweden

Samples collected from hospital associated water were subjected to solid phase extraction combined with high pressure liquid chromatography – tandem mass spectrometry, to estimate selected prescribed antibiotics in the hospital water. The incoming water were free of antibiotics, however, metronidazole, norfloxacin, sulfamethoxazole, ceftriaxone, ofloxacin, ciprofloxacin, levofloxacin and tinidazole were detected in the range of 1.4 - 88.4 µg/L in hospital effluents.

60. EFFECTS OF SCALE ON COSTS OF TARGETED HIV PREVENTION INTERVENTIONS AMONG FEMALE AND MALE SEX WORKERS, AND TRANSGENDERS IN INDIA

Sudhashree Chandrashekar, Kumaranayake L, Bhaskar Reddy R, Govindraj Y, and Alary M

(sudhashreec@yahoo.co.in)

This study examines the cost variation of 98 Non-Governmental Organisation (NGOs) implementing targeted interventions over a two-year period of scale-up. Services were delivered in 61 districts in the states of Andhra Pradesh, Karnataka, Maharashtra, and Tamil Nadu to high-risk target populations of female and male sex-workers, men who have sex with men and transgenders. Total registered people were 135,277 at the end of two years. The scale of activity varied from 63 to 8234 for people registered, and 79 to 8629 people contacted across NGO interventions. The median cost per person registered was US\$39, with a mean cost of US \$80 (95% Confidence Interval \$53-\$107). Large reductions in the cost per person registered were observed. Costs declined from \$452 for low scales of activity to \$14 for the highest scale of activity. Scale was significantly associated with decreasing average costs.

SESSION VIII:

Chairperson: Dr D K Taneja, Professor of Community Medicine, MAMC, New Delhi.

61. CHANGE IN AWARENESS OF SCHOOL CHILDREN REGARDING EFFECTS OF TOBACCO USE FOLLOWING A HEALTH EDUCATION INTERVENTION

Mangala S, Madhumeetha T, Minal K, Nikhila KR, Nivedhitha M, Pranathi R, Prashanth K, and Subrahmanyam G (smanga57@yahoo.co.in) Vydehi Institute of Medical Sciences and Research Centre, Bangalore

194 students of class IX and X in Ujjavala Vidyalaya School, Whitefield, Bangalore were assessed using a pretested, structured questionnaire before and after a Health Education session using Role Play on tobacco use and its ill effects. There was significant improvement on awareness in immediate post intervention and even after 4 months in the following aspects: types of tobacco products used in the community ($P < 0.01$), number of harmful substances in cigarettes ($P < 0.01$), diseases caused by tobacco ($P < 0.01$), harmful effects of passive smoking in general ($P < 0.01$), harmful effects of passive smoking during pregnancy ($P < 0.01$), ill effects of tobacco chewing on foetus during pregnancy ($P < 0.01$), addictive nature of tobacco ($P < 0.01$) and cost of cigarette packet ($P < 0.01$).

62. PREVALENCE OF DEPRESSION AND ASSOCIATED SOCIO: DEMOGRAPHIC FACTORS AMONG ADOLESCENTS

Renuka M, Ashok NC and Murali Dhar (dr.renuka.m@gmail.com) Department of Community Medicine, JSS Medical College, Mysore

Two hundred adolescent children studying in I year JSS PUC College, Mysore were screened for depression using Center for Epidemiological Studies Depression Scale for Children (CES-DC)-a 20 item self report depression inventory with possible scores ranging from 0 to 60. Scores over 15 were indicative of significant levels of depression. Overall prevalence of depression was 46.5% of which 7% scoring more than 30. Prevalence was more among girls than in boys (75% vs. 41%) which was statistically significant ($p < 0.01$).

63. EVALUATION OF IMIDACLOPRID AND INSECT GROWTH REGULATOR, DIMILIN IN THE CONTROL OF HOUSEFLIES

Tilak Rina, Datta A, and Wankhede Urmila (rinatilak@hotmail.com) Armed Forces Medical College, Pune

Evaluation of Imidacloprid baits and Insect Growth regulator –Dimilin vis-à-vis currently used insecticides in the control of housefly was undertaken in laboratory as well as field. The pretreatment and post treatment density assessment was undertaken by two sampling techniques i.e. sticky traps and scudder grills. The results were compared with the currently used bait (Propoxur) and larvicide (Dichlorvos). The study showed the efficacy of Imidacloprid baits in the control of housefly adults, whereas Dichlorvos was found effective in suppressing housefly population as compared to Dimilin formulations at the recommended dosage and frequency.

64. ARECANUT / PANMASALA USE AMONG SCHOOL GOING ADOLESCENTS IN A DISTRICT OF UTTARAKHAND

Juyal R, Kishore S, Bansal R, Negi K S, and Semwal J (aniruchi08@rediffmail.com). Himalayan Institute of Medical Sciences, Dehradun (Uttarakhand)

Students in two inter colleges, one rural and one urban, in the district Dehradun were studied to assess the prevalence of Arecanut / Panmasala use. Overall prevalence of Arecanut / Panmasala use for ever users was found to be 57.7% (Urban - 67.6% and rural - 47.2%). Regular use of Arecanut / Panmasala was 28.6 % (Urban - 36.8% and rural - 19.9%). The Arecanut / Panmasala use was significantly more among urban students as compared to rural students. Important variables significantly associated with the use of Arecanut / Panmasala were urbanity, male sex, living in nuclear family as well as positive family history of substance abuse.

65. STUDY OF DOMESTIC VIOLENCE AMONG THE WOMEN IN A GOAN COMMUNITY

Kamat Umesh S, Kamat Neeta U, Motghare D D, and Ferreira A M A (neetumesh@rediffmail.com) Goa Medical College

460 women were selected randomly from the latest voter's list in the Caranzalem ward of Tiswadi taluka of the North Goa district to study the magnitude, and the socio-cultural determinants of domestic violence against women aged 18-45 years. The subjects were interviewed using a structured questionnaire by a lady interviewer. One hundred and three women (22.4%), out of 460 had been the victims of domestic violence in the three months preceding the survey. The perpetrator was husband in 77.8% of the cases, and more than 70% of these incidents took place when husband was under the influence of alcohol. The victims primarily included those in currently married relationship, early years of marriage, lower level of literacy and working women. Eighty nine percent of the victims preferred to maintain silence about the incidence, primarily for the reasons of safeguarding the marital relationship and not to cause distress to their parents.

66. TYPES OF SMOKELESS TOBACCO USED AND REASONS FOR ITS PREFERENCE AMONG FACTORY WORKERS IN BELGAUM

Angolkar M and Rudresh (drmubashir@jnmc.edu) IHM, Belgaum

A survey in 14 randomly selected factories of Belgaum City was carried out to document types of smokeless tobacco consumed and reasons for its preference among factory workers. 630 men and 30 women who acknowledged using any form of tobacco were briefly interviewed. Among Class I workers 22% acknowledged smoking cigarettes.

Only 4% used Smokeless tobacco. Amongst those who used smokeless tobacco (Class I-IV), 63% used Star Guthka followed by 18% Masala Star, 4% Madhu, 3% Pan (with tobacco), 2% Khaini, and 1% others. Star Guthka is popular among people of the age group 20 to 30 years of which 80% belonged to lower socioeconomic status, class III & IV workers. Among these mean 27% of income was spent on tobacco products. Star Guthka was used by the younger women (2%), all belonging to lower socioeconomic status. Reasons for preference included, its easy availability and affordability since it is available in small packs (81%). 31% said they liked to chew it for “time pass”, “feels fresh while working”, and 20% even said “don’t know just I like to chew it.”

67. COMPARATIVE STUDY ON DIFFERENT TYPES OF GROWTH MONITORING CHARTS

Aggarwal Pradeep, Kishore Surekha, Vyas Shaili and Singh Sadhna (drpradeep_aggarwal@hotmail.com), Department of Community Medicine, PGIMS, Rohtak

Study was conducted at Field practice area of Department of Community Medicine, Himalayan Institute of Medical Sciences at 6 AWC. None (100%) of the Anganwadi workers were aware of the new WHO Growth monitoring curves that had been already in vogue by GOI since 2007 for assessing the status of malnutrition in children. The overall prevalence of malnutrition on comparison with ICDS, IAP and new WHO growth monitoring curves showed a marked variation i.e. 53%, 45% and 40% respectively ($p < 0.05$)* in children (0-6 years) registered in centres.

68. PREVALENCE OF OVERWEIGHT AND OBESITY AMONG ADULTS AGED 30 YEARS AND OVER IN A RURAL AREA OF TAMILNADU

Vedapriya D R, Singh Z, Purty A.J, Kar M, Bazroy J, Sanjay K Gupta, Mahajan P and Illiyabharathi (priyapandiane@yahoo.co.in)

Dept. of Community Medicine, Aarupadai Veedu Medical College, Pondicherry

Community based study was conducted in a rural community amongst persons aged 30 years and over amongst 1905 persons, comprising of 950 males and 955 females in five randomly selected villages. Majority were (97%) Hindus Adults with BMI between 25 and up to 30 were defined as overweight and those with ≥ 30.0 were labeled as obese. Prevalence rate of overweight was 22.2% and obesity was 5.5%. 61.8% with $BMI \geq 25$ belonged to the age group 40-59yrs. Obesity was higher among females (6.6%) as compared to males (4.7%). Overweight and obesity was higher among literates (29.3%). 41% of fishermen were obese. 64% of obese adults belonged to middle and lower middle class. Prevalence of overweight and obesity among smokers and alcoholics was less as compared to non smokers and non alcoholic adults. Males (2.9%) and females (21.8%) having normal BMI had waist circumference ≥ 102 cms and ≥ 88 cms respectively. 45.1% and 35.2% of overweight/obese individuals (≥ 25 kg/m²) had hypertension and diabetes respectively.

69. NUTRITIONAL ASSESSMENT OF NEWLY ADMITTED MEDICOS OF RIMS, ADILABAD (AP)

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Dept. of SPM, Rajiv Gandhi Institute of Medical Sciences, Adilabad-504001(AP)

Nutritional status and hemoglobin was assessed among 94 students of Rajiv Gandhi Institute of Medical Sciences, Adilabad. 34% were undernourished ($BMI < 18.5$). Only 5.3% were overweight and obese ($BMI > 25$). No statistically significant difference was observed in undernourishment between male and female students.

POSTGRADUATE

SESSION IX:

Chairperson: Dr M S Rajanna, Prof & Head of Community Medicine, SSMC, Tumkur,

Co-Chairperson: Dr Vasantha Elango, Associate Professor of Community Medicine CMC, Coimbatore, Tamil Nadu

1. A STUDY ON THE KNOWLEDGE, ATTITUDE AND PRACTICES REGARDING SNAKES AND SNAKE BITES AMONG THE GENERAL POPULATION IN UDUPI TALUK, KARNATAKA

Karthikeyan K (karthikspm@gmail.com)

Department of Community Medicine, Kasturba Medical College, Manipal, Karnataka

Study was undertaken on 232 persons in urban and rural populations of the taluk. Misconceptions regarding snake bites were more in the urban setting than rural. Practices on encountering a snake were predominantly aimed at avoiding the animal and not provoking it. A substantial percent of the individuals interviewed preferred to tourniquet the wound site or rushing to seek medical attention. However a significant number still consider bleeding the wound, herbal remedies or simply cleaning the wound as adequate first aid

2. STUDY OF VARIOUS ASPECTS OF HUMAN RESOURCE FUNCTIONS RELATED TO HEALTH TEAM AND COST INCURRED ON DIFFERENT INPUTS BY COMMUNITY HEALTH CENTER IN TRIBAL AREA

Raut P. M. and Sawant P. B. (drpankajraut@gmail.com)

Cost analysis information was collected by observations, personal interviews and by analysis of record and reports. Study of human resource factors is conducted by using questionnaire. SWOT analysis of CHC was also conducted. Inadequate human, financial and material resources and inadequate capability of technical and managerial support were responsible for undermining of credibility of health center in delivering quality health services in tribal areas.

3. A CROSS SECTIONAL STUDY TO EXAMINE THE MORBIDITY PATTERN OF PATIENTS ATTENDING THE MOBILE HEALTH CAMP IN A FLOOD AFFECTED DISTRICTS OF BIHAR IN 2008

Palve N N and Chaturvedi R M (nileshnpalve@gmail.com)

Dept. of Community Medicine, LTMMC & LTMGH, Sion

A study was carried out in two flood hit districts of Bihar over a period of two days, 376 cases were treated on the site in medical aid posts established in flood affected areas. Of these patients, 27.7% were affected with gastrointestinal illnesses (diarrhoea / acute gastroenteritis); 4.30% had suffered injuries and were treated accordingly. 31.9% cases of respiratory infections were managed. 10.6% cases of undiagnosed fever were treated. Skin and other infections comprised 14.9% cases of the total.

4. ASSESSMENT OF MICROBIAL QUALITY OF DRINKING WATER IN THE URBAN FIELD PRACTICE AREA OF JN MEDICAL COLLEGE, BELGAUM

Praveen Kumar B A, Shivaswamy M S, Wantamutte A S, Naik VA, and Deepthi M K (drbutter25@gmail.com)

Department of Community Medicine, J N Medical College, Belgaum

Water samples from stored drinking water of 40 households were collected by systematic random sampling from 400 households in the urban field practice area of J.N.

Medical College, Belgaum, Karnataka. 60% out of 40 samples were bacteriologically unfit for human consumption. The results highlight the need for improvements in the provision of wholesome drinking water, improving personal hygiene and environmental sanitation.

5. A STUDY ON PATTERN OF UTILIZATION OF HEALTH CARE SERVICES, PERCEPTION AND HEALTH SEEKING BEHAVIOR OF COMMUNITIES IN UDUPI TALUK, KARNATAKA

Mohan Kumar P, Nagaraj K, and Pawan Kumar (mohanpapanna@yahoo.com)

Department of Community Medicine, Kasturba Medical College, Manipal

Study was undertaken in the families in the Field practice area of Kasturba Medical College, Manipal, amongst 50 families. Overall awareness about health facilities was higher with respect to private sector as compared to government facilities. Majority prefer private facilities for common ailments, acute and chronic illnesses. Lack of courtesy among doctors and nursing staff, lack of facilities and infrastructure and health care cost are barriers to use government facilities. Health expenditure on the whole is very high.

6. AWARENESS ON ORGAN DONATION IN COLLEGE STUDENTS

Niraja and Prakash Bhatia (dr.niraja10tandur@yahoo.com)

Osmania Medical College, Hyderabad

Study was done among students of Osmania Engineering College, Hyderabad. 88% of the students knew that they can lead a normal life after donating an organ and only 20% of students knew that whom to approach and talk regarding organ donation. About 80% of students believed that both dead and live persons can donate organs but 6% of the students believed that only dead persons can donate organs. About 58% of the students knew that eyes should be donated within 6 hours of death. Females have comparatively better awareness regarding organ donation than males.

7. PREVALENCE OF BRONCHIAL ASTHMA IN ADULT POPULATION IN RURAL FIELD PRACTICE AREA OF KEMPEGOWDA INSTITUTE OF MEDICAL SCIENCES, BANGALORE

S P Prashanth Kumar, B G Parasuramalu, N Huiraj, B M Rudraprasad, Gangabaraiah, Ramesh Masthi N R, K L Ravi Kumar and C R Srinivasa Babu
(drprashanthkumarsp@yahoo.co.in)

Dept. of Community Medicine, Kempegowda Institute of Medical Sciences, Bangalore

Study was conducted on 3194 adult individuals in three Primary Health Centres attached to the College. All the respondents who answered affirmatively both to (a) whistling sound from chest, or chest tightness, or breathlessness in the morning, and (b) having suffered from asthma, or having an attack of asthma in the past 12 months, or using bronchodilators, were subjected for clinical examination followed by sputum for AFB, chest X-ray and spirometric measurements (FVC, FEV1, FEV1/FVC and PEFr) for the diagnosis of asthma. An equal number of individuals who gave negative response to the asthma questions, matched for age and sex served as controls and were also subjected for spirometry. Prevalence of bronchial asthma was 0.91%. The risk factors like family history of atopy (0.47%), history of asthma in a first degree relative (1.04%), all forms of tobacco smoking (1.54%), consumption of tobacco product other than smoking (1.01%), dampness in the house (1.11%) and use of smoke emitting fuels like wood & charcoal (70.14%) had significantly higher odds for incidence of bronchial asthma.

8. TO STUDY THE BIOMEDICAL WASTE MANAGEMENT AT TERTIARY CARE HOSPITAL, PATIALA

Navpreet Kaur P, Bhagowalia GS, and Neetu D (navpreet_4r@yahoo.com)

Dept. of Community Medicine, Govt. Medical College, Patiala

A general survey of the practices in handling and treatment of biomedical waste was performed. Personnel who handled biomedical waste were not using adequate precautionary measures. The process of segregation, collection, transport, storage and final disposal of infectious waste was not done in compliance with the standard procedures. The laboratory waste materials were disposed of directly into the municipal sewer without proper disinfection. On an average about 54 kg of infectious and 288 kg of non-infectious waste was generated per day.

9. A STUDY ON TREATMENT SEEKING BEHAVIOUR FOR ACUTE ILLNESS AMONG A FISHERMEN COMMUNITY IN NELLORE

Gujjarlapudi C and Venugopal Reddy (chaitanya28@yahoo.com)

Department of Community Medicine, Narayana Medical College, Nellore, AP

Study of fishermen of Krishnapatnam village of Nellore district was undertaken. A total of 153 episodes of acute illness were recorded. Of these 37.9% did not take any treatment, 23.5% took treatment from a government health facility, 13.7% consulted a private practitioner, 15.7% from RMP, 9.2% took self medication.

10. BED UTILIZATION RATES AT A TERTIARY CARE HOSPITAL IN MUMBAI

Jain S R and Akarte S V

Department of Preventive and Social Medicine, Grant Medical College, Mumbai

Records analysis of a Tertiary care government hospital was undertaken. Average length of stay was 15.3 days with a bed occupancy rate of 82.2%. Average length of stay in Orthopaedic ward was 35 days, in Medicine ward 8 days, Leprosy ward 27 days. The numbers of patients admitted were increasing yearly but turnover rate has decreased. Average bed turnover rate was 12.3.

SESSION X:

Chairperson: Dr Ashok M Mehendale, Professor of Community Medicine, MGIMS, Sewagram, Wardha, Maharashtra

Co-Chairperson: Dr N Girish, Associate Professor of Epidemiology, NIMHANS, Bangalore

11. INVESTIGATION OF AN OUTBREAK OF ACUTE DIARRHOEAL DISEASES IN A TEA ESTATE OF DIBRUGARH DISTRICT OF ASSAM

Phukan A, Mahanta TG, and Barua A (a57p2008@yahoo.com)

Dept. of Community Medicine, Assam Medical College, Dibrugarh, Assam

An epidemiological study of acute diarrhoeal diseases (ADD) cases in Bhamun Tea estate of Khowang block of Dibrugarh district of Assam was undertaken. Of 256 persons suffering from ADD, 46.51% (120/258) cases were with severe dehydration, 53.49% with moderate to mild dehydration. M: F ratio of the cases was 125:133. Highly affected age group was 15-44 years. Maximum cases were occurring in Boroline area. Only 40% population was having toilet facility, rest practicing open field defecation. Drinking water source was unsafe with 89% and with 67% latrines were insanitary.

Laboratory report showed the presence of *Vibrio cholerae* 01 serotype Inaba, sensitive to Ciprofloxacin, Doxycycline, Gentamycin and Amikacin. Treatment protocol was implemented after six days of onset of cases with early referral of critical cases. Number of cases declined from second week of onset of index case and reached zero level within a month.

12. SOCIO-DEMOGRAPHIC AND CLINICAL PROFILE OF HIV/AIDS PATIENTS VISITING TO ART CENTRE, SRTR MEDICAL COLLEGE AMBAJOGAI

Joge Umesh, Saundale S G, Lakade R.N, Deo D S, and Vedpathak V L
(umeshpsm@yahoo.com)

SRTR Medical College, Ambajogai

Study was undertaken at Medical College Ambajogai amongst known HIV/AIDS positive patients visiting ART centre. Out of the 100 patients studied maximum were in the age group of 25-34 years. Number of male (77%) patients were more than the females (23%). 73% patients were married, 12% widowed and 5% were unmarried. 84% patients were literate and 16% illiterate. Maximum patients were labourers (36%) and majorities were from lower socioeconomic class (68%). Most common route of transmission was through heterosexual route (96%). Common complaints were fever (8%), cough (6%) and loss of appetite (4%). Common opportunistic infection was pneumocystis carinii (29%) followed by TB (20%).

13. STIGMA, DISCRIMINATION AND VIOLENCE AGAINST MEN WHO HAVE SEX WITH MEN AND ITS IMPLICATION ON THEIR HEALTH IN DAVANGERE CITY

Kiran D and Mahabalaraju D K, JJM Medical College, Davangere, Karnataka
(drdurgad@gmail.com)

Community based study was conducted using Questionnaire and Focus Group Discussions among men who have sex with men (MSM). Out of 32 MSM cases, 38% were married, 75% were kothis. 69% had faced stigma and discrimination and 56% had faced different types of violence because of their sexual attitude by different people in the society in their life time. Because of discrimination they had adopted sexual risk behaviors like having multiple partners and practicing unplanned sex without using condoms.

14. CLINICAL EVALUATION OF SAFETY AND IMMUNOGENECITY OF PURIFIED CHICK EMBRYO CELL (PCEC) RABIES VACCINE, ADMINISTERED INTRADERMALLY USING UPDATED THAI RED CROSS (TRC) REGIMEN IN ANIMAL BITE CASES

D H Ashwath Narayana, G Praveen, M K Sudarshan, S N Madhusudana, Gangaboraiah, and H S Ravish (drpraveen@gmail.com)

Dept.of Community Medicine, Kempegowda Institute of Medical Sciences, Bangalore

Study was conducted at the anti rabies clinic, KIMS Hospital and Research Centre run by the Department of Community Medicine, KIMS, Bangalore. The subjects were in the age group of 18-55 years, out of which 82.4% were males, 52.9 % belonged to lower socioeconomic class and 34 (40 %) had category III bites. 56.5% subjects had washed the wound/s immediately after animal bite and 40% were administered ERIG. 18.5 % subjects who were administered PCECV using Updated TRC regimen complained of mild pain at the site of vaccination and incidence of adverse events was 2.3% (648 ID doses administered). All the subjects who received PCECV using Updated TRC regimen

had adequate and protective RVnAb titers (≥ 0.5 IU/ mL) from day 14 till day 180. The RVnAb titers in re-exposure subjects increased from day 5 and persisted upto day 180.

15. PROFILE OF THE PATIENTS ON ANTIRETROVIRAL THERAPY IN A TERTIARY CARE CENTER, NORTH KERALA

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Record based study was undertaken at ART clinic, Govt. Medical College, Kozhikode. Mean age of cases was 38.9 years, majority of the study group were males (66%), married (77%). Mode of transmission in 89% was heterosexual route, Nevirapine based regime was used in 46%. Substitution of the drug was needed in 35% cases due to toxicity (43%) and tuberculosis (57%). Prevalence of TB was 31% other opportunistic infections 39%. Regular follow up of patients was 86%.

16. DENGUE FEVER AND LEPTOSPIROSIS REPORTED CASES IN A TERTIARY CARE HOSPITAL WITH SPECIAL REFERENCE TO SYMPTOMATOLOGY

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Department of Preventive and Social Medicine, Grant Medical College, Mumbai

Hospital record based study was undertaken amongst all confirmed cases of Dengue fever and Leptospirosis. Out of 436 cases screened, 178 had Dengue fever and 258 had Leptospirosis. 97% of the cases were reported during monsoon and immediate post-monsoon period (from August to November). History of contact with flood/stagnated water was present in all Leptospirosis cases. Other most common symptoms were conjunctival suffusion, abdominal pain and skin rash. Most common symptoms in confirmed Dengue fever were high grade fever in all cases followed by retro-orbital pain and myalgia.

17. PROCESS EVALUATION OF INTENSIFIED PULSE POLIO IMMUNIZATION CAMPAIGN IN URBAN AREA OF TINSUKIA DISTRICT OF ASSAM

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Assam Medical College, Dibrugarh, Assam

Study was done through analysis of official records. Total coverage was 96.52% and 98.64% respectively during the two rounds of IPPI held in the month of September, 2008. Out of the 210 houses visited, 6.19% houses were not properly marked and 2.86% houses were falsely marked. Conversion marking (X to P) was observed in only one house amongst all the houses visited. During the street survey conducted following completion of house to house visits on the 4th day of both the rounds, the percentage of unimmunized children found were 2.38 and 0.75 respectively. Qualitative assessment revealed proper microplanning and social mobilization. Incentives for the care providers were delivered in time.

18. MONITORING OF JAPANESE B ENCEPHALITIS IMMUNIZATION CAMPAIGN WITH SA 14-14-2 VACCINE IN TINSUKIA DISTRICT OF ASSAM

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AMC, Dibrugarh, Assam

Data analysis from official records was done. Total immunization coverage was 92.3%. Break up of immunization coverage in different age groups were 99.8%

among 5-10 years, 95.3% in 10-15 years and 82.2% in 1-5 years. Qualitative assessment revealed proper micro planning and good social mobilization. The delivery of immunization services and proper bio-medical waste disposal by paramedical workers however needs to be more perfect.

19. PREVALENCE OF RTIS/STIS IN REPRODUCTIVE AGE WOMEN AND ASSOCIATED SOCIO-CULTURAL FACTORS

Hussain M A, Mishra R N, Kansal Sangeeta, Mishra C P, Kaushik A
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Department of Community Medicine, Institute of Medical Sciences, BHU, Varanasi, U.P.

Study was undertaken at Chirgaon block of Varanasi among women diagnosed by Syndromic approach. 800 women of reproductive age group were selected. The prevalence of RTIs/STIs was high with about half of the women (44.9%) reporting symptoms related to RTIs/STIs. Symptoms reported were vaginal discharge (87.5%), low back ache (50.1%), lower abdominal pain (44.6%), foul smelling vaginal discharge (42.1%), itching (35.1), burning or pain during micturition (34.5) and dyspareunia (33.4%). About 41.5% had the symptoms for over two years. Cox Proportional Hazard model revealed that women in elder age, illiteracy, lower SES, early age of consummation, history of abortion and multiparity were significant contributors of RTIs/STIs amongst the subjects.

SESSION XI:

Chairperson: Dr Jagbir Malik, Professor of Community Medicine, PGIMS, Rohtak, Haryana

Co-Chairperson: Dr Anandagiri Shankar, Consultant, NHS, Walsall, United Kingdom

20. UNDERSTANDING FAMILY PLANNING PRACTICES AMONG TRIBALS IN A RURAL AREA OF DIBRUGARH, ASSAM

Nirmolia N and Barua A (nabanitanirmolia@yahoo.com)

Assam Medical College, Dibrugarh

303 married women in the age group of 15-45 years living with their spouses were interviewed using a pre designed questionnaire. Couple Protection Rate was 29.7%. Per capita income was not associated with family planning practices. 82.14% of women with 3 or more children were acceptors of permanent method of contraception. Tubectomy acceptance was found to increase with the increase in duration of married life.

21. TREATMENT SEEKING BEHAVIOUR IN REPRODUCTIVE AGE WOMEN SUFFERING FROM RTIS/STIS

Hussain M A, Mishra R N, Kansal Sangeeta, Mishra C P, and Jha S K
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Dept. of Community Medicine, Institute of Medical Sciences, BHU, Varanasi

Eight hundred women in reproductive age group (15-49 years) were surveyed at Chirgaon block of Varanasi district. Quantum of RTIs/STIs in the study group was estimated on the basis of Syndromic approach. The information pertaining to health seeking behaviour was collected using a pre-designed pre-tested interview schedule. Out of total 359 subjects with symptoms of RTIs/STIs only about one-third (37.3%) had sought treatment for their remedy. Only a few (4.5%) had sought treatment within one month of appearance of symptoms. Of those who had sought treatment maximum (44.8%) had sought it, first from a local quack. The treatment seeking pattern was highly associated with the level of education ($p=0.000$).

22. KNOWLEDGE, ATTITUDE AND AWARENESS ON PRENATAL DIAGNOSTIC TECHNOLOGY ACT AMONG THE PREGNANT WOMEN IN TERTIARY CARE HOSPITAL

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Dept of Community Medicine, LTMMC & LTMGH, Sion, Mumbai

The study was conducted at the antenatal ward of LTMMC, Mumbai. All pregnant women admitted to the ANC ward were included in the study. Most of the women were in Class I & II, per capita income. Very few, 27.9 % women and 70.5 % husbands were aware of PNDT act. Education was significantly associated with awareness about PNDT Act.

23. SOCIO-CULTURAL AND ENVIRONMENTAL RISK FACTORS OF ARI IN UNDER-FIVE CHILDREN

Seshadri Kole (jiten_ksingh@yahoo.com)

Dept. of Community Medicine, Medical College, Kolkata

Study was carried out in the Howrah Municipal Corporation area. Prevalence of ARI in under-five children was 40%. ARI was most prevalent among the infants. Prevalence was more in female than male children. The occurrence of ARI decreased with increase of per-capita income and literacy of mother. Unimmunized and partially immunized children suffered more. Children cared by their mothers and exclusively breastfed children suffered less. Overcrowding, poor ventilation and dampness in the houses increased the risk of occurrence of ARI. The risk increased as the number of cigarettes smoked by the adults inside the room increased.

24. CLINICAL EVALUATION OF SAFETY AND IMMUNOGENICITY OF INDIRAB AND VERORAB USING SIMULATED UPDATED THAI RED CROSS REGIMEN IN HEALTHY VOLUNTEERS: PHASE III, RANDOMIZED CONTROLLED TRIAL

D H Ashwath Narayana, Shakila N, S N Madhusudana, H S Ravish, Gangaboraiah and M K Sudarshan

Dept. of Community Medicine, Kempegowda Institute of Medical Sciences, Bangalore

In a randomized, active control, parallel assigned, phase III clinical trial, 60 healthy volunteers in the age group of 18-55 years were administered anti rabies vaccine intradermally using simulated updated TRC regimen. The study was conducted over a 1 year period at the Anti-rabies clinic of KIMS Hospital and Research Centre, KIMS, Bangalore. 30 healthy volunteers in each vaccine group received either Indirab or Verorab, 0.1 mL on both deltoids on days 0, 3, 7 & 28 as per simulated Updated TRC regimen. 5 mL of venous blood was collected from volunteers on days 0, 14, 28 and 90 and sera tested for rabies virus neutralizing antibody titers by RFFIT at NIMHANS. The incidence of adverse drug events was 15 (6.2%) in Indirab group and 6(2.5 %) in Verorab group. All the adverse drug events were mild and resolved spontaneously without medication. All the subjects (100%) had adequate and protective RVnAb titers by day 14 and persisted till day 90. The GMT (IU/mL) on day 14, 28 and 90 was 4.5, 8.7, 4.3 in Indirab group and 4.6, 8.8, 4.8 in Verorab group respectively. There was no statistically significant difference in the GMT values between the two vaccine groups on different days.

25. INTER-SPOUSE COMMUNICATION AND ACCEPTANCE OF FAMILY PLANNING

*Rasheed N, Khan Z, Siddiqui A R, Khalique N, and Rashid S, JNMC
(nazish.rasheed@yahoo.co.in) AMU, Aligarh*

The study was conducted among 718 ever married women residing in rural and urban areas of Aligarh. Women were asked a set of questions regarding inter-spouse communication about family planning. Of 588 women, only 81.9% had talked to their husbands regarding the number of children they should have. Among 18.9% women who had never talked to their husbands about the desired number of children, 71.5% thought that it was unnecessary to talk about such matters, 68.5% women felt that their husbands would be uninterested to talk, although 33.8% women felt that their husbands were in favour of family planning. Women who had talked to their husbands about family planning had less number of living children ($p < 0.001$). Current use of contraceptives was found to be significantly associated with discussion of woman with husband about family planning ($p < 0.05$). Among the total sample 43% had never discussed the choice of a contraceptive method.

26. KNOWLEDGE, PREVALENCE AND HEALTH SEEKING BEHAVIOUR ON REPRODUCTIVE TRACT INFECTIONS AMONG EVER-MARRIED WOMEN OF REPRODUCTIVE AGE GROUP IN A PERI-URBAN SLUM, BANGALORE

*Hegde S, Sugara M, Joseph PM, Singh S, Agarwal T, and Sulekha T
(drdeepthikiran@gmail.com)*

Department of Community Health, St. Johns Medical College Bangalore

179 ever married women of reproductive age group in a peri-urban slum were administered pretested and restructured WHO interview schedule. Percentage of women with knowledge on various aspects of RTI were, 31% about at least about one symptom, 49% about causes, 60% about complications, 66% regarding prevention, 89% regarding treatment and 22% about partner treatment. 27% women were suffering from some symptoms of RTI. 11.7% were suffering from WDPV, 11.2% from pain during intercourse and 10.1% from lower abdominal pain. Of 70 women with symptoms, 60% sought some treatment and 40% did not seek any treatment. 69% sought treatment from private hospital, 26% from government hospital. Prevalence of RTI was significantly higher among tubectomised women as compared to others.

27. A STUDY ON THE TREATMENT OUTCOMES OF PATIENTS ON DOTS IN NELLORE DISTRICT

Conjeevaram J, N A Chetty, and C Kumar (jyothi2525@hotmail.com)

Department of Community Medicine, Narayana Medical College, Nellore, AP

165 tuberculosis patients enrolled for DOTS regimen in the first quarter of 2007 at Tuberculosis units of Nellore District were assessed for the treatment outcomes. Cure rate was 91%, treatment completion rate was 88.5%, defaulter rate was 3.03%, death rate was 5.35% and failure rate was 1.8%.

28. SOCIODEMOGRAPHIC AND PSYCHOLOGICAL PROFILE OF HIV / AIDS PATIENTS VISITING TO DIC

Deotale M K, Ranganathan U and Mankeshwar R (manju_deotale@rediffmail.com)

Department of Preventive and Social Medicine, Grant Medical College, Mumbai

A study on HIV positive individuals attending Drop In Centre at JJH Mumbai was conducted through a structured questionnaire and records of patients attending the centre.

A standard depression scale was used to assess psychological status. Male to female ratio of the patients was 1.5:1. 72% patients were in the age group of 21-40 years. Sexual route was the main route of transmission (77%) followed by blood transfusion. Patients who were illiterate or received only primary education constituted 70%. Most common opportunistic infection was T.B (25%). Majority of the people presented symptoms of social deprivation, feeling of seclusion from family, insecurity with lots of emotional disturbances leading to agitated social behaviour.

29. ASSESSMENT OF PERFORMANCE AND TREATMENT OUTCOME UNDER RNTCP AT A RURAL TUBERCULOSIS UNIT OF WEST BENGAL

Abhik Sinha (penicillin2@rediffmail.com)

Dept. of Community Medicine Medical College, Kolkata

573 records of Tarakeswar TU for the year 2006 were evaluated. Important parameters namely case detection rate, ratio of pulmonary and extrapulmonary cases, percent of seriously ill, sputum negative cases, sputum conversion rate, death and failure rate have followed the RNTCP norms. But some differences have been observed in indicators like cure rate, defaulter rate, smear positivity rate and proportion of different categories of patients under DOTS. Probable reasons behind this discrepancy may be because of migrant characteristic of the population.

30. INTRADERMAL ANTIRABIES VACCINATION ROLL OUT: 3 MONTHS EXPERIENCE

Birajdar R and Ranjit Mankeshwar (yatryogeshwar@gmail.com)

Hospital records of patients who attended Anti rabies clinic from July to Sept 2008 were studied. Intra dermal vaccination was initiated from 1st July 2008 in Anti rabies clinic replacing the 5 dose Essen regimen. Out of 322 patients who were given Inj. PCECV by intra dermal route, 78% patients completed the 4 dose intra dermal regimen. This is in contrast to previous evidence from our centre in which compliance was only 42.2% to the intramuscular regimen. A total number of 290 vials were used for ID vaccination which costed only Rs. 66,700 in comparison to the Essen regimen would have costed Rs.3,34,190/- for the same number of (1453 vials of PCECV). The Rate contract pricing for PCECV in the hospital is Rs. 230 per vial. The total wastage of vaccine was approximately 17%.

SESSION XII:

Chairperson: Dr S Pruthvish, Prof & Head of Community Medicine, MSRMC, Bangalore

Co-Chairperson: Dr (Mrs) B R Goyal, Principal , DMIMD, Wardha, Maharashtra

31. A STUDY OF RISK FACTORS ASSOCIATED WITH CARDIOVASCULAR DISEASES AMONG ADULT POPULATION OF RAJENDRANAGAR, HYDERABAD

Sudha Rani, Ch.Koteswaramma, R Pushpanjali and Prakash Bhatia

(shyam1614@yahoo.co.in)

Osmania Medical College, Hyderabad

Community based study was conducted at Urban Health Centre, Harazpenta, amongst 200 subjects aged 19-50 years. Mean blood pressure levels were higher among men than among women and increased progressively with age. The prevalence of hypertension was 23.9% among men and 13.7% among women. Sixty three percent of

men were current smokers and 58% were current daily smokers. Education level was inversely associated with the prevalence of hypertension among both men and women. Hypertension was directly associated with socioeconomic status among men and women.

32. HEALTH OUTCOMES OF SUBLINGUAL IMMUNOTHERAPY COMPARED TO SUBCUTANEOUS IMMUNOTHERAPY AMONG PATIENTS SUFFERING FROM ALLERGIC RHINITIS AND ALLERGIC BRONCHIAL ASTHMA

G M Someshwar, B G Parasuramalu, B M Rudraprasad, Gangaboraiah, and R Reena
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The study was conducted in Allergy clinic of Preventive Medicine unit, Kempegowda Institute of Medical Sciences Hospital and Research Centre, Bangalore. 50 patients positive for skin prick test were recruited, 25 each for SLIT and for SCIT, using randomization technique and were followed up for one year. Nasobronchial allergy was common in the age group of 21-30 years (38%) and majority of them were females (58%). The number of symptom man days and treatment man days decreased both among patients who were on SLIT (73% from 77%) and SCIT (77% from 84%) over the period of time. There was statistically significant improvement of QOL over a period of time, in SLIT group from mean rank of 13 at baseline to 1.43 at 12th month of follow up (p <0.001) and in SCIT group from mean rank of 13 at baseline to 1.07 at 12th month of follow up (p <0.001). The difference in improvement of QOL scores between the two groups was not statistically significant during the follow up period. The adverse reactions reported among Sublingual immunotherapy (SLIT) group were only taste disturbance and itching of ears.

33. COMPARATIVE STUDY OF HEALTH STATUS OF ELDERLY IN URBAN AND RURAL FIELD PRACTICE AREAS OF OSMANIA MEDICAL COLLEGE

Maseer Khan, Vimala Thomas and Prakash Bhatia (drmaseer@yahoo.com)

Osmania Medical College, Hyderabad

385 elderly persons above 60 years of age were interviewed at Harajpenta and 3 areas of Patancheruvu. Majority of elderly people in both urban (49.5%) and rural (38.6%) were in 60-64 years of age. Literacy rate among elderly in the study was 63.45%. In rural areas considerable number (29.0%) were still defecating in the open air. 34.5% in urban and 43.7% in rural areas were found to be chronically ill at the time of examination. Prevalence of Diabetes Mellitus was found to be 14.2% in Urban and 6.1% in rural area. In urban area 31.7% had diagnosed hypertension whereas in rural area it was 19.5%.

34. A STUDY OF INCIDENCE AND RISKS FOR FALLS AMONG THE ELDERLY OF AN URBAN SLUM

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(drdeepthikiran@gmail.com), Department of Community Health, St. Johns Medical College, Bangalore

70 randomly selected elders residing in an urban slum were surveyed using a pretested instrument. Physical examination and functional assessment was done. 44% of elders reported falls in the past one year, 29% recurrently. 70% had stairs at home, 68.6%

had uneven surface and 48.6% had cluttering. Clutter was significantly associated with reported falls ($p < 0.05$). 70% reported musculoskeletal problems, 31% tingling and 31% urinary problems. Presence of tingling was significantly associated with reported falls ($p < 0.05$). 70% elders were physically active, 30% sleep < 6 hours daily, 20% wear slippers at home and 13% practiced polypharmacy. Reported falls were higher among those who slept < 6 hours daily ($p = 0.02$) and wore slippers at home ($p = 0.02$). 70% were hypertensive and 37.1% had postural hypotension, 10% cognitive impairment and 2.9% were not independent for their ADLs.

35. MEDICAL STUDENTS ATTITUDE TOWARDS SEEKING PROFESSIONAL PSYCHOLOGICAL HELP

Paradkar A, Rao K*, and M K Sudarshan** (anuparadkar@hotmail.com)* *Dept. of Mental Health & Social Psychology, NIMHANS, Bangalore, ** Dept. of Community Medicine, Kempegowda Institute of Medical Sciences, Bangalore

Medical students from an urban medical college completed a set of paper pencil measures ($N = 148$). Students who reported suicidal ideation ($n = 48$) on the General Health Questionnaire-28 (GHQ-28) and provided contact details ($n = 15$) were interviewed using a semi-structured interview. Medical students recognized that studying medicine contributed to their experience of stress. In addition, students reported feelings of isolation, inability to form and sustain friendships, communication difficulties, family and financial problems. Students reported stigma associated with seeking professional psychological help. Help seeking behavior was seen as a sign of personal weakness and inadequacy.

36. OBESITY AMONGST SCHOOL CHILDREN AGED 8-16 YEARS IN PATIALA CITY

Neetu D, Kaur P and Bhagowalia G S (nt_dhawan@yahoo.co.in) Dept. of Community Medicine, Govt. Medical College, Patiala

A study was carried out in 1400 school children of 8-16 years of age. Pre-designed questionnaire was used to elicit the information of risk factors. Overweight and disease were assessed by BMI for age. BMI for age between ≥ 85 percentile and < 95 percentile of reference population were classified as overweight and BMI for age ≥ 95 percentile as obese. The prevalence of obesity and overweight in the study group was 6.37% (6.69% in girls and 6.06% in boys) and 10.38% (11.9% in girls and 9.76% in boys) respectively. 43.02% of obese, 30.13% of overweight and 18.1% of normal weight subjects had positive family history of obesity. TV watching, indoor games, junk food were found to be positively related with obesity. Physical exercise had shown significant relation with obesity. While no significant relation of sweets intake has been found with obesity.

37. STUDY OF AWARENESS OF GESTATIONAL DIABETES MELLITUS AMONG ANTENATAL WOMEN IN A PRIMARY HEALTH CENTRE

Vanishree S, Gomathy P, Anitha Rani M, and BWC Sathiyasekaran (docvanishri@yahoo.com)

Sri Ramachandra Medical College and Research Institute, Porur, Chennai

One hundred and twenty consecutive women attending an antenatal clinic during the months of September-October'08 in a Primary health centre were administered a questionnaire focusing on general awareness of diabetes mellitus (DM) and gestational

diabetes mellitus (GDM) which included their risk factors and basic aspects of diagnosis, treatment, consequences and the source of their knowledge. Majority of women were housewives (90%) with secondary education (65%). Most of them (84%) were aware of the increasing prevalence of Type 2 DM. Though 68% of the women were aware of GDM, only around 50% of them knew about the risk factors for GDM and only a third of them knew about the treatment options or the course of GDM. Almost three-fourth of the women was aware that the unborn is at risk and that the GDM women have a higher risk for type II Diabetes later.

SESSION XIII:

Chairperson: Dr. B M Vashisht, Professor of Community Medicine, PGIMS, Rothak, Haryana

Co-Chairperson: Dr. C Balakrishna, Prof & Head of Community Medicine, RIMS, Kadapa

38. NUTRITIONAL STATUS AND MORBIDITY PATTERN OF ADOLESCENT GIRLS IN URBAN SLUMS OF DIBRUGARH

Bhattacharyya H and Barua A (bhimashre@yahoo.co.in) Dept. of Community Medicine, Assam Medical College, Dibrugarh, Assam

284 adolescent girls in the age group 10-19 years in 10 slums in Dibrugarh town were studied using pre tested questionnaire and anthropometric measurements and clinical examination were carried out. The BMI for age and height for age were used as criteria for thinness and stunting respectively. The overall prevalence of thinness was 25.70% and the prevalence of stunting was 31.33%. The prevalence of stunting among early adolescents aged 10-14 years was comparatively higher (34.19%) than the late adolescents (27.90%) aged 15-19 years. The various morbidities prevalent amongst the adolescent girls were found to be pallor (93.30%), menstrual problems (83.09%), dental caries (42.25%), angular stomatitis (35.56%), glossitis (34.15%), skin diseases (20.07%), lymphadenopathy (10.21%) and goitre (4.22%).

39. HEALTH SEEKING BEHAVIOUR OF STREET CHILDREN IN THE CITY OF MUMBAI

Kaku S S, Hadaye R, and Chaturvedi R M (shweta31@gmail.com) Dept of Community Medicine, LTMMC & LTMGH, Sion

A study in October 2008 at 'Diwali Festival Mela', attended by adolescent street children from all parts of Mumbai was conducted through individual semi-structured interviews. 186 street children were randomly selected. 38.2% resided on the streets and 35.5% on railway platform and bridges. Poverty was found as the most common reason for leaving home followed by physical abuse. 43.5% were away from home for >10 years and earned money as labourers on daily wages. They commonly suffered from injury, fever and ARI. Most of them did not take any treatment followed by a certain percentage taking medication from municipal or private clinic and self medication by over the counter drugs. 38.2% could not afford the treatment while 18.3% did not trust doctors. 88.7% were unaware of place to obtain help for substance abuse. Health related information was obtained from NGO volunteers.

40. ASSESSMENT OF BEHAVIORAL CHANGES OF ADOLESCENTS AND THEIR PSYCHOSOCIAL PERCEPTION ABOUT PARENTS, FAMILY AND SCHOOL AMONGST STUDENTS

Bhattacharyya A (b.agnihotri@yahoo.com) Department of Community Medicine, Medical College, Kolkata

The study was conducted with a self reported questionnaire filled in by the students of adolescent age group in a co-educational rural school of Tarakeswar of West Bengal in 2008. Perceived role of parents (affection, assistance, awareness), families and teachers and different psychosocial and medical aspects of the students were assessed. Significant difference in perception regarding assistance of mother in stressful situation as well as awareness of mother about leisure time was found between boys and girls. 23.6% of girls admitted that they have ever tested alcohol, 68.1% involved in affair, 34.1% boys and 26.4% girls admitted to experience blue film. 48.2% of all adolescents have perceived mother as their role model.

41. ADOLESCENT ANTHROPOMETRY: A COMPARISON OF TWO STANDARDS

Goel N, Ansari M A, Khan Z, Khalique N, and Khan I M (nimishagoel@gmail.com) Department of Community Medicine, JN Medical College, AMU Aligarh

Anthropometric measurements of 300 adolescent school going girls aged 10-19 years from 2 schools in rural Aligarh were compared using WHO criteria in comparison to NCHS standards. The prevalence of thinness and stunting were markedly low using WHO criteria in comparison to NCHS standards. (Thinness- 25.7% Vs. 31.0%) and (Stunting- 20.7% Vs. 22.7%). The long held fears of overestimating the prevalence of under nutrition by using American standards seem to be holding true, especially while assessing acute under nutrition (thinness).

42. A STUDY ON MORBIDITY PATTERN OF SCHOOL CHILDREN IN AN URBAN AREA

Srinath, Koushik, Kavya Madhavi G, Jagadeesh C G, Mangala S, and Subrahmanyam G (drsrinathmp@gmail.com) Vydehi Institute of Medical Sciences, Bangalore

A study was conducted on 1536 school children of Ujwala Vidhayala School, White field, Bangalore between 4 to 18 years of age. Out of 1536 students examined the following morbidity pattern was seen: 26.6% were underweight, 9.1% had caries of teeth, 6.8% were over weight and obese, 2.3% had skin diseases, 1.2% had anemia, 0.7% had refractive errors and 0.3% had vitamin A deficiency.

43. SCREENING PROGRAMME FOR REFRACTIVE ERROR AMONG SCHOOL CHILDREN IN AN URBAN AREA

Ashwini M, Divya K, Divya R, Lohith R, Pavithra M, Ganashree P, Hanumanth K, Mohammadarafi Nadaf, Vittal Nayak, Mangala Subramanian, Rashmi Poojar, and G Subramanian (ashwinibhat@ymail.com) Vydehi Institute of Medical Sciences, Bangalore

Study was done on 867 school children in the age group of 5-16 years using

Snellen's and Jaeger's chart at Ujjval Vidayala, Whitefield, Bangalore. Out of the students examined, (5.7%) were suffering from refractive error. Among these 49 diagnosed, only 35 of them got their eye tested further by the ophthalmologist. Out of those 35 tested by ophthalmologist, 40% were boys and 60% were girls. Amongst these 35, Myopia was the most common condition (51.4%) followed by astigmatism (45.7%) and hypermetropia (11.4%). The ophthalmologist prescribed glasses to 26 of them. However just 8 of them constantly utilized the spectacles. The spectacle adoption rate was 30.8%.

44. NUTRITIONAL STATUS OF PRESCHOOL CHILDREN OF WORKING AND NON- WORKING MOTHERS IN SLUMS OF DIBRUGARH

Deuri A and Boruah A (deuri.ajanta@gmail.com) Dept. of Community Medicine, AMC, Dibrugarh

A study was carried out among the preschool children in ten different slum pockets of Dibrugarh. Anthropometric measurements (height, weight and mid-arm circumference) of the study subjects were taken. Prevalence of underweight children was 62.68% and 58.50% among the children of working and non-working mothers respectively. The prevalence of stunted children was 61.19% among the children of working mothers and 50.98% amongst those of non-working mothers. The prevalence of wasting was 28.35% amongst children of working and 15.02% amongst those of non-working mothers. A total of 12.81% children were having signs and symptoms of vitamin A deficiency and 78.13% of the children were having anemia.

45. STUDY OF ASSOCIATION BETWEEN DIETARY HABITS AND PREVALENCE OF OBESITY AMONG CHILDREN AND ADOLESCENTS

Warbhe P, Sawant P, and Mankeshwar R (priyawarbhe@gmail.com) Department of Preventive and Social Medicine, Grant Medical College, Mumbai

Students from IV to VII grade of public school were assessed for dietary habits and BMI. Prevalence of obesity was 2% and overweight was 13% in children and adolescents. More prevalence of overweight was seen in adolescent girls. Consumption of Junk food and sugary beverages were significantly higher in obese and over-weight children.

SESSION XIV:

Chairperson: Dr.A.S.Wantamutte, Prof, & HOD of Community Medicine, J.N.Medical College, Belgaum, Karnataka.

Co-Chairperson: Dr.S. Shalini, Asst.Prof of Community Medicine, M.S.Ramaiah Medical College, Bangalore.

46. UTILISATION OF ASHA SERVICES UNDER NRHM IN RELATION TO MATERNAL HEALTH IN RURAL LUCKNOW

Singh Manish Kumar, Singh J V, Ahmad N, Kumari Reema, and Khanna A
(drmanishscbmc@yahoo.co.in) Chhatrapati Shahuji Maharaj Medical University, Lucknow, UP

The study was conducted at PHC Sarojininagar, Lucknow and its rural field area amongst mothers having a live newborn. 350 RDW were interviewed at their bedside, by

a pre-designed and pretested schedule and then were followed up after six weeks. Antenatal registration was reported by 97.4% RDW (90.9% facilitated by ASHA) of which 73.1% registered early (73% facilitated by ASHA). 52.6 % RDW had ≥ 3 ANC visits. Among RDW facilitated by ASHA 54% had ≥ 3 ANC visits. TT (2 dose) coverage was 92.9%. Receipt and consumption of 100 IFA was low 14.6% and 11.1% respectively. ASHA was the major motivator for birth preparedness/safe delivery (62%), adequate nutrition (74.3%) and rest (64.9%). ASHA facilitated 51% RDW with antenatal complication and 37.2% RDW with postnatal complication in receipt of appropriate care. Only 21.5% of total RDW had at least one postnatal check up.

47. PERCEPTION AMONG LACTATING MOTHERS BELOW SIX MONTHS OF LACTATION REGARDING JANANI SURAKHYA YOJANA IN THE URBAN FIELD PRACTICE AREA OF MKCG MEDICAL COLLEGE, BRAHMAPUR

Reddy SSS, Behera TR, D Shobha, Malini, Jena D, Nayak LP, Satpathy, DM, and Tripathy RM

(s.siddhu37@rediffmail.com) Department of Community Medicine, MKCG Medical College Hospital, Brahmapur

Study was conducted amongst the lactating mothers below six months of lactation in the Urban Field Practice Area of MKCG Medical College, Brahmapur (Orissa). The study revealed that during 1st April 2008 to 30th June 2008, the total number of lactating mothers below six months of lactation were 47 out of which 76.60% availed the JSY benefit, 63.83% were in the age group of 18-25 years, 89.36% of them attended either Govt. Hospital or Pvt. Institution for delivery, 74.47% were literate, 93.62% had some knowledge about JSY and all the mothers had under gone ANC.

48. THE STATUS OF THE MATERNAL HEALTH ENTITLEMENTS UNDER JANANI SURAKSHA YOJANA IN SELECTED VILLAGES OF KOLLEGALA TALUK

Shashikumar M, Manoj M K, Srinivas R, Shanbhag D, and Sr. Teena

(drdeepthikiran@gmail.com)

Department of Community Health, St. Johns Medical College Bangalore

Study was conducted in 62 villages under 8 PHCs of Kollegala Taluk amongst 668 deliveries documented in Comprehensive Rural Health Project, Hanur. Due to time constraints 469 out of 668 documented deliveries were included in the study. The JSY benefits had not completely reached the targeted beneficiaries at the stipulated time. Even among them, who had received the benefits it was not complete. Though JSY has been a good initiative in promoting institutional deliveries, there have been technical difficulties which have to be addressed.

49. MATERNAL MORTALITY REDUCTION STRATEGY IN MEDAK DISTRICT OF ANDHRA PRADESH

R.Pushpanjali, P.Bhatia and Neelima Singh (pushparangam@gmail.com) Osmania Medical College, Hyderabad

29 maternal deaths during 2007-08 in Medak district were audited using verbal autopsy by a team of obstetrician, physician & community medicine specialist with support of district administration. Health facility information regarding care, proximity,

mode of transport and bio-economics were obtained. 66.6 mothers who died were at extremes of age. 50% were teenage mothers, age at marriage was less than 17 years in 61.1%, 72% were illiterate, 89% had regular ANC's and 86.6% had risk factors identified, 22% had home deliveries and 22% died undelivered. Obstetric haemorrhage was the leading cause of death. 66.7% died in transit, and 38.8% changed more than two facilities. Autorickshaw was the main mode of transport from home to facilities

50. STUDY OF PREVALENCE OF VITAMIN DEFICIENCIES AND ASSESSMENT OF PERSONAL HYGIENE AMONG STUDENTS IN PRIVATE AND MUNICIPAL SCHOOL

Chavan D and Rangnathan U (beepeen007_16@yahoo.co.in) Department of Preventive and Social Medicine, Grant Medical College, Mumbai

Students from grade IV and V private and municipal school were assessed for vitamin deficiencies and personal hygiene. Vitamin A deficiency was found in 13%, Vitamin B deficiency in 4%, Vitamin C deficiency in 7% students and none of the students showed vitamin D deficiency. 33% student showing vitamin deficiencies were undernourished. Personal hygiene in municipal school students was less than that of private school.

51. ANALYSIS OF INFANT DEATHS IN TERTIARY CARE HOSPITAL SETTING

Gedam C M, Ranjit Mankeshwar, Sawant P B, and Mangesh Nanaware (dr.cmgedam@gmail.com) Department of Preventive and Social Medicine, Grant Medical College, Mumbai

A record based study was done for one year from medical record department, Sir J J Group of hospitals, Mumbai, Maharashtra. Details were noted down from two sources, Death forms and the Case record files. After evaluation of Death forms, it was found that total infant deaths were 188. Among them 142 deaths were in early neonatal period. Male to female ratio was 1.8:1. Major contributors for deaths were Infective & parasitic diseases 31%, Diseases of respiratory system 26.5%.

52. APPRAISAL OF HEALTH STATUS OF UNDER FIVES IN A RURAL AREA OF VARANASI

Kesarwani P, Mishra C P, Jha S K, and Kaushik A (drpriyankakesarwani@gmail.com) Department of Community Medicine, Institute of Medical Sciences, BHU, Varanasi

A cross-sectional study was carried out on under fives selected from two villages of Chiraigaon CD block of Varanasi district using IMNCI format and guidelines. Fifty percent study subjects had some problems. Proportion of children belonging to very low weight, not very low weight and low weight categories were 27.8%, 38.9% and 33.3% respectively. Exclusive breast feeding was practiced in 16.7% children only.

53. DEVELOPMENT OF HEALTH EDUCATION MODULE FOR MOTHERS ON INFANT AND YOUNG CHILD FEEDING PRACTICES

Nayak D S and Nagaraj K (shenidivakar@yahoo.com) Dept. of Community Medicine, Kasturba Medical College, Manipal, Karnataka

A study was done on mothers and their children under 2 years of age at Field practice area of Department of Community Medicine, Kasturba Medical College, Manipal, through existing data review, house hold observation, in-depth interview, focus

group discussion and trials of improved practices and 24 – hour diet recall method. The module is based on formative research and recommendations of WHO and UNICEF. It is observed that the module can be used by the grassroots health workers like Anganwadi workers and village health workers to improve the infant and young child feeding practices to improve the nutritional status of children specially under 2 years through out Karnataka.

54. A STUDY ON PREVALENCE OF ANEMIA AMONGST PREGNANT WOMEN IN A RURAL AREA OF WARDHA DISTRICT

More S, Mudey A B, Wagh V V and Goyal R C (moreshubhra@yahoo.in) J N Medical College, DMIMSU, Sawangi (M), Wardha, Maharashtra.

Study was conducted in two villages of the rural field practice area on 164 pregnant women with gestational period between 12-20 weeks. The haemoglobin estimation was done by Sahli's method. Anemia was classified as per WHO criteria. A high prevalence (78.5%) of anemia was observed. The prevalence of anemia was found significantly higher in those with >25 years, educated till school or less, and birth interval of <36 months.

INTERNS

SESSION XV:

Chairperson: Dr TSR Sai, Principal & Professor of Community Medicine, SVMC, Tirupati, AP.

Co-Chairperson: Dr. S Murali Madhav, Professor of Community Medicine, KIMS, Narketpally, AP.

1. APPRAISAL OF INTENSIFIED PULSE POLIO IMMUNIZATION AT JAWAHARLAL INSTITUTE RURAL HEALTH CENTER IN PONDICHERRY

Ravisankar P, Sugumaran, Shalini Varma, and Gautam Roy
(ravisankarpichaia@yahoo.co.in)

Jawaharlal Institute Rural Health Center, Pondicherry

Two rounds of IPPI in January and February, 2008 in four villages under Jawaharlal Institute Rural Health Center, Pondicherry were evaluated. Total percentage of children immunized in booths on both the IPPI days was 92.75% and 93.2% respectively. Lesser coverage on these occasions was due to the factors, lack of community participation, health education, community mobilization and trained health staffs. It also shows the importance of house to house visits as part of IPPI program to achieve 100% coverage. In one village, with only 64 eligible children, 100% coverage in booths was achieved. This shows that lesser the eligible children under each booth, more children were mobilized to booths. In another village, the number of eligible children who were not immunized in the booths decreased after the health education by health staff which illustrates the importance of health education in community mobilization of children to booths for immunization.

2. A PILOT STUDY TO ASSESS THE PREVALENCE OF SOIL TRANSMITTED HELMINTHES AMONG MIDDLE SCHOOL CHILDREN IN RURAL TAMIL NADU

George Ipe Vettiyl, Zile Singh, Joy Bazroy, M Mohamed Hashim, Maanasa Bhaskar, Niraimathi, S Nandeeswari, Nehla Anna Isaac, S Maithreyi, and Kayalvili K K

A school health survey was conducted among 538 middle school children in rural Tamil Nadu (Chunampet, Kanchipuram Dist) and children were given containers to bring stool samples. Response rate for bringing samples was only 49.6%. Results indicated that prevalence of ova in stools was 42.4%. The most common type of worm infestation was roundworm 60.7%, followed by hookworm 25%, trichuris trichura 7.1% and enterobius vermicularis 3.5%. The risk factors identified were non-use of footwear (OR = 1.4) and poor personal hygiene (OR = 1.7) It was also found that children with worms in stool smear had more malnutrition (statistically significant, OR = 6.1, < 0.05).

3. PREVALENCE OF RISK FACTORS FOR NON COMMUNICABLE DISEASES IN ADOLESCENTS OF AN EDUCATIONAL INSTITUTION IN RURAL KARNATAKA

Bukelo M, D'sa A, Deepthi R, Kiran P R, Farah F N, Goud R, and Kasthuri A
(drdeepthikiran@gmail.com) Department of Community Health, St. John's Medical College, Bangalore

Study was conducted among 297 adolescents of a rural high school using a modified and pre-tested questionnaire based on Integrated Disease Surveillance Project questionnaire. Socio-demography and risk factors for non communicable diseases were elicited. Height, weight, waist and hip circumference and blood pressure were measured. Of the 297 students, 53.2% were boys and 46.8% were girls between 12-18 years. Inadequate consumption of fruits and vegetables was seen in 83.5% which was significantly less among boys. Inappropriate dietary intake was seen in 55.9%. 69.7% of the students were physically active as per International Physical Activity Questionnaire (IPAQ) scoring. A mean of 4 hours per day was spent in sedentary activity. 2.4% were at risk of overweight. 18.5% students had a family history of hypertension. The prevalence of pre-hypertension, Stage I and Stage II hypertension was 6.7%, 5.4% & 0.3% respectively. Girls had a significantly higher prevalence of hypertension (P=0.006).

4. GENERAL PSYCHOLOGICAL WELLBEING OF URBAN AND RURAL INDIAN ADOLESCENTS: A COMPARATIVE STUDY

Shreyas G, Mudassir Azeez Khan, and Seetha lakshmi (dr.shreyas.g@gmail.com)
Dept. of Community Medicine, Mysore Medical College and Research Institute, Mysore

A comparative study was initiated to have a better understanding of the determinants affecting adolescent psychological well-being amongst 319 adolescents in Mysore, selected by stratified random sampling from urban and rural 11th and 12th grades. No significant difference in the scores of urban and rural adolescents was observed. In grade 2, 64% reported difficulty in scholastic performance compared to 10% in grade 5. There was no significant gender difference in the psychological score.

5. AWARENESS AND ATTITUDE TOWARDS ORGAN DONATION

Vishaka Sudarshan, Yashaswini L S, Sheshashree S, Sneha Kundoor, Shyamala, Bhanu M Sonali Rao, Gangaboraiah, and N R Ramesh Masthi (vishaka_sudarshan@yahoo.co.in)
Dept. of Community Medicine, Kempegowda Institute of Medical Sciences, Bangalore

Medical students, non medical (engineering) students, medical teaching staff, non medical teaching staff were questioned about various aspects of organ donation and brain death using a pre-tested questionnaire. 96% of the study subjects were aware about organ

donation. Majority (56%) were aware about eye donation. Television (68%) was the main source of information. 85% of the study subjects had heard the term brain death but only few were aware about its importance in organ donation. 5% of study subjects had already pledged their organs to be donated after death and 35% in the remaining were willing to pledge their organs. 32% of subjects who did not want to donate their organs after death stated spiritual factors as the main reason.

6. MOBILE PHONE ADDICTION AMONG COLLEGE STUDENTS

*Yashaswini **, *Pushpa A**, *Vinutha Rangappa**, *Vani H C**, *Astha Gupta**, *Swapna R**, *Raghuram R***, *Ramesh Masthi N R**, *Sanjay T V** and *Gangaboraiah**
(yashu.bc@gmail.com)

*Department of Community Medicine, ** Department of Psychiatry, Kempegowda Institute of Medical Sciences, Bangalore

Study was conducted amongst students at Bangalore from Medical, Engineering, Post graduate, Degree and PUC colleges. Of the 436 study subjects, 27.06% felt irritated when they are neither able to make/ receive calls etc. 28.66% people experienced headache and 27.52% experienced ear pain. 64.22% of the study subjects had anxiety. About 41.74% had lost their sleep due to cell phone usage. Out of 436 students, 11.96% were in the high risk group and 5.96% were addicted.

7. PERFORMANCE EVALUATION OF SENSITIZATION SESSION: PEER GROUP ASSESSMENT OF STUDENT EXCHANGE/SHARING AMONG MEDICAL COLLEGE STUDENTS IN AP

Madan Mohan Reddy Arugunta, and *Usha Chadalarawada* (dr.usharani2@gmail.com)

To sensitize the medical undergraduates and Interns of Kurnool Medical College and to assess their response a sensitization session was conducted by Siddhartha Medical College students. A four point rating scale was designed for evaluating this "Sensitization Session". The overall results showed that the presenters' performance was excellent (29.7%), 41.3% felt it was very good and around 29% found it good. It was interesting to note that, none needed any improvement and suggested that the session extended for a longer period and wished to carry out similar sessions in other colleges at a later date.

8. EVALUATION OF MID-DAY MEAL SCHEME IN GOVERNMENT SCHOOLS UNDER COWDALLI AND YELLEMALA PANCHAYATS OF KOLLEGAL TALUK

Bharath N, *Chethan C*, *Swaroop N*, *Shanbhag D*, and *Misquith D*(narasimhabharath@yahoo.co.in)

Dept. of Community Health, St. John's Medical College, Bangalore

Study was undertaken in ten government schools in rural areas of Kollegal taluk. Recommendations of the mid-day meal scheme were implemented to an extent of $\leq 60\%$ in two schools, 61 - 70% in three schools and 71 - 80% in the remaining five schools. Only four schools provided the required calorie intake/child/day. In one of the schools parents preferred their children to carry food from home because the cook was from the SC/ ST community. No school provided vitamin-A to children and teachers did not supervise consumption of Iron & Folic Acid tabs. None of the schools had kitchens according to guidelines. Practices related to washing of plates and hand washing were inadequate. There was no participation of parents and gram panchayat members in implementing the scheme.

UNDERGRADUATES

SESSION XVI:

Chairperson: Dr. R C Goyal, Prof. & Head of Community Medicine, NMC, Wardha, Maharashtra.

Co-Chairperson: Dr. Muralidhar Tambe, Associate Professor of Community Medicine B.J.Medical College, Pune, Maharashtra

1. ASSESSMENT OF COVERAGE AND COMPLIANCE OF MDA AGAINST FILARIASIS IN UDUPI TALUK, KARNATAKA

Afrin S, Ashwini K, Pawan K, Nagaraj K, and Lena A (afrin.rini@gmail.com) Department of Community Medicine, Kasturba Medical College, Manipal, Karnataka

A pre-designed questionnaire was administered to head of the household of a sample houses selected by cluster-sampling method. Study included 260 families having a total of 1145 people representing both urban and rural areas. 92% of them were literates. 71.8% people received DEC tablets. 94.4% people received adequate dose. 61.3% people consumed tablets and 1.1% people had side effects. These observations clearly indicate that utility of effective health education and community participation was crucial for successful community-based elimination campaign.

2. UTILIZATION OF ANTENATAL CARE SERVICES IN RURAL UDUPI DISTRICT

Akshay Chauhan, Ashwini Kumar, Pawan Kumar, Medhavi Honhar, Neelawati and Clara Lewis

(akshay_chauhan18@yahoo.co.in) Department of Community Medicine, Kasturba Medical College, Manipal, Karnataka

Community based study on recently delivered mothers in villages coming under a Rural Maternity Child Welfare Home of the Department was undertaken. 64 recently delivered mothers were included in the study. All of them were literate and 57.7% were housewives. 53.03% mothers visited private health care facilities for antenatal care. 92.18% mothers had more than 3 antenatal checkups and 74.43% had more than 6 checkups. The weight and blood pressure were recorded for 95.45% mothers along with blood and urine tests in 98.5%. 96.96% mothers received adequate dose of tetanus toxoid. Almost all mothers received iron and folic acid tablets for more than 3 months.

3. INCIDENCE AND RISK FACTORS OF FEBRILE SEIZURES

Madhurajeshwari S, Madhuvanthi R, Mahesh KB, Manju T, Margarat DP, Mithun KCS, Arun VP, and Vasantha E (madhurajeshwari@yahoo.co.in) Coimbatore Medical College, Coimbatore

Retrospective population based study of 6 months to 5 years children in selected villages and urban areas selected on cluster sampling basis was carried out. Of 300 subjects 9.67% had febrile seizures (FS), 8.67% simple, 1% complex. 10.5% male and 8.18% female children had seizures. 44.9% seizures occurred from 6 months to 1 year of age. Of the children with seizures, 82.76% were of lower socio-economic status and 31.03% had family history and 10.34% had history of prematurity. Association of FS with Family history ($p < 0.001$) and LSES ($p < 0.05$) were observed. Prematurity and sex ($p > 0.05$) were not associated with FS.

4. INFLUENCE OF ENVIRONMENTAL FACTORS AND AGE ON MYOPIA

Puneet M, Pranesh P, Praveen K P, Pravin A C, Pushkaran M, Radhakrishnan R, Arun VP and Vasantha E (vasantha@gmx.de) Coimbatore Medical College, Coimbatore

Case-control study of 115 myopic and 100 non-myopic medical students revealed that mean age of myopics was 19.49 and non-myopics were 19.75. The age at onset of myopia among males was 14.46 years and females 14.76 years. Factors associated with myopia were reading in inadequate light (23.7%) ($p=0.027$), not maintaining proper eye book distance (22.8%) ($p=0.003$), family history (51.8%) ($p=0.0001$). 66.1% reported onset of myopia during growth spurt. Mean hours of close work with myopics was 6.37 hours and with non-myopics was 5.37 hours which were not significantly different ($p=0.232$).

5. STUDY OF RISK FACTORS OF CORONARY HEART DISEASE AMONG ADULTS AGED ABOVE 25 YEARS IN RURAL COMMUNITY IN CENTRAL KERALA

David Simson, Lathikadevi K, Thomas J, Geevarghese, Rafi, Viji, and Reeja (joekarippa@yahoo.com) Dept. of Community Medicine, Amala Institute of Medical Sciences, Thrissur, Kerala.

Adult members above 25 years of age at households of Adat Panchayath were interviewed and examined using a prestructured questionnaire regarding various risk factors of CHD. Sedentary Lifestyle, Smoking, Alcoholism, Obesity, Diabetes and Hypertension were found to be prevalent in the community.

6. A STUDY ON THE PATTERN OF FAMILY PLANNING METHODS ADOPTED IN AN URBAN FIELD PRACTICE AREA

Nandakumar N, K Lathikadevi, Rini R, Charudattan I D, Jini M P, Geevarghese and Shimna (rinisujay@rediffmail.com) Dept. of Community Medicine, Amala Institute of Medical Sciences, Thrissur, Kerala

House to house complete enumeration survey was conducted in 10242 houses in urban field practice area attached to AIMS, Thrissur, Kerala.. Interview was done using a pre tested questionnaire. The acceptors of various methods of family planning were enumerated. Overwhelming majority of people prefer permanent methods (female sterilization -59.36%). Acceptors of temporary method of family planning methods were only 1.02 %. Post Partum Sterilization is the most accepted method of contraception. The couple protection rate (60.38%) is above the national average.

7. IDENTIFYING A HIDDEN PROBLEM-DEMENTIA- IN ELDERLY PEOPLE LIVING IN OLD-AGE HOMES

Seetha Lakshmi, Mudassir Azeez Khan, and Pavithra N (shammiway@gmail.com) Dept. of Community Medicine, Mysore Medical College and Research Institute, Mysore

Study was conducted amongst the inmates aged above 60 years and staying in the old-age home for at least 2 months at eight old-age homes in Mysore City. Mini Mental State Examination (MMSE) was administered to 100 inmates to screen the subjects. Of them 24 subjects were with score <23 and were considered to have dementia. To these 24

subjects Blessed Dementia Rating Scale was administered. Females (29.4%) showed more signs of dementia than males (12.5%) ($P < 0.05$). More people in the age group 71-80 years had dementia ($P < 0.001$). Females who had both hypertension and diabetes mellitus showed dementia in more number (50% being affected).

8. BENIGN PROSTATIC HYPERPLASIA: HEALTH SEEKING BEHAVIOR IN A TERTIARY CARE HOSPITAL

Deep A, Ingle G K and Kishore J (adchaudhary@gmail.com) Maulana Azad Medical College, New Delhi

Case studies of 81 patients at Surgical Outpatient Department of Lok Nayak Hospital, New Delhi, were done using pre-tested and suitably modified questionnaire designed for assessing health seeking behavior. Out of 81 patients, 27.2% were illiterates. 44.4% reported to the doctor within a month of noticing their problem. 57.6% of the literates were aware about the symptoms suggestive of enlarged prostate while 86.4% of the illiterates were unaware ($p = 0.001$). First action taken by 74.6% of the literates was to consult a health care practitioner as compared to 36.4% illiterates ($p = 0.001$). 81.4% of the literates and 31.8% of the illiterates approached a qualified practitioner initially ($p = 0.002$). 76.3% of the literates and 56.3% of the illiterates approached the higher level of health care facility to which they were referred ($p = 0.14$). 62.7% of the literates and 9.1% of the illiterates had maximum faith in allopathy ($p = 0.001$). 30.5% of the literates and 77.3% of the illiterates performed pooja or ritual for relief of their problem ($p = 0.001$).

STAFF

1. MENSTRUAL HYGIENE AWARENESS AMONG ADOLESCENT GIRLS IN TRIBAL AREA

Aswar N R, Kale K M, Inamdar I F, Wanje S D, Dalvi S D, and Dhekole D M
(nandkeshav_a@yahoo.co.in) Department of PSM, Government Medical College, Nanded, Maharashtra

257 adolescent girls from tribal villages under PHC Waradh of Yavatmal district were studied. Out them 39.29% belonged to early adolescent, 35.01% to middle adolescent and 25.70% to late adolescent period. 61.09 % girls attained menarche at the time of study. Mean age at menarche was 14.02 years. Menstrual pattern was regular in 69.43% adolescents while irregular in 30.57 % cases. Hygienic practices during menstruation were followed by 39.49% girls while 60.51% girls followed unhygienic practices. 2/3 of the girls who had attended the menarche and 1/5 of the girls who did not attend the menarche had knowledge about various pubertal changes and menstruation. The most common source of information about it was mother followed by friends, elder sisters, and relative and health workers. Very few knew about it from television. Almost all girls were restricted from worshipping during menstruation. 57% girls were restricted from participating house hold activities like cooking food, serving food etc. 59 % girls used separate bed for sleeping, 36% followed untouched during menstruation. Only 07 % did not observe any restriction during menstruation. 69% girls knew about various contraceptive methods. None of these adolescents knew about emergency contraception.

2. STUDY OF SOME EPIDEMIOLOGICAL FACTORS ASSOCIATED WITH INITIATION OF TOBACCO USE AMONG ADOLESCENTS IN FIELD PRACTICE AREA OF URBAN HEALTH CENTRE, NANDED (MS)

Inamdar I F, Aswar N R, Wanje S D, Sonkar V K, and Dalvi S D (ifinamdar@rediffmail.com)
) Department of PSM, Government Medical College, Nanded, (Maharashtra)

718 adolescents in 25% sample of slums covered by Urban Health Centre were studied. Of them, 60.86% were boys and 39.14% were girls. Maximum no. of (46.23%) adolescents were living with joint family. Around 22% adolescents were illiterate. Total 106 (14.76%) adolescents used tobacco in different forms. Addiction was more in boys 83(11.55%) as compared to girls. Significant difference was found for addiction and literacy status. There was statistically significant difference ($p < 0.001$) found among tobacco consumption of family members and initiation of tobacco use by adolescents.

3. OPERATIONALIZATION OF INVOLVEMENT OF “PRIS” IN RNTCP: A MODEL FOR KERALA

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The study was conducted by “Society for Social Health Action and Research” by taking 10% PRI samples from each of 14 districts by simple random method. The data collection was done by self administered structured questionnaire with 10 items, each having a score of 1 for correct response. The mean score was 6.8 (95% CI 5.4 – 7.16)

with no gender variability ($P = 0.65$) and negative correlation (-0.23) with the age of responders. 95% had the correct knowledge about the route of spread, 83% know the method of diagnosis and 55% know the three main symptoms of TB. About 71% aware that TB medicines were available at PHC level and 59% aware that they are eligible to be a DOT provider. Only 53 % had correct knowledge about BCG.

4. EDUCATIONAL STATUS AND SCHOOL DROPOUTS IN ADOLESCENT GIRLS IN TRIBAL AREA

Aswar N R, Kale K M, Inamdar I F, Wanje S D, and Dalvi S D
(nandkeshav_a@yahoo.co.in)

Department of PSM, Government Medical College, Nanded, (Maharashtra)

A house to house survey of Adolescent boys and girls in five villages under a subcentre of Primary Health centre Waradh of Yavatmal District was conducted. 502 adolescents- boys and girls aged 10-19 years were interviewed as per the proforma. Of them 245 were males and 257 were females. 103 males and 101 females belonged to early adolescent, 80 males and 90 females to middle adolescent and 62 males and 66 females to late adolescent period. Out of males 4.9% never attended the school and 61.64% were studying at the time of survey. 33.46% boys dropped out their school. Out of girls 7.4% never attended the school while 57.97% were studying at the time of study. 34.63% girl's dropout the school. Overall school dropout in male and female adolescents was 34.06%. Amongst the school dropouts 21.64% left the school before completing 5 years of schooling, 51.46% left the school before 8 years of schooling, 22.23 % before completion of 10 years of schooling and 4.67 % before completion of 12 years of schooling. The various reasons for school dropout were- not willing to attend school (15.2%), involved in earning (41.25%), repeated failure 15.78%, Medical problems 1.78, parents not willing 22.80% and nobody to work in home 2.92%. There is a statistical significant association between school dropout/ never attended and low socio economic status and tribal population.

5. IS EXISTING SYSTEM OF PUBLIC HEALTH CARE FACILITIES REALLY NEEDS CORRECTIVE MEASURES FOR STRENGTHENING AND UPGRADING OF SUBCENTERS OF WARDHA DISTRICT: "NRHM-IPHS PERSPECTIVE"

Mudey A B, Goyal R C, and Mehiliquea S (abhaymudey@hotmail.com) Jawaharlal Nehru Medical College, Sawangi (M) Wardha

Study was conducted at 32 subcenters of Deoli Block of Wardha district. Data was collected by interviewing the concerned staff and observing the building, equipment, and other facilities with standard IPHS proforma published by Government. Results: Availability of MCH care including FP services were 53.02% whereas other specific services were 69.9%. Manpower and resources availability was found to be 50-60%. Infrastructure and furniture was only 40-45%. Monitoring and supervisory activities were 61.9%.

6. MISCONCEPTION AND MYTHS IN THE MANAGEMENT OF ANIMAL BITE CASES

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Department of PSM, Government Medical College, Nanded, Maharashtra

2070 patients who attended the Antirabies clinic in a period of 6 months were studied. Out of them, 70 % were males and 80% reported from rural area. Majority of the patients were in the age group 15-30 years and 65.21 % were literate. Majority 96.13% of cases were of dog bite. 97.58% patients presented with cat III bites. Common practices prevalent in the management of wounds were washing with soap & water (20%), with only water (34.78%), apply coin on wound (24.15%), treatment from quack (57.97%), and dettol & antiseptic (10.86%)

7. SEASONAL TREND OF LEPTOSPIROSIS IN FIVE GOVT. MEDICAL COLLEGE HOSPITALS, KERALA

Sara Varghese, P Khuraisha Beevi, and Divya Bhagianadh (drsaravarghese@gmail.com)
State PEID Cell, Medical College Hospital, Thiruvananthapuram, Kerala

Line listing of cases diagnosed as Leptospirosis from the Five Government Medical Colleges over the last five years was undertaken. Most affected age group was 30-40 years and regarding the gender males were affected more than females. Seasonality was observed in November all throughout the five years. In 2003, 2004 and 2005 two peaks were seen one in June and the other in August. In 2007 and 08 and increasing trend was observed.

8. EPIDEMIOLOGICAL PROFILE AND OUTCOME OF BURN CASES ADMITTED AT TERTIARY LEVEL CARE CENTRE

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Medical records of Burn patients at Government Medical College Hospital Nanded were analysed. There were 410 cases admitted at during April 2007 to March 2008, of these highest incidences of burn were seen among 20 - 29 years (148 cases). Youngest case was of 9 months of age while the oldest was of 62 years. Highest incidence was seen in females (63.17%). Burn cases from rural area were higher as compared to urban area. In maximum number of cases (84.87%) source of burn was fire and flame. Mean hospital duration was 28 ± 16.3 days. Amongst all cases 38% cases died. Unsafe kitchen was the most dangerous place for women victims.

9. STUDY OF NUTRITIONAL STATUS OF THE ADOLESCENTS IN DISTRICT DEHRADUN

K Muzammil, S Kishore, and J Semwal (drkmb25@yahoo.com) Department of Community Medicine, Muzaffarnagar Medical College, UP

A cross-sectional study was conducted in Doiwala Block, District Dehradun (Uttarakhand), on 840 adolescents, selected by multistage stratified random sampling. Data was collected on a structured and pre-tested questionnaire by interviewing the adolescents.

16.42 % and 20.0% of the adolescent males and females respectively were stunted. Stunting was maximum (39.7 %) in class-V (lower socio-economic class), in the birth order of 5 and above (30.1 %) and whose mother were just literate (51.5 %). About 15.2 and 25.5 % of the adolescent males and females respectively were underweight. Maximum underweight adolescents were in class-V (51.8 %), having birth order of 5 and above (39.7 percent) and whose mother was just literate (48.5 %). Mean BMI was highest in 18 years old adolescent boys (20.02).

10. PREVALENCE OF RTI/STI IN ADOLESCENT GIRLS OF AGRA CITY

Agrawal R, Nandan D, and Gupta S C (dreamreenu@rediffmail.com) Department of SPM, S N Medical College, Agra, UP

A Community based cross sectional study was carried out in slum areas of Agra city among 300 unmarried adolescent girls of 10-19 years of age selected by multistage systematic random sampling technique in year 2004. The prevalence of RTIS/STIS in unmarried adolescent girls was found to be 18.3%. Most common problem identified was vaginal discharge in 71% girls, followed by itching over private parts in 40% girls and inguinal lymphadenopathy and bleeding p/v in 0.5%. A significantly higher proportion of RTIS/STIS was found in girls of late adolescent age group ($p < .05$). Problem was found to be more in lower socio economic status and illiterate/lower literacy status group.

11. PREVALENCE OF CONSANGUINEOUS MARRIAGES IN RURAL AREA OF NAGPUR DISTRICT

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Community based cross sectional study at Raipura village, a field practice area under RHTC Hingana was undertaken on married couples. Data was collected by house to house survey. All houses were visited having at least one married couple. 700 married couples were included in the study. The mean age of husband was found to be $40.86(\pm 12.60)$ and mean age of wives was $35.09(\pm 12.17)$ yrs. 39.86% husbands and 43.57% wives were educated up to secondary level. Most of the study couple belonged to socioeconomic class IV. Mean age at marriage for husband was $23.90(\pm 4.22)$ yrs and for wives it was $18.12(\pm 3.46)$ yrs. The prevalence of consanguineous marriages was found to be 16.43%, of this most prevalent type was mother's brother's daughter type; which was 73.04% of total consanguineous marriages.

12. CAUSE OF DEATH REGISTERED IN BELGAUM CITY CORPORATION DURING THE YEAR 2005

Shobha S Karikatti, A S Wantamutte, and M D Mallapur (drshoba_koti@yahoo.com) J N Medical College, KLE University Belgaum, Karnataka

Death registers of health department of Belgaum Municipal Corporation was undertaken. 4921 deaths were registered in corporation. According to death register 68.99% deaths were reported from city corporation area and rest from different places. Of the total deaths 44.04% deaths have occurred in home and reported from kiths & relatives. The report revealed that birth asphyxia (19.19%), cardio-respiratory (18.95%)

etc, were major cause of death among under-fives. Among school age children sickness/illness (21.66%), cardio-respiratory (16.66%) and accidents (15.83%) were the major causes of death. In adults majority (27.59%) deaths were due to sickness/illness followed by cardio-respiratory (20.81%) problems and infections (12.96%). The most common (37.54%) cause of death among elderly was attributed to old age.

13. PUBLIC HEALTH INFORMATICS IN CONTEXT TO INDIA: POTENTIALS AND CONSTRAINTS

Athavale A V. Maharashtra

In India we are not having a regularly updated system to have the incidence and prevalence statistics for various diseases which affect majority of population in the country. In such a scenario, for a public health practice to be effective, it requires timely, accurate, and authoritative information from a wide variety of sources. Advances in information technology science and its application in health have made e-health services being adopted by healthcare provider organizations in India gradually. Within the ambit of e-health, public health informatics discipline explores the potential for prevention at all vulnerable points in the causal chains leading to disease, injury, or disability.

14. WHAT IS ADOLESCENCE?

Sanjeev Kamble KDMC, Mumbai

Generally 10 to 19 years of age is considered the period of Adolescence and 15-24 yrs as youth Adolescence stage of life signifies transition from childhood to youth (i) Sever physical, psychological and emotional changes (ii) Attempt to break away from protected environment of family (iii) Marked influence of peers on lifestyle, attitudes, behavior (iv) Try to establish own social identity. Feel parents too conservative and peers more liberal and peers ideas are accepted to stereotype family norms and which is called youth culture (a) Confused state of mind due to contradiction in messages outside and in family (b) Psycho sexual development and physical changes coupled with lack of proper channels of information and skills results in Risk behavior which would have long lashing physical emotional and Psychological effects. Because of urban medium causes impact on Adolescents in following are as (i) Economical, Social, Environmental and Demographic impact (ii) Worse pollution causes health hazards (iii) Due to improved social conditions and new social aspirations vulnerability towards STI/HIV in adolescents (iv) Due to increase in migration and poverty in urban area is effecting in anti social, criminal and substance user behavior in adolescents. Reaching out to adolescents will help to break the inter-generational cycle of (i) Early marriage (ii). Ill health (iii) High mortality/morbidity (iv) Low contraception prevalence “Influencing the health seeking behavior of adolescent for rapid improvement on all fronts in health, mortality, morbidity and population growth”.

15. IMPACT OF BEHAVIOUR CHANGE COMMUNICATION ON SMOKING CESSATION IN URBAN SLUM COMMUNITY OF NALGONDA, AP

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Non-randomized field trial- before & after comparison study was undertaken at Urban Slum locality of Nalgonda on 80 habitual smokers determined by pre-intervention survey. Comprehensive BCC intervention comprising of Inter-personal communication,

group discussion and other approaches were administered to participants for duration of 6 months. Post-intervention survey was performed to assess outcome. 26 smokers quit the habit completely (32.5% cessation rate) 22 smokers (27.5%) reduced number of beedies smoked by more than 50%. 8 smokers (0.08%) reduced number of beedi smokers by 10% 24 smokers (39%) demonstrated no change in smoking behaviour.

16. FIVE YEAR REVIEW OF SOME OF THE RCH ACTIVITIES AT PRIMARY HEALTH CENTER HANEGAON, DISTRICT NANDED

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Records of the PHC from 1st April 2001 to 31st March 2006, primary health centre, Hanegaon in field practice area of RHTC, Degloor, GMC, Nanded were analysed. During the year 2002-2003 most of the RCH activity targets achieved was less as compared to other four years. On an average, the targets achieved were between 80 to 90 %. The immunization target achievements were more than 100 %. The permanent sterilization was with only females and not a single case of male sterilization was carried out in that PHC area.

17. TIME MANAGEMENT AMONG ADOLESCENT: NEED OF THE HOUR

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*Department of Community Medicine, **Department of Anaesthesia Pt. B.D. Sharma PGIMS, Rohtak, Haryana

Study conducted on 400 students in the age group of 10-19 years showed that adolescents spend more of the time in personal cleanliness, playing games and watching television. They did not spend any time on meditation or remembering God, moral teachings, caring for old persons, and family, patriotic and national values.

18. WATER COLLECTION AND CONSUMPTION BEHAVIOUR IN RURAL HARYANA

*D.R. Gaur**, *Manish Kumar Goel **, and *Meenu Goel**** Department of Community Medicine, **Department of Anaesthesia Pt. B.D. Sharma PGIMS, Rohtak, Haryana

Provision of safe water supply is one of the most effective tools to improve the health status of the communities. It has been estimated that the burden of sickness in the world would be reduced by nearly 80% if it were possible to supply safe water to people everywhere. As of 2005, 12% of India's population or 127 million people (92 million in villages & 35 million in towns) were without clean drinking water supply. Intensive national and international efforts are being made to have potable water for all by the year 2010. Latest assessment indicates that about 80% of rural population in India has access to safe drinking water & 36% has access to adequate sanitation facilities, out of which 9% is in rural area. About 70% of the population was using water from wells for drinking & cooking purposes and 8-19% from piped water supply and about 10-20% from hand pumps. The average distance traveled to fetch water from wells was about 1/2 -1 k.m., from piped water 300-400 m, & from hand pumps was 600-1400 m. It consumed 1 1/2 -2 hrs to fetch a bucket/pitcher of water from the source. Problems faced were like irregular supply (80%), less taps (80%), poor maintenance and fight at the source (90%), besides some personal factors.

19. A STUDY OF KNOWLEDGE ATTITUDE & PRACTICE (KAP) RELATED TO TUBERCULOSIS IN AN URBAN COMMUNITY OF DISTRICT VARANASI

Kansal S and Kumar A (sangeetakansalbhu@gmail.com) Department of Community Medicine, Institute of Medical sciences, BHU, Varanasi, Uttar Pradesh

The study was carried out in an urban community of Varanasi, from July –Sep, 2008 using a pre structured and pretested questionnaire on KAP. The study highlighted that majority (85.8%) of respondents in the community were having knowledge about Tuberculosis & Dots. Forty percent of the total respondents were having misconception about mode of spread of the disease. Social stigma (63%) still exists as the major cause of delay in diagnosis & seeking treatment.

POSTGRADUATES

Chairperson: Dr.V.Shantaram, Prof.& HOD, PES Medical College, Kuppam, A.P.

Co-chairpersons:Dr.J.Ravikumar, Asso. Prof, Dept. of Community Medicine, Osmania.Medical College, Hyderabad.

20. COMPARATIVE STUDY OF NATAL CARE SERVICES UTILIZATION IN URBAN, URBAN SLUMS AND RURAL AREAS OF AGRA DISTRICT

Jain A, Gupta S C, Misra S K, Mehrotra A K, and Roy N (anjali.paras08@gmail.com) S N Medical College, Agra

Community-based cross-sectional study in rural, urban and urban slum areas of Agra district was conducted on 120 urban, 120 urban slum and 120 rural mothers, who delivered during last 6 months. Institutional deliveries were seen in 95% mothers of urban while only 64.17% and 48.33% urban slum and rural mothers delivered at any government or private hospital. In institutional deliveries 73.34% in urban, 57.5% of urban slum and 21.67% rural areas delivery occurred at any private hospital. It was found that any complication during delivery was experienced in 7.5%, 17.5% and 14.16% in urban, urban slum and rural mothers respectively, while common type of delivery complication reported were non expulsion of placenta followed by prolonged labor, increased vaginal bleeding, trauma in the vaginal canal in urban mothers while in rural mothers more vaginal bleeding followed by non expulsion of placenta, trauma in the vaginal canal were reported. This high difference among urban, urban slum and rural mothers was due to non-availability and poor access to health services and this is due to low literacy level and low socio-economic status among the residents of rural areas. Other factors associated with it were strong cultural beliefs and traditional practices, ignorance, non-acceptability of services by elderly family members, high family size, self-neglect, perceiving the child-birth as a normal phenomenon, fear of undue surgical interference, which were seen more among rural than urban residents.

21. MORBIDITIES AND HEALTHCARE SEEKING BEHAVIOUR IN WOMEN OF URBAN SLUM IN NANDED CITY

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Study was undertaken at an urban slum area under Urban Health Centre, Dept. Of PSM, GMC, Nanded. was done. Out of 173 women, 46.2% belonged to age group up to 20 years; 24.9% to 21-30 yr of age group; 19.1% to 31-40 yr age group and 9.8% are above 40 yrs. 21.4% were illiterate and 8.7% were educated up to primary; 17.3% up to middle school, 30.1% up to secondary, 14.4% up to higher Secondary and 8.1% were graduates. Among them, 52.6% were housewives, 33.5% were students, and 13.9% were working women. 43.9% had BMI below 18.5, 48.6% were from 18.5 to 25; 7.5% had BMI above 25. One or the other morbidities were present in 51.4% women. Various morbidities like menstrual diseases were present in 20.5%, backache in 19.9%, joint pain in 15.4%, leucorrhea in 10.9%, UTI in 10.9%, hypertension in 3.9%, fever in 3.2%, skin diseases in 2.6%, diarrhea in 1.3%, cough in 1.3%, tuberculosis in 0.6%. When asked where they would seek healthcare if ill, 64.7% said they will take treatment; 67% of them would go to government doctors; 33% to private doctors. Out of 51.4% having one or the other morbidities 75.3% had taken treatment; 65.7% to government and 34.3% to private doctors. Various reasons for not going to government doctors- were lack of facilities (14%), no faith in govt. Doctors (45%), away from home (34%), no privacy (5%), doctor's behavior not good (2%). Reasons for seeking treatment from government doctors were- unable to afford private treatment (62%), faith in govt. Doctors (27%), not satisfied with private treatment (8%), and referred from private treatment (3%).

22. PREVENTING EMERGENCE OF DRUG RESISTANCE AND BURDEN OF EXPENDITURE ON DRUGS: FUTURE CHALLENGE

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Medical College, Sawangi, Maharashtra

Analysis of Laboratory records of bacteriology samples in the department of microbiology of patients examined from Jan 2003 to Dec 2007 was done. Of 54578 samples examined, common organisms were E.coli (34.7%), klebsiella species (26.5%), staphylococcus aureus (20.33%), and pseudomonas aeruginosa (8.85%). Highest resistance was seen against co-trimoxazole (94.6%), ampicillin (91.4%) & tetracycline (82.7%) whereas highest sensitivity was against third generation cephalosporins (94.3%), followed by amikacin (92.3%), second generation cephalosporins (86.4%). Staphylococcus aureus are 100% sensitive to vancomycin. Gram negative bacilli show 97.6% sensitivity to carbapenams.

23. NON CIRRHOTIC PORTAL FIBROSIS AMONG CHILDREN ADMITTED IN A TERTIARY CARE HOSPITAL OF KOLKATA: A SEARCH FOR POSSIBLE ETIOLOGIES

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(penicillin2@rediffmail.com) Dept. of Community Medicine, Medical College, Kolkata

A series of Portal Hypertension cases attending the Pediatric Gastroenterology clinic, NRS Medical College & Hospital from August 2005 to July 2008 were studied. 134 Cases of Portal Hypertension were found. All of them were screened by Doppler ultrasonography & liver biopsy. 29 were diagnosed to have NCPF. Presence of possible etiological factors was studied in all the cases. NCPF constituted 21.64% of the total cases of portal hypertension. Significant association was found with residence in arsenic affected areas ($p < 0.001$). We did not find significant association with factors like low socio economic status, contributory past illness for NCPF, malarial infection in recent past (< 12 weeks) & lymphocytopenia.

24. AWARENESS OF SMOKING AND ITS HARMFUL EFFECTS IN SCHOOL GOING CHILDREN

Osmania Medical College, Hyderabad (mohdshanawaz_8824@yahoo.com)

Study was conducted among 200 school going children of 8th, 9th and 10th class students of Al-Ameen Model High School by using a pre-designed and pre tested questionnaire. 92% of children knew that smoking cause lung cancer. 78% of children knew that it can cause heart attacks, and only 36% of children knew that it can cause sexual impotency. And 90% of children know about passive smoking. 70% of children believe government is doing enough to stop smoking.

25. TO STUDY THE ATTITUDES OF POSTGRADUATES TOWARDS EUTHANASIA

Navpreet, Kaur Paramjeet, Bhagowalia G S, and Dhawan Neetu (navpreet_4r@yahoo.com)
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All the postgraduates working in the hospital were administered a questionnaire. 72% of the respondents agreed with the statement that euthanasia is never ethically justified, and 28 % disagreed. 34% of the respondents thought euthanasia should be legal in some cases. 61% of the respondents would be unwilling to do so on moral grounds. 14% of the respondents have previously received requests for assisted suicide. 45% respondents were not sure what to prescribe for this purpose. The safeguard most favored was the requirement that the patient's family should be in accord with the decision

26. A COMPARATIVE STUDY ON AWARENESS, BELIEFS, PERCEPTION AND PRACTICES ABOUT MENSTRUAL HYGIENE BETWEEN RURAL AND URBAN HIGH SCHOOL GIRLS

Jayaprakash M and Suryakantha A H (manasijayaprakash@yahoo.com)

Dept. of Community Medicine, JJMMC, Davangere

A cross-sectional study was undertaken on students of rural and urban government high school girls in Davangere district, during July-September 2008, using a pre designed, pre tested questionnaire. Out of 117 rural and 132 urban high school girls who had attained menarche, only 42.7% in rural and 31.8% in urban were aware about menstruation prior to the onset of menarche. Mother was the main source of information in rural (64%) compared to urban (45.2%). Only 47% in rural and 27.3% in urban thought the menstruation process as normal. 52.1% from rural and 46.2% from urban said sanitary pad was the ideal absorbent. In practice, only 6.8% from rural and 29.6% from urban used sanitary pad ($p<0.05$). 4% in rural and 6% in urban area did not take a daily bath and in 12% and 6.9% of rural and urban girls respectively, the frequency of cleaning external genitalia was low or absent. More girls in rural area significantly practiced different restrictions compared to urban ($p<0.05$).

27. A STUDY OF ASSESSMENT OF FUTURE ACADEMIC CAREER AND SERVICE PLAN OF HOUSE SURGEONS

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Umesh Y Ramadurg, and Manjunath M (girish.b24@gmail.com)

Dept. of Community Medicine, Adichunchanagiri Institute of Medical Sciences, B G Nagara, Mandya Dist. Karnataka

A Cross Sectional Study was conducted on house surgeons of medical colleges and data were collected using pre-tested questionnaire. Out of 178 house surgeons, 177 (99.44%) house surgeons had plan for future academic career and service. 158 (88.76%) had plan for PG course and 19(10.67%) had plan for General Practice. 80(44.94%) had plan for super specialization and 84(47.10%) had plan for teaching in Medical Colleges. Majority of house surgeons 161(91.45%) have expressed to work in urban area and only 17(9.55%) had plan to work in Govt. Health Centres of rural areas.

28. PERSONAL HYGIENE AMONG PROFESSIONAL STUDENTS

Javed M (drjaved4ph@yahoo.com), MGU-MPH-Kottayam

One hundred girls & boys who were studying in various paramedical courses at School of Medical Education of Mahatma Gandhi University Gandhinagar, Kottayam, Kerala was assessed for their personal hygiene. The personal hygiene habit is more & good in female professional students in comparison of male professional students. The personal hygiene habit is more & good in professional students who belong to Nuclear family as compare to extended family.

29. A STUDY OF KNOWLEDGE, ATTITUDE, BEHAVIOUR AND PRACTICES FOR ESSENTIAL NEWBORN CARE IN WARDHA

Pravin Pisudde (drpravinpisudde@gmail.com)

The study was conducted in 8 blocks of Wardha district. Majority of mothers (65.8%) were in the age-group of 20-24 years. 4.4% mothers were illiterate and majority of them (60.7%) had education upto middle and secondary level. 85.6% were housewives. More than 82% deliveries were institutional deliveries and only 8% deliveries were attended by untrained person. DDK was used in 67.2% of home deliveries. Cleaning and wrapping the baby immediately after the birth was almost universal. But only 58.5% babies were initiated breastfeeding within one hour of birth. Skin to skin contact was given to 48.1% babies and 14% babies were given bath on the first day. The maximum number of female opinion leaders interviewed (41%) were women's of self help groups, followed by teachers (27%) and Gram-panchayat members. The literacy was 98 percent. The main occupation in which responding opinion leaders were engaged was agriculture related (43.6%), followed by service (32.2%). More than half of the opinion leaders reported that newborn baby should be breast fed within half an hour of birth. Nearly all of them (90.2%) accepted that the newborn should be given colostrums. However, only 18.3 percent accepted that baby should not be given water/honey etc. Only 13.2 percent knew that baby should not be given bath for seven days.

INTERNS & POSTGRADUATES

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Co-

Chairperson:Dr.D.M.Satpathy,Associate Professor of Community Medicine, MKCG
Medical College, Baharampur, Orissa

INTERNS

30. TO STUDY THE EFFECT OF SOCIO DEMOGRAPHIC DETERMINANTS ON THE HEALTH STATUS OF HIV POSITIVE OUTREACH WORKERS IN HIV/AIDS PREVENTION PROGRAMMES IN ANDHRA PRADESH

*Reema Preethi.D,Linlon Singh D,Sigi Swarna Latha D, M.L.Surya Prabha
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Interviews were conducted with outreach workers in the field by a closed ended questionnaire. Of 104 outreach workers 90% are females and 10 % are males. 60% of them had education till 10th standard and 40% pursued higher education.67% and 88% of outreach workers with education till 10th standard and education above 10th standard respectively regularly check their CD4 counts every 6 months. Of the outreach workers with CD4 counts less than 350, 16% belong to upper class, 41% belong to upper middle class, 33% belong to lower middle class and 8% belong to lower upper class.

31. A STUDY OF STRESS LEVELS IN BPO SECTOR EMPLOYEES

S.Kaushik and Jagadish C G (skaushik85@gmail.com), Department of Community Medicine, Vydehi Institute of Medical Sciences and Research Center, Bangalore - 560 066.

400 individual from BPO companies were randomly selected to assess their stress level. The questionnaires were distributed to the employees of the company and data was collected. The study showed that 35% of the employees experience stress during work as per David Fontana Stress Scale. The stress levels in males working in BPO's were statistically significant at $P < 0.05$ in comparison with the females. Out of 400, 54% of them were addicted to smoking, 25% to tea and coffee and 17% took a break as a means to combat stress at work place.

32. A STUDY ON MORBIDITY PATTERN AND GEOGRAPHICAL CLUSTERING OF CASES ADMITTED IN PES HOSPITAL, KUPPAM

Shantharam N, Sreenivasa Rao S, Vijay Anand RP, Kishore Kumar J, Srikanth S, and Mansoor Ahmed (profsram@rediffmail.com), PES Medical College, Kuppam, Andhra Pradesh

Analysis of records of in-patients of PES hospital between April 2007 and March 2008 was done. The morbidity pattern was analyzed using ICD -10 classification. A total of 15,139 patients (males 51% & females 49%) were admitted during the above period. Among them, 1060 (7.09%) had diabetes mellitus, 1058 (7.07%) had hypertension. The median age group of diabetes among males was found to be in 55-65 years group while among females, it was found to be in 45-55 years group. Similar trend was seen in hypertension among both the sexes. The catchment area of PES hospital was divided into 35 mandals. The proportion of diabetes and hypertension cases in each catchment area was analyzed and the geographical clustering of cases was studied with respect to latitude of these areas. The clustering of the diabetes & hypertension was found to be around 12° latitude. The clustering effect was observed in Vaniyambadi, Ambur, Gudiyatham, Thirupathur and Dharmapuri. An in-depth study is required to assess the impact of behavioral and ecological conditions of these places.

UNDERGRADUATES

33. STRATEGIES AND POLICY FOR MERCURY POLLUTION IN THE HOSPITAL ENVIRONMENT

Thejus T Jayakrishnan (ayanjeeja@yahoo.co.in) All India Institute of Medical Sciences, New Delhi

Cross sectional study was conducted at AIIMS hospital –Delhi during the year 2008 on nursing students who were selected by simple random method. Due to the unavailability of alternatives 65% always use mercury thermometer. 40% had experience of using digital thermometer. 60% were using BP apparatus of mercury Sphygmomanometer. Most have noticed breakage of thermometers and BP apparatuses. Most of the subjects were not aware of the methods and protocol for mercury waste management.

34. STUDY ON CLINICAL PROFILE OF DENGUE CASES IN TERTIARY CARE HOSPITAL, UDUPI DISTRICT DURING YEAR 2007

Indu Khare, Ashwini Kumar, Pawan kumar, Sanjay Pattanshetty, Sonia Krish, and Sreoshi Roy (indu_khare.dr2007@yahoo.co.in) Dept. of Community Medicine, Kasturba Medical College, Manipal, Karnataka

Records of all laboratory diagnosed dengue cases admitted in Kasurba hospital Manipal in the year 2007 were reviewed. Of 219 Dengue cases, 60.20% were males and 39.70% were females. Majority of the cases occurred in the month of September. Large number of cases were from Davangere district (39.48%). 45.66% of cases were between 15-44 year age group and 4.10% were of less than 5 years. 98.6% presented with fever, 51.9% with fever and chills and 26.9% with pain in abdomen. Type of cases were, 95.89% Dengue Fever, 2.28% DHF, 1.82% DSS. 37 cases had complications like 32.43% ARDS, 21.62% pleural effusion, 19.81% multi organ failure, 8.10% encephalopathy, 8.10% myocarditis, 5.40% pneumonia, 5.40% hepatitis, 2.70% pancreatic, 2.70% encephalopathy and ARDS, 2.70% renal failure. Recovery was seen in 99% cases, Death was reported in 2 cases (1%).

35. THE PROFILE OF TUBERCULOSIS PATIENTS TREATED UNDER DOTS STRATEGY IN UDUPI TALUK, KARNATAKA

Medhavi Honhar, Ashwini Kumar, Afrin Sagir, Ramachandra Bairy, and Pawan Kumar (medhavihonhar@yahoo.com) Dept. of Community Medicine, Kasturba Medical College, Manipal, Karnataka

Record based analysis of patients treated under DOTS strategy in Udupi taluk, during the year 2006 was done. Of 563 patients treated under the DOTS strategy, 74.6% were found to be new sputum smear positive for AFB. 53.82% were in the age group 15-44 years, 68.03% were males, 54.45% were of category I, 23.67% category II and 20.64% III treatment. 41.9% of cases were cured, 32.5% cases declared treatment-completed, 9.4% cases transferred out and 7.3% cases died. 4.6% cases were defaulters and 4.3% cases were declared failure.

36. PROFILE OF HIV/TB CASES IN UDUPI DISTRICT, KARNATAKA

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Records of District HIV Program during 1st January, 2008 to 30th June, 2008 revealed that out of 8397 patients screened for HIV, 642 were found to be positive of which 68.69% were males and 48.29% in 35-49 yrs. Of the 3169 women screened at the ante-natal clinics 0.66% was HIV positive. 304 cases suspected with TB were referred to RNTCP, of whom 27.30% were diagnosed as TB and 27.63% HIV positive. 22.89% TB patients were found to be HIV positive also. 63.16% among these HIV/TB cases were taking treatment under DOTS.

37. CLINICAL PROFILE OF TYPHOID CASES ADMITTED IN A TERTIARY CARE HOSPITAL IN UDUPI DISTRICT, KARNATAKA

Charmaine Samarasinghe, Vinay Pandit, Balasubramaniam, and Shirish Shetty
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Analysis of 98 case files of the laboratory diagnosed typhoid cases, admitted in Kasturba Hospital, Manipal in the year 2007 revealed that 70.4% were males and 52% were in the age group of 15 – 30. All of them had fever of varied duration, while vomiting was present in 28.6%, diarrhoea in 12.5% and the combination of vomiting, pain abdomen, anorexia in 12.5% cases. On clinical examination 41.8% cases were having splenomegaly, 34.7% with hepatomegaly and 19.4% cases had both hepatomegaly & splenomegaly. 73.5% were Widal positive and 39.8% were culture positive. Among the culture positives, all were sensitive to Aminoglycosides and Cephalosporins, while 94.8% were sensitive to Quinolones, 89.7% to Chloramphenicol and Sulpha drugs. All of them recovered at the time of discharge.

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VALEDICTORY FUNCTION OF THE 53rd ANNUAL CONFERENCE OF INDIAN PUBLIC HEALTH ASSOCIATION – 11th JANUARY, 2009



Valedictory function was held on 11th January 2009, at the Auditorium of the Kempegowda Institute of Medical Sciences, Bangalore. Dignitaries present on the dais were Dr. S.K. Roy, the guest of honour, Dr. V.M.Gupta, Dr. T.S.R. Sai, Dr. Madhumita Dobe, Dr. M.K. Sudarshan, Dr. B.G. Parasuramalu, Dr. D.H. Ashwath Narayana, Dr.N.R. Ramesh Masthi, Dr. H.S. Ravish, & Dr. N.S.N.Rao.

Dr. D.H. Ashwath Narayana welcomed all the dignitaries on the dais as well as the delegates and expressed his gratitude for all the efforts put by one and all for the success of the Conference and emphasised that but for the hard work of volunteers the Conference would not have been a success. He expressed his gratitude to all the speakers, Chair and Co-chair persons of different sessions and all the delegates who remained till the end of the Conference and present at the Valedictory function. He informed that the proceedings of the Conference would be brought out in book form as well as Compact disk.

Dr. B.G. Parasuramalu in his address expressed his admiration to Dr. M.K. Sudarshan, Dr. T.S.R. Sai and Dr. Madhumita Dobe for their support. He expressed his gratitude to IPHA Headquarters and all other State, National and International organizations, young volunteers and advertisers for the Souvenir and all the delegates who helped in the organization of the Conference. Dr. S.K. Ray expressed that the credit goes to Dr. M.K.Sudarshan for the successful organization of the conference. He mentioned about the support and efforts of IPHA headquarters for the cause of Public health in the Country. Dr. V.M.Gupta felt that Organisers and volunteers provided human touch for the Conference. He mentioned the role of Dr. S.K. Roy for taking the Association to great heights in spite of adverse situations when he took over and he told that Dr. Roy's name is synonymous with IPHA.

On behalf of the delegates, a speaker complimented the Organisers for the excellent performance. On behalf of Indian Railways, a delegate said that a private Medical college has shown a way to all other such colleges. He also said that Railways strives for the cause of Public health and it is the only department which reimburses to the staff, 90% of membership fees. On behalf of post graduate students, a delegate PG student thanking the organizer complimented for providing excellent knowledge to all of them through the continuing medical education programme and other scientific deliberations.

Dr. M.K.Sudarshan thanked all the volunteers for the basic support provided by them, thanked all the colleagues for their untiring efforts to make the Conference a grand success. He wished safe journey for all the delegates.

Dr. Madhmitha Dobe, on behalf of IPHA expressed all the delegates' safe journey home and wished for their presence in the next Conference. Dr. T.S.R.Sai praised the contribution of Dr. M.K. Sudarshan for steering the conference to success. He requested all delegates to give a standing ovation to him. KIMS has become a successful consultant for next conference organizers. Conferences are going over transition and the scientific contribution of scientific deliberations but this conference was an exception. Dr N.S.N. Rao mentioned that the task of bringing out the conference proceedings is entrusted to him & he bring out the proceedings with a soft copy hosted on website of IPHA & Dept. of Community Medicine, KIMS, Bangalore.

Dr N. R Ramesh Masthi thanked all the student volunteers. Dr. H.S. Ravish proposed the vote of thanks and expressed his deep sense of gratitude to all the dignitaries on the dais, the delegates, sponsors, volunteers and all others responsible for successful deliberations of the conference.

**53rd National Conference of IPHA
Pre Conference CME Programme - Day 1**



Dr. N. Devadasan & Dr. Sairu Philip
Chairperson & Co-chairperson of 1st session



Dr. Thomas Mathew & Dr. D.H. Ashwath Narayana
Chairperson & Co-chairperson of 2nd session



Dr. C.S. Pandav receiving memento from
Dr. TSR Sai, Chairperson of the 3rd Session



Dr. Raveendra HR Reddy receiving memento from
Dr. B. Mahadev, Chairperson of the 4th Session



Dr. Derek Lobo receiving memento from
Dr. M.K. Sudarshan, Chairperson of the 5th Session



Dr. M.S. Anandagiri receiving memento from
Dr. Narinder Sahota, Chairperson of the Session

53rd National Conference of IPHA - Day 1



Dr. C.S. Pandav, Chairperson of the Session handing over
Dr. B.C. Das Gupta Memorial Oration award
to Dr. F.U. Ahmed



Dr. Deoki Nandan, Chairperson of the Session
handing over *Dr. J.E. Park Memorial Oration award*
to Dr. B.C. Das



Dr. V. Chandrashekar & Dr. D.C.S. Reddy
Co-chairperson & Chairperson of the 1st session



Dr. R. Meera & Dr. V.M. Gupta
Co-chairperson & Chairperson of the 2nd session

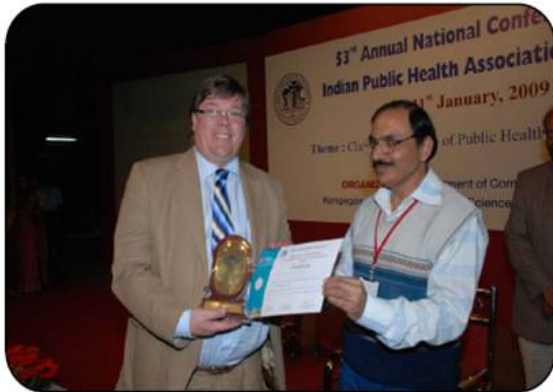


Dr. A P Dash, Dr. Madhu Ghimere &
Dr. Rajesh Bhatia speakers of the 3rd Session



Dr. K. Harish Kumar receiving memento from
Dr. G.K. Ingle, Chairperson of the 4th Session

53rd National Conference of IPHA - Day 1



Mr. Paul Jennings receiving memento from Dr. D.K. Taneja, Chairperson of the 5th Session



Dr Jai. P Narain, WHO-SEARO, New Delhi receiving the Honorary Fellowship of IPHA

53rd National Conference of IPHA - Day 2



Dr.V. Chandrasekar receiving Dr. K.N. Rao Memorial Oration award from Dr. Satish Kumar, Chairperson of the Session



Dr.Sanjay Zodpey receiving Dr. A.L. Saha Memorial Oration award from Dr. N.S.N. Rao, Chairperson of the Session



Dr. Bir Singh, Chairperson of the 6th Session handing over memento to Dr. (Mrs.) Sudha Balakrishna



Dr. Jai P. Narain, Chairperson of the 7th Session

53rd National Conference of IPHA - Day 2



Dr. R.K. Jain & Dr. Sampath K. Krishnan
Co-chairperson & Chairperson of 8th session



Dr. Vipul Shandilya receiving memento from
Dr. (Col.) A L Sharma, Chairperson of the 9th Session



Oral Free Paper Presentation



Poster session

53rd National Conference of IPHA - Day 3



Dr. Samir Das Gupta, Chairperson of the Session
handing over Dr. J.K. Sehgal Memorial Oration
award to Dr.P.L. Joshi



Dr. C. Nagaraj receiving memento from
Dr. Shyamal Biswas, Chairperson of the 10th Session

53rd National Conference of IPHA - Day 3



Dr. Suresh Nadakatti receiving memento from Dr. B.G. Parasuramalu, Chairperson of 11th Session



Dr. K. Karthikeyan receiving Dr. P.C. Sen Award (Best paper on Rural Health Practice)



Dr. Sree Karuna Murthy receiving Dr. S.D. Gaur Award (Best Paper on Environment Health)



Valedictory Session



View of Conference Hall



Organizing Committee members with office bearers of IPHA

53rd National Conference of IPHA



Help Desk



Catering Committee members



Accommodation & Transport Committee members



Reception Committee members



Entertainment Programme



Entertainment Programme

KIMS HOSPITAL & RESEARCH CENTRE

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