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EDITORIAL

IN SEARCH OF ADOLESCENT HEALTH CARE.....

The entire period of transition from childhood to adulthood is considered as "adolescence". Profound physiological and psychological changes take place during this period. In order to ensure a smooth transition, the adolescents need care and cure, guidance and encouragement, protection and independence. This critical period of transition is identified by a range of ages of 10-19 years (WHO). However, it is difficult to define adolescence in terms of uniform age range. For different purposes adolescents are considered by using different age related criteria. Lately, the girls in the age of 11-18 years have been included in the national adolescent girls scheme under ICDS. Again, the Factories act 1948 prohibits employment of children below age 14 years and declares persons between 15-18 years as adolescents.

A large variety of morbidities, such as nutritional deficiency disorders (IDD, stunting, wasting), menstrual disorders etc. prevail among adolescents. RTI/STI/HIV/AIDS have already appeared as serious problems. Teen-age pregnancies with complications, unsafe abortions etc. also exist considerably. Education on sex and sexuality is a dire necessity. However, along with this input the health, educational, social and legislative support measures towards preventing other problems should also be emphasised. Moreover, the complex psychosocial morbidities and high risk behaviour of adolescents have been

recognised as a threat to survival, growth and development. The clinicians, epidemiologists, social scientists etc have been intrigued by the multidimensional aetiologies and intricacies involved in causation of these psychosomatic and behavioural disorders. Problem solving skill and aptitude to reduce the health risks of the adolescents are largely lacking.

The adolescent health care has gained ground in our country since 1997 only, as a constituent of Reproductive & Child Health (RCH) programme. But adolescent health care seems to be merely a fringe activity and not a core activity in RCH programme. The essential components of mother and childcare have already gained familiarity due to their existence since long. However, importance of adolescent health care is still underrated and its significance is undermined presumably due to benign nature of their health problems and relatively less contribution to total death. However, stereotype conventional approach of services for adolescent boys and girls may suffer from under utilization.

The alternative approaches of adolescent health care also merit attention. The ongoing school health services as means of delivery of adolescent health care are seemingly perfunctory, because school health itself lacks priority and credibility and services are nearly non-existent. Schooling may be a desirable social behaviour of the adolescents. However, in order to join the labour force

and supplement the family income, school drop-outs and non-enrolment are common in rural areas, in urban area also. Adolescent girls, in developing countries in particular, are often considered to be adults even at the regular establishment of menstruation and thus tend to marry early. Their transition from childhood to adulthood is so quick that the notion of adolescence does not exist. Resultant increase in gap between literacy rates between girls and boys compel them for domestic and wage earning activities and early marriage and its consequent threats to life, both of mothers and the newborns.

Community approach of assessing adolescent problems and implementation of remedial measures should be well planned. The gigantic task of training and orienting caregivers of multiple agencies including training of teachers are ahead of us. Other national disease control programmes were easier, as they were comprised of more definite protocol and technique of interventions. But unlike the traditional disease control programme, the inputs for adolescent problems are different in nature, being largely educational, guidance-based and consisting of welfare measures. Adolescent problems constitute a bulk of morbidities, which are unrecognised and

uncared iceberg of disease burden. The psychiatrists, psychologists, clinicians including paediatricians and gynaecologists should have proactive role in designing and implementing and promoting an wide array of adolescent care in its true spirit.

Since major and serious health problems are related to psychological and behavioural problems, the term 'adolescent health care' appears to be a misnomer. Probably, a better alternative would be adolescent care, so that the intervention measures should also be judiciously addressed towards all sorts of scholastic and other developments, not merely attending their medical problems. The design of adolescent health programme should not mimic traditional, tailor-made and health product oriented (drug, vaccine etc) disease control programme.

Nevertheless, the dream of participatory planning of RCH Programme is more applicable and necessary for adolescent health problems. If adequately practised the impact of RCH Approach of MCH care will be rewarding for adolescent health care and will have a catalytic effect on health and other interventions as well.

Dr. Ranadeb Biswas

Editor

Dr. B.C. Dasgupta Memorial Oration
SOCIAL AUDITS FOR COMMUNITY ACTION -
EMPOWERING COMMUNITIES

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State Nutrition Resource Center, S.N. Medical College & Hospital, Agra

It is a proud privilege for me to be invited to deliver the prestigious Dr. B.C. Das Gupta Memorial Oration Address on the occasion of 48th Annual Conference of Indian Public Health Association. Dr. Das Gupta a legend in the field of Public Health is a role model for all of us. This oration is an opportunity for me to share with all of you the strategy, conceptualization and implementation of community based Maternal Child Health and Nutrition (MCHN) initiative and a first ever experience of initiating Social Audits for community action, of events and services, that have played an important role in initiating Behavior Change Communication and empowering the communities.

Background:

The overriding objective of social development is to improve the quality of lives that people lead, to enhance their well being, and to provide them with opportunities and choices to become the productive assets in society (National Population Policy, 2000). The community (both urban and rural) is faced with a number of health problems leading to high morbidity and mortality among women and children, which comprise highly vulnerable groups in the existing communities. The state of these vulnerable groups is dismal in Uttar Pradesh where Neonatal, Infant and Under five mortality rates are as high as 53.6, 86.7, and 122.5 per 1,000 live births.¹ Nutritional status of children is also very gloomy and percentage of children (under three years of age) underweight, stunted and wasted are 51.7%, 55.5% and 11.1% respectively. Besides, Maternal Mortality Ratio is highest (707 per 100,000 live births) and 49% women in the state are having some degree of anemia¹.

Since last many years both government and non-government agencies have been striving to improve the health status by increasing delivery of and access to services, micronutrient supplementation, growth monitoring promotion, food based approaches and

nutrition education. Since long we all have been giving emphasis on the medical causes underlying the disease and deaths and are planning the strategies accordingly. But in spite of the consistent efforts we have failed to meet the community satisfaction and their still exists wide gap between the demands and supplies. Underlying reason for this could be that all programmes are area based and they fail in actually reaching to the households and besides community is not realizing their needs, rights and responsibilities. This indicates towards undefined causes for this morbidity and mortality, which have not been explored or tackled as yet. It is the time when we all have to decide whether we will continue implementing ongoing strategies and wait for the best to come or shall further investigate and curb other causes.

Growing body of evidence is suggesting that four types of Social Delays which take place at the family/ community level itself are the major underlying causes in all cases of disease and deaths among women and children *viz.* (1) delay in recognition of seriousness of the problem at the family level; (2) delay in taking decision to seek appropriate care; (3) delay in arranging transport and (4) delay in receiving appropriate care at health facility. The ongoing programmes and strategies aim at delivery of services to the beneficiaries but fail to consider the first three delays that take place even before a case approaches the health facility.

Drawing insight from the above, calls for re-thinking and redefining the existing strategies for integrating community participation and empowerment in the program process and addressing the behaviour change framed within the social environment and in light of multiple levels of environmental influences that affect behaviour adoption and maintenance. Such an initiative will ensure that sustained solutions to community problems come from the community themselves.

Involving communities utilizing Behaviour Change Communication:

It has been repeatedly demonstrated that communities can make deep and lasting contributions to their own health and well-being and, through example and imitation, to the health and well being of other communities. Through this approach community individuals, groups or organizations can plan, carry out and evaluate activities on a participatory and sustained basis to improve their health and other needs, either on their own initiative or stimulated by others and thus, are enabled to increase control over and to improve their health³. To make the maternal and child health issue a community concern, support from within the community needs to be obtained. Role of each individual at the community level in the problem-solving process is very important as it allows for the do-able actions to be proposed regarding the actions to be taken.

Community empowerment suggests that community members participate in group dialogue & action and in-group efforts directed towards community targets thus enhancing their control and belief in their ability to change their own lives².

The movement of community development in India started way back in 1952, which embodied strong element of community participation and empowerment. Involvement of community as Change Agents has also been tried through in small-scale projects. Literature reveals that the 'peer-to-peer' concept offers a potentially less costly outreach model^{4, 5}. Several short-term community based training programmes for community influencers in the past have demonstrated positive results on effective dissemination of health messages. Nutrition Education imparted through peer counseling has resulted in improving infant feeding practices behaviours adopted by mothers and improved infant growth and in decreasing episodes of diarrhoeal illness.⁶⁻¹⁴

Achieving community mobilization i.e. deliberate, active participation of community members intended for collective action for their health promotion activities aims towards creating an enabling environment for community action is at heart for improving health status of individuals. This in turn leads to emergence of self governing institutions, which act as sustainable

organizations for cooperation, peace and development, helping people to enhance their receiving and utilizing capacity and also to work together for households and community initiatives. Community mobilization involves planned actions and processes to reach, influence and involve all relevant segments of society across all sectors and requires sustained participation of variety of stake holders.

The objective of community mobilization and community empowerment can be best achieved by utilization of Behaviour Change Communication, which is a spontaneously or deliberately designed communication for influencing attitude (i.e. outlook and way of thinking) and behaviour. The behaviour change model envisages unaware community members to informed/aware, concerned, knowledgeable and skilled, motivated to change, ready to change, undertaking trial change and finally to maintenance and adoption of new behaviour. Among the factors that influence behaviour change are enabling environment (policy, legislation, services, education, religion, economics, physical & organizational environment), ability to act (i.e. life skills), motivation, information (which is timely accessible and relevant), family, peer, community and self.

Behaviour Change Communication entails the components of IEC and Interpersonal Communication. Before developing any behaviour change programme for ensuring community participation it is essential to plan according to defined elements of this strategy *viz.* a) Community-centered planning; b) Research-guided decisions; c) Specific behavioral goals; d) Multi channel communication; e) Integrated programme components and f) Balanced supply and demand.

Integrating Social Audits for Community Action for Community Empowerment

Social Audit for Community Action is a novel approach for the appraisal of events (births, marriage, death and disease) and services by the community members themselves, and as a concept this ideology stems from the community empowerment model for empowering the community to be agents of their change. It is based on the philosophy that '*local problems have local solutions*'.

It is based on the fact that community members do not know regarding the first three social delays underlying mortality and morbidity, which take place at the family level and regarding who are the service providers? What are the services they provide? When do they provide these services and at what place these services can be availed? For meeting this gap it is essential that community members themselves learn and understand through participatory process and therewith bring change in their behaviour. Social Audit for community action aims to fulfill this objective.

Social Audit for Community Action utilizes Triple 'A' Approach i.e. Assessment, Analysis and Action at the community level. More specifically, through Social Audits the community members are stimulated to collectively 'Assess' the social causes of their problems (or social delays underlying mortality). These could be events (morbidity, mortality, marriages and births) and services (status, gaps and measures to correct them). Following such assessment the community 'Analyzes' the reasons for the above and is triggered to think in the direction of their responsibilities to their current situation and whether they feel they can improve it. Since they have assessed and analyzed their situation themselves the contemplation to intention for behaviour change requires less persuasion and the community decides and takes collective 'Action' towards prevention or filling the gaps for improving their own health. Since at each step community decides their problems and solutions, the empowerment model is 'theirs', solutions are theirs and resources are also theirs.

Such an effort can contribute to social development by helping people realize the needs, rights and responsibilities and triggering the need for change and collective action. It can also increase the accountability of health services, help in confidence building between each other and strengthen local action to promote the involvement of health and other sectors for health development.

Community based Maternal Child Health and Nutrition (MCHN) Initiative

The MCHN Initiative has been implemented in Agra (along with four other districts of Uttar Pradesh viz. Allahabad, Jhansi, Lucknow and Varanasi) in two selected rural community development blocks –

Bichpuri and Fatehpur Sikri by Department of Social and Preventive Medicine, S.N. Medical College, Agra also being recognized as State Nutrition Resource Center for community nutrition by financial support of UNICEF, Lucknow. This endeavor has been implemented as a multi sectoral multidimensional concerted effort, ingeniously being focused on decentralized participatory planning, and concerned with the strengthening of the existing linkage of Health Sector, Integrated Child Development Services (ICDS) and Panchayati Raj Institution (PRI) at block, village and community level.

The initiative is being implemented since year 2000 on the lines of defined objectives viz. Developing capacity of State based institutions; Promoting multi sectoral convergent approach for addressing malnutrition; establishing community based interventions and monitoring system and developing the capacity of village health and welfare committees (under PRI). Main focus in this venture has been on influencing behavioral care practices at community level with specific emphasis on 'at risk' families (newly weds, pregnant and lactating women, children less than 2 years and severely malnourished children less than 5 years); creating demand in the community for health and nutrition services and improving response to services.

The Department of Social and Preventive Medicine, S. N. Medical College, Agra has since long emphasized the complete involvement of the community as agents of change in the betterment of their well-being and has sought complete involvement of the community for effective health behaviour change. We have emphasized a shift from persuasion and the transmission of information from the outside technical experts to support for dialogue, debate and negotiation on issues that resonate with members of the community. In this regard Maternal Child Health & Nutrition (MCHN) Initiative, wherein community members from villages have come forward for sharing the responsibility of decision-making and taking collective action for behaviour change needs to be shared.

It has been found from the experiences that community in villages resides in different community clusters demarked on the basis of caste, religion or

socio-economic status. In every cluster there are already 2-3 socially active women who are well recognized in their respective clusters and who are respected and whose advice is sought at times of joy and sorrow. These women are potential influencers at cluster community level and can bridge the gap in reaching the households. These women know the pulse of their community and can be trained on issues related to maternal and child health and Nutrition. They can then influence families belonging to their caste community through behaviour change communication more effectively. This approach namely Cluster Community Approach has been utilized in MCHN initiative.

Following the conceptualization of District Action Plan through state level consultation meetings and district multisectoral orientation and planning workshop, the implementation underwent through following phases:

(a) Dividing the villages into community clusters

The two selected blocks were divided into four sectors according to the PHC areas and each such sector was further divided into sub-sectors each consisting of 3-4 subcentre areas. socio-cultural clusters were then identified within each of the village through PLA technique and using social mapping.

(b) Identification of socially active women

One socially active woman who knew the pulse of the community, who was having the capacity to instill confidence in the community, evoking community involvement and establishing credibility in the community, and who was willing to work voluntarily as a community mobilizer was identified over every 40-50 households of different clusters in the villages using PLA techniques with the community members. The list of selected women was also shared with health and ICDS functionaries and with the village *pradhan* for necessary changes and to seek their cooperation. Likewise a total of 831 such socially active women were identified as community mobilizers.

(c) Training

Initially the training of trainers was organized followed by sensitization meetings for village *pradhans* and ICDS functionaries. After this coordination committee meeting, block level training and sector level

training were organized for functionaries from health, ICDS sectors and Panchayat Raj Institution. Lastly community mobilizers identified were trained for 3 days 16 batches for each block on issues related to maternal child health and nutrition. The trainers in these training were from Health, ICDS and PRI. These women were given the name of *Bal Parivar Mitra* (which literally means friend of family & child), and are provided with bags and badges for ensuring their recognition in their respective community.

(d) Activities undertaken by *Bal Parivar Mitra*(BPM):

These BPM concentrated their activities on 'at risk' families and acted as information providers for promotion of specific behavioral changes at community level and creating demand and utilization for health and nutrition related services through counseling. Since the messages were disseminated came from a member of a community, integral and completely accepted, the message too was easily accepted.

(e) Follow up and establishment of Community based Monitoring System:

BPM's were followed up initially at the monthly basis and then after every 3 months for reviewing activities performed by them and for solving their problems. Pictorial MIS format was developed (which can be used even by illiterate village women) and are being used by BPM's for community based monitoring i.e. reporting the activities undertaken by them and events occurring in their clusters. These MIS formats are being filled by them on monthly basis and are collected from them during quarterly meetings, which are further computerized and analyzed.

(f) Initiating Social Audits for Community action for community empowerment utilizing Behaviour Change Communication:

Social Audits for community action have been initiated at community level as an unique and innovative approach of collecting data and process of enhancing skill and knowledge of community members. With social audits community members themselves assess their current problems, analyze and take collective action to solve their problems. It is a method of recording death of women and children and the possible reasons for death as perceived by the

community members. It also extends its arena by analyzing the causes and therewith their prevention.

Social audits for community action were initially conducted within the socio-cultural clusters in all the 152 villages of the two blocks with the participation of BPMs', other community members and Anganwadi worker using Triple -'A' Approach, therewith evaluating social delays underlying events such as death and disease along with evaluation of the available services. ANMs' wherever available also participated during these social audits. More than one social audit was conducted wherever the size of villages was larger.

The background issue for stimulating thinking was the assessment of causes of neonatal, infant and maternal deaths that have occurred during the last one-year. Thereafter further stimulation was provided as to assess which social delays were the causes of the deaths (i) delay in recognition of the seriousness of the problem, ii) delay in taking decision to seek appropriate care, iii) delay in arranging transport/ money or iv) delay in seeking treatment at health facility.

Table 1: Results of Social Audits for community action

Total population of two blocks (152 villages/hamlets)	2,62,593
Total number of live births	7745
Total number of still births	77
Total number of under five deaths	739
❖ Total neonatal deaths	278
❖ Total deaths in 1 month to 1 year	272
❖ Total deaths in 1 to 5 years	189
Infant mortality rate	71
Total number of maternal deaths	38
Maternal mortality rate (per 1000 live births)	4.9

Table 2: five major causes of deaths among children under 5 years

(as revealed from social audits on the basis of signs and symptoms)

Medical cause	Male	Female	Total
Neonatal deaths			
Low birth weight	9.60%	7.95%	17.55%
Pre maturity	7.62%	8.28%	15.9%
Hypothermia	6.95%	6.63%	13.58%
Birth asphyxia	5.30%	3.64%	8.94%
Pneumonia	4.97%	4.97%	9.94%
Deaths among children 1 month to 1 year			
Diarrhoea	9.20%	15.33%	24.53%
Severe malnutrition	7.28%	14.56%	21.84%
Pneumonia	6.90%	8.81%	15.71%
Cholera	3.45%	3.83%	7.28%
High grade fever	3.45%	3.45%	6.90%
Deaths among children between 1 to 5 years			
Diarrhoea	9.14%	9.14%	18.28%
Severe malnutrition	6.45%	11.83%	18.28%
Measles	4.30%	8.60%	12.90%
Accidents	4.30%	5.91%	10.21%
Pneumonia	3.76%	4.30%	8.06%

Table 3: Social delays of under-five mortality

Social Delays	Causes (multiple responses)		
	Neonatal (1-12 months)	Children (1-5 Yrs.)	Children (1-5 Yrs.)
Delay in recognition of seriousness of the problem	136 (45.0)	177 (67.8)	104 (55.9)
Delay in taking decision to seek appropriate care	110 (36.4)	155 (59.4)	89 (47.8)
Delay in arranging transport for reaching health facility	9 (2.9)	6 (2.3)	9 (4.8)
Delay in receiving care at the health facility	4 (1.3)	4 (1.5)	2 (1.0)

Figure in parentheses indicates percentages

Since the community has themselves assessed the causes of deaths, their assessment have then formed

the basis of discussion towards changing behaviour and to 'take collective action' for finding out the solutions for preventing the deaths and diseases further. As a consequence of this, the BPMs' started intensive counseling on how to recognize the danger signs during complications, re-emphasized the importance of weighing and care during pregnancy to avoid low birth weight babies and severe malnutrition etc and thus initiated behaviour change communication at cluster community level.

Following the assessment of social causes of maternal and child morbidity and mortality, community members have started analyzing the causes and action to prevent them. They have started undertaking discussions with functionaries of health, ICDS and PRI and with the elected representatives. This have further improved the service delivery as a result of demand generation for the health related services by the community. Now RCH sessions have also been

organized at village level with full participation of community. Village Health and Family Welfare Committee of PRI which was almost non-functional a few years back have now started working for community health upliftment activities. People have also started approaching Primary Health Centers for receiving health services in stead of visiting Block Development Officer.

(g) Results after three years of implementation:

After three years of implementation, repeat assessment survey was done in 1037 randomly selected households in implementation areas to compare the findings with those of baseline assessment conducted over 4526 households. Initiation of social audits for community action have definitely played important role in empowering communities through behaviour change communication. The results establish beyond doubt the success of the strategy.

Figure 1: Changes in prevalence of under nutrition after three years of intervention

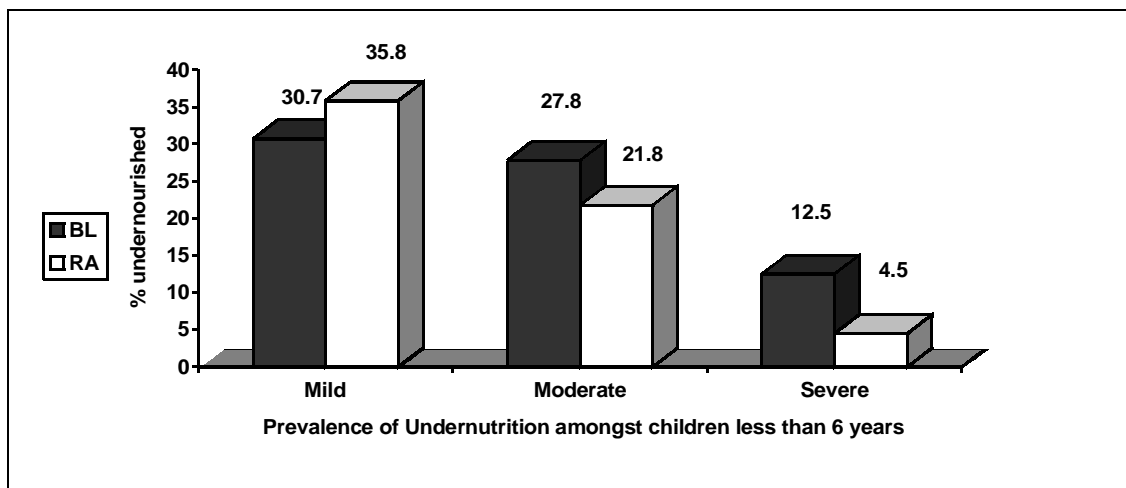
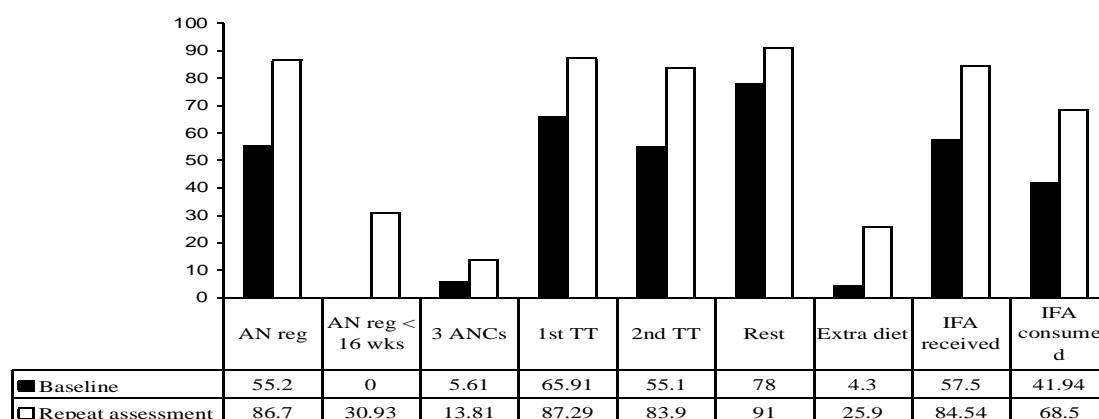


Figure 2: A comparison of Maternal Health Status after three years of implementation

AN= Antenatal; Reg = registration

Table 4 : comparative findings of baseline and repeat assessment for maternal health

Indicator	Base line assessment(%)	Repeat assessment(%)
Antenatal registration	55.25	86.74
Registration in first 16 weeks	-	30.93
At least 3 antenatal visits	5.61	13.81
No antenatal visits	68	34.80
TT vaccination (first dose)	65.91	87.29
TT vaccination (second dose)	55.11	83.97
Drop out 1 st and 2 nd TT	16.38	3.79
Rest during daytime	78.26	91.16
Extra diet during pregnancy	4.34	25.97
Lack of knowledge for extra diet	49.08	30.39
Restriction by elders for extra diet	7.43	8.29
IFA tablets received	57.51	84.54
IFA tablets consumed	41.94	68.51
❖ Consumed > 3 months	0.70	11.60
❖ Consumed 2-3 months	0.14	16.57

❖ Consumed < 2 months 41.07 40.32

Table 5 : comparative findings of baseline and repeat assessment for child health

Indicator	Base line assessment(%)	Repeat assessment(%)
Weighing within 24 hours of birth	15.42	39.22
Birth weight - > 2.5 kg	53.63	61.97
< 2.5 kg	46.36	19.71
Registration of the newborn	39.70	75.14
Colostrum to the newborn	27.34	81.19
Initiation of breast feeding within 3 hours	11.36	54.69
Child not given anything before initiating BF	5.89	48.06
Exclusive breast feeding - Perception	1.26	23.75
Practice	0.84	18.23
Complementary feeding < 6 months	3.87	71.73
6 - 9 months	95.68	28.27
Adding ghee/oil to child's feed	2.15	29.35
Reasons for not adding ghee/oil		
❖Lack of knowledge	46.9	14.13
❖Elder members refusal	84.74	13.04

❖Poor financial condition	12.93	3.26
BCG	45.39	82.18
DPT III	18.93	67.17
OPV III	16.73	67.93
Measles	12.90	42.23
Vitamin A	3.95	21.88
Fully immunized < 12 months (based on measles vaccine)	-	18.55
Availability of ORS packets	9.75	32.67
ORS packets at AWC	3.20	21.78
Feeding during diarrhoea episode	75.39	97.13
Increasing feed during diarrhoea	11.59	20.92
Use of home available fluids during diarrhoea	13.08	20.34
Use of ORS during diarrhoea	14.22	17.76
Feeding during acute respiratory infection episode	57.69	96.85
Prevalence of severe malnutrition	12.51	4.54
Moderate malnutrition	27.85	21.81
Mild malnutrition	30.74	35.80
Normal nourished children (< 6 years)	28.89	37.82

Conclusion:

To conclude, I would wish to stress that the success of the Maternal Child Health & Nutrition (MCHN) initiative undoubtedly suggest that the sustainability of social change is more likely if individuals and communities which are most affected participate in the process, own the process of communication and be owners of their own change. And it can also be emphasized here that Social Audits for Community Action is replicable and can be an important tool for community empowerment and for initiating behaviour change communication at the community level. Further on positive implications can take shape in the form of social marketing of health products such as IFA tablets, ORS packets, Iodine testing kits, Water testing kits etc.; for improving birth registration and routine immunization coverage. Such activities can also be a

teaching and learning ground for undergraduate medical students and post graduate students of Social & Preventive Medicine.

'Long live IPHA'

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Dr. S.C. Seal Memorial Oration

**STRENGTHEN EPIDEMIOLOGICAL SURVEILLANCE:
THE BACKBONE OF PUBLIC HEALTH**

Prof. Rajesh Kumar

At the outset I would like to express my gratitude to IPHA for awarding me Dr. S. C. Seal Memorial Oration. I feel I am fortunate, as this oration has provided me an opportunity to commemorate Dr. Seal whose life and work is a source of inspiration to all of us. Though I never got a chance to see him in person but I often felt a strong sense of association with him while going through his publications. His excellent research work particularly the work on Comprehensive Health Examination Surveys left a deep imprint on me during my student days. Recently while dealing with a plague outbreak, I happen to read his book on Plague, which I think is a masterpiece on the subject. Dr. Seal had done excellent original research work on epidemiology of plague. His work suggests that Epidemiological Surveillance has been instrumental in controlling plague in India. A disease that had taken toll of 13 million lives in India has ceased to be a public health problem.

Surveillance was used as early as in 1300s, when Public Health Authorities in the Republic of Venice, prevented passengers from coming ashore during the time of plague epidemic in Europe. In 1532, Mortality Surveillance was initiated in London as a consequence of the fear of a plague epidemic. However, reemergence of Plague in Surat during 1994 caught us unaware, as unfortunately surveillance activity had been abandoned. It is ironic that a disease, which had been historically instrumental in development of the science and art of epidemiological surveillance, once again reminded us the importance of surveillance. As a result National Surveillance Programme for Communicable Diseases was launched in India.

Improved surveillance in Nehru Hospital of PGIMER, Chandigarh helped us in the early detection of an outbreak of plague in Hatkoti village of Himachal Pradesh. Existence of Multidisciplinary Rapid Response Teams in PGI, the Union Territory of Chandigarh, Himachal, Uttranchal, Haryana and Punjab states, helped in taking immediate control actions and the outbreak could not spread beyond the affected area. The chain of transmission was broken quickly by

isolating 32 cases, and by enforcing quarantine of contacts. Unlike Surat, this outbreak was successfully contained within two weeks using the principles of epidemiological surveillance, which guided the control efforts.

Continued watchfulness over the distribution and trends of the incidence, through the collection, evaluation and use of morbidity and mortality data should be an integral part of a good public health surveillance system not only to identify public health needs for planning but also for implementation of action plans and for assessment of the disease control programmes. William Farr, the founder of modern concept of surveillance, not only collected, analyzed and interpreted the vital statistics of London but disseminated it in weekly, monthly, and quarterly reports. He did not limit himself to publication of official reports but contributed papers to medical journal and even used public press to achieve effective action. Thus in the spirit of a public health activist he saw to it that action was taken on the basis of surveillance. In 1850s, John Snow a physician made use of the death statistics reported by William Farr in London. On the basis of the addresses of the deceased and the water supply used by the family of the deceased, he postulated that Cholera was transmitted by water; it was much later that the bacteria responsible for cholera was discovered.

However, in most developing countries including India due to various reasons surveillance systems have not developed to the desired extent. Information generated by the health workers and hospitals remains grossly incomplete or is unreliable, limiting its utilization. It leads to de-motivation in data collection and analysis. Several examples have shown that routine data collection can be improved provided the data are utilized for action.

Following the example of Britain, various countries started registration of births and deaths. In some areas of India registration of deaths and births was started in later half of 19th century. However, at

that time registration was kept voluntary. The enactment of the Registration of Births and Deaths Act, 1969 made registration compulsory throughout India. In what way registration of birth and death benefits the person, family or the community? Not only common people, but some time even those involved in registration activity, i.e. nurses and doctors ask these questions. Unless they understand the purpose and the benefits of registration, it may not be possible to ensure complete registration of all the events. Initially main purpose of collection of information on deaths and cause death was to find out the cause of epidemics. Sanitary Commissioner, Government of India in 1869 observed "For sanitary purpose it is indispensable to know the relative mortality in small and, as far as possible, well defined tracts, to ascertain the death rates in each of these communities-, to see how far this arise from preventable causes, and to apply the remedies..." Royal Commission on Labour (1938) lamented "Although more than one attempt was made to give us statistics for groups of Industrial Workers, none of these gave picture sufficiently accurate to demonstrate any relation between industrial activity and increased death rates. This is not a matter of surprise when it is remembered that, even in large towns, few sick persons see a doctor and certification of death is a matter of guess work".

Even after a century the Civil Registration System is not able to register all births and deaths in India. Overall registration is about 46%. Medically certified causes of deaths are recorded in even lesser number of deaths. Due to grossly incomplete registration and or reporting and delayed compilation and publication of reports the data could not be effectively utilized either for detection of epidemics or for planning and evaluation. Civil registration system has become a legal instrument rather than a planning, action and evaluation tool. One of the Sanitary Commissioners lamented "...the people had started adducting entries in the registers of birth and deaths as evidence in courts. It is perhaps the beginning of the realization of legal as against the statistical needs of registration of births and deaths".

As Civil Registration System could not fulfill its major task for providing reliable fertility and mortality statistics, stopgap arrangements were made in the form of collecting information from a sample of urban and rural areas through Sample Registration System (SRS). Although the SRS has fulfilled to some extent the requirement of statistics for planning and monitoring but it provides rates at national and state level only.

As large variations in socio-developmental indicators exists within the states, this data is not very useful for planning and monitoring at district, *tehsil* and block level. Moreover, absence of causes of deaths on representative sample has been a major limitation of SRS.

In the absence of routine data on mortality and morbidity, rapid surveys have been employed to supplement the routine reports. Additional resources are often employed to generate data for planning or monitoring purposes. Rapid surveys had to be conducted repeatedly in Ambala District of Haryana state to evaluate the effect of a MCH package of services on child and maternal survival. For estimation of more common events such as infant deaths, diarrhoea, pneumonia etc. these surveys don't cost much and can be conducted within a short time span by employing non-medical field workers. However, estimation of events such as maternal deaths is problematic, as large sample needs to be surveyed.

We tried to estimate maternal mortality in district Ambala. All villages in the district had to be surveyed at cost of about Rs 50000 to gather information on 55 maternal deaths. Even this cost is prohibitive if one is to replicate this all over the country and repeat the surveys at regular interval to estimate the effect of Safe Motherhood Initiative. Therefore, participatory approach involving village based workers, such as *Aanganwadi Workers* and *Sanjivanis* was helpful in reducing the cost of survey still further in Mohindergarh district of Haryana' wherein village based workers reported all deaths among women of reproductive age and field workers conducted Verbal Autopsy to identify maternal deaths. Continuous generation of this type of data requires establishment of surveillance within the health system by health workers and medical officers. Such a system was tried in five blocks of Himachal Pradesh but only 70% of the births, 60% of the neonatal and 50% of the maternal deaths could be reported. Therefore, village based workers such AWWs or CHVs are the most suitable for surveillance of easily recognizable events. A community health volunteer registered all deaths in 10 villages of Raipur Rani Block and interviewed the relative of the deceased to inquire the circumstances before death and reported a narration of the signs and symptoms in chronological order. On the basis of his verbal autopsy report a physician could assign a probable cause of death in about 87% of the deaths. We were surprised to find that in this rural community of Haryana, cardiovascular diseases have over taken the infectious diseases. In

the absence of cause of death statistics it is difficult to confirm such health transitions.

It is heartening to note that after lot of discussion Registrar General of India has agreed to conduct verbal autopsy of all deaths reported in the sample registration system which covers a sample of 6 million persons in about 7000 sampling units. For the first time probable causes of deaths will be available for a representative sample of about 50,000 deaths in India every year. This system will also provide maternal mortality rate year after year which will help in monitoring safe motherhood initiatives in the country. Initial results of this effort suggest that cause of deaths estimation by verbal autopsy is feasible, as in 85% of verbal autopsy reports a cause of death could be assigned. However, due to limitation of sample size, SRS will not be able to provide cause of death distributions for individual states. Only strengthened Civil Registration System can provide vital events data at village, block and district level for local planning and monitoring. Using verbal autopsy instruments in this system can also generate relevant cause of death statistics. As the need for decentralized planning has been felt and Panchayati Raj Institutions are being strengthened, the importance of monitoring programmes at local level will be felt soon. This felt need can only be met by strengthening CRS. Any amount of repeated sample surveys won't be of much use except spending money unnecessarily. Therefore, a decision has to be made for revitalization of CRS so that reliable birth and death statistics is generated and utilized for ensuring accountability. A reliable CRS can help in monitoring the changing importance of particular diseases. Timely and accurate data are essential to public health surveillance efforts that monitor trend in vital events, diseases, injuries and disabilities; in establishing disease control priorities-, encouraging researchers to develop and test appropriate interventions; and can inform public policy and encourage accountability. Not only that but accurate information such as number of people dying due to accidents and tobacco related disease may motivate people to change their behavior.

Beside mortality and cause of death, monitoring of chronic morbidities over time is also needed particularly when India has started experiencing the health transition from communicable to non-comm

unicable diseases. Not only morbidity but surveillance system should also track trends in risk factors. A National Health Interview and Examination Survey can be integrated with National Nutrition Monitoring Bureau (NNMB) or SRS to generate time trends in chronic diseases and their risk factors.

A large number of health institutions now-a-days function in private sector, therefore an integrated system involving public and private should be established to detect time and place clustering of not only infectious diseases but non-infectious diseases, risk factors, environments, and nutrition status of people. Recording of morbidities from the OPDs and IPDs of hospitals, health centers, and clinics and causes of death statistics from SRS has been used to arrive at a composite health indicator, i.e., disability adjusted life years in Himachal Pradesh for planning and evaluation of health care programmes. A strengthened surveillance of morbidity and mortality in the country is required to compute such statistics.

I think establishment of a well functioning surveillance system would the finest tribute to Dr. S. C. Seal who demonstrated that such a system could give tremendous data for planning and monitoring. Investigation of recent outbreaks of JE in Haryana and cholera in Chandigarh suggest that recording and timely reporting can help not only in detection of outbreaks but for taking rapid actions which are essential for preventing un-necessary deaths.

Measuring public health status routinely and using this information for advocating public health actions so as to reduce health inequality among humans is a cherished goal of all the public health workers all over the world. An epidemiological surveillance system is the backbone of public health. Let all of us dedicate ourselves to achieve this goal, a beginning made now will serve future generations. It took about 100 years to set up a reasonably good surveillance system in developed countries, we can leap frog and achieve it in much shorter time, as superior information technology is available now. The experience of National Polio Surveillance Project and HIV sentinel surveillance are examples, which show that surveillance systems can be set up if there is administrative will and enough resources are made available.



Dr. A. L. Saha Memorial Oration
EPIDEMIOLOGICAL ASPECTS OF
COMMUNICABLE DISEASES

Prof. (Dr.) B. C. Das

Director, S.I.H. & F.W, Orissa, Bhubaneswar.

Human health has improved more over the past half century than over the previous three millennia. This is a stunning achievement never to be repeated and, it is to be hoped, irreversible.

Today the world stands on the threshold of a new era in which hundreds of millions of people will be remaining protected from some of the most terrible devastating and disabling diseases. Very soon in the near future poliomyelitis, neo-natal tetanus, leprosy, guinea worm disease, river blindness, chogos diseases will pass into oblivion as disease of the past.

On the other hand, as per the recent world health report the whole world stands on the brink of a global crisis in infectious diseases. A dark cloud, in the form of emerging and reemerging infectious diseases, threatens to blot out the sun from this landscape. Today the infectious diseases are not only a health issue. They have become a social problem with a tremendous consequences for the well being of the individual, community and the world we live in.

- Some infectious diseases once thought to be all but conquered have returned with a vengeance.
- Others have developed stubborn resistance to antibiotic drugs.
- Vector born diseases show increased insecticide resistance.
- New and previously unknown diseases continue to emerge.
- Together these trends amount to a crisis for today and a challenge for the future.

The factors responsible for emergency and re-emergence of infectious diseases are:

1. Unplanned and under planned urbanization.
2. Overcrowding and rapid population growth
3. Poor sanitation
4. Inadequate Public Health Infrastructure
5. Resistance to anti-biotics
6. Resistance to insecticides
7. Increased exposure of human beings to disease vectors and reservoir of infectious in nature.
8. Rapid and intense international travel

Emerging Diseases

- During the last two decades at least 30(thirty) new diseases have emerged.
- For many of these diseases there is no treatment, cure or vaccine.
- Hence the scope for their control and prevention is very much limited.

What are the Emerging Diseases ?

- Those diseases who incidents have increased in human being during the last twenty years or which threaten to increase in the near future. This also includes diseases spreading to the virgin geographical areas. Cholera in South America and Yellow Fever in Kenya.
- AIDS - Global pandemic.
- Ebola Hemorrhagic fever - Africa, Asia, USA.

- Huntavirus Pulmonary Syndrome - USA with a 50 (fifty) percent case fatality rate.
- Epidemics of food borne and water borne diseases due to new organisms or new strains - Cryptosporidium, Esch.Coli (O157 : H7 strain)
- New strain of Cholera (O139) - South East Asia.
- New Global influenza pandemic.

Re-emerging Communicable Diseases

The diseases which were previously easily controlled by chemotherapy and antibiotics, but now they have developed antimicrobial resistance and are often appearing in epidemic form.

- Emergence of drug-resistant strains.
- Changes in lifestyle, behaviour (including injecting and non-injecting drug use)
- Extensive travel/Mobility.
- Risky practices in modern medicine dialysis, blood transfusion.
- Relaxation and complacency in immunization practices.
- New animal diseases (mad cow disease)
- Incurable creutzfeldt - Jacob disease.

National Health has become an International Challenge

- Malaria - shows a rolling back.
- TB - drug resistance a great hindrance.
- Drug resistance is also encountered
- Enterococci
- Streptococci
- Neisseria gonorrhoea
- Shigella dysenteriae
- Salmonella typhi
- Hospital Acquired Infections need special attention

Responding to Epidemics

The process of response includes:-

- Confirmation of disease
- Investigation to know to source
- Implementation of control and preventive measures
- Epidemic preparedness, response and Public Health Surveillance.

Controlling the re-emerging diseases

- Through cost-effective interventions
- Early diagnosis and prompt treatments
- Integrated vector control measures - malaria
- DOTS-TB
- Strengthening the epidemiological surveillance and Drug-Resistance surveillance
- Research initiatives - Newer drugs, vaccines, diagnostics

Multidisciplinary integrated approach is the urgent need of the day

Special Group - Special Attention

- Every year nearly 11 million children die from preventable causes before reaching their fifth birthday. Many of them during the first year of life.
- Millions more survive only to face diminished lives, unable to develop to their full potential.
- This terrible toll in human suffering and forgone prosperity can be vastly reduced.
- 3/4th of all child visits health facilities for medical care and 7 out of 10 childhood deaths result from just five causes - Pneumonia, Diarrhoea, Measles, Malaria and Malnutrition.
- The knowledge to prevent and treat these causes exists.

***ONLY PRUDENT APPLICATION IS
VERY MUCH NEEDED***



P.C. Sen Memorial best paper award on rural health practice:
A STUDY ON VISUAL ACUITY AND VITAMIN A DEFICIENCY
AMONG PRIMARY SCHOOL STUDENTS IN NAXALBARI
VILLAGE, DARJEELING DISTRICT OF WEST BENGAL

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Summary

331 primary school students studying from Nursery classes to Class IV in 2 randomly selected schools in Naxalbari Village in Darjeeling district of West Bengal were tested for visual acuity (VA), Vitamin A deficiency (VAD) and Bitot's spot. 329 students could be tested for visual acuity whereas all 331 students were tested for VAD and Bitot's spot. The prevalence of abnormal Visual Acuity (VA) (VA <6/9 in any eye) in this study group was 3.65% and it was highest in 7 - 8 years age group in both the sexes contributing to 75% of the total students having abnormal VA. All these children fell within 50th percentile of weight and height for their respective age and sex. Hindu & ST children accounted for 91.67% & 50% abnormal VA respectively; however, when presence of abnormal VA was compared with its absence between 2 sexes, Hindu and Muslim students and in different castes, no statistically significant differences were found ($p > .05$). Students of Class-I and Class-II contributed 25% and 50% respectively and together accounted for 75% of abnormal VA. Prevalence of VAD was 8.16%. Among sufferers of VAD Hindus (81.48%) and ST (51.85%) were the main contributors; the differences between presence and absence of VAD in 2 sexes, among 3 religious groups were not statistically significant ($p > .05$); however, differences among ST and NonSCST groups, and again SC, ST and Non-SCST groups were statistically significant ($p < .05$). Prevalence of Bitot's spot was 3.63%. Among the students having Bitot's spot, females (58.33%) outnumber the males (41.67%); but the difference between presence and absence of Bitot's spot in 2 sexes was not statistically significant ($p > .05$). 83.33% each of Hindus and STs had Bitot's spot. No SC and no Muslim student had this spot; the differences between presence and absence of Bitot's spot between Hindu and Christian students were statistically significant ($p < .01$); similarly when the findings were considered between ST and NonSCST students the difference was found to be statistically highly significant ($p < .001$).

Key Words: Visual Acuity, Weight and Height in percentiles, Vitamin A Deficiency (VAD), Bitot's spot.

Introduction

In the National Programme for Control of Blindness (NPCB) in India, vision screening programme in schools has been given importance as poor vision in childhood affects scholastic performance with negative impact in their future life¹. Most infants are hypermetropic from birth. Some of them will remain

hypermetropic failing to reach emmetropia and some will become myopic; the refractive changes usually appear between 5 -10 years of age² – an age group scheduled for primary education. In the vision screening programme in schools in India, children who can read the 6/9 line in Snellen's chart are labeled as normal and those who cannot read this line with any eye are considered as abnormal and sent to the

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Ophthalmic Assistant at Community Health Centre (CHC) or its equivalent health establishment for refraction^{3,4}. However, in Aligarh study 13.2% children aged 4 - 12 years were found to have a vision less than 6/6 in one or both the eyes⁵. The children suffering from poor vision often do not understand it. They can only feel that they lag behind their peer group in study and thereby gradually develop 'lack of interest in studies'. This often makes many children repulsive towards schooling leading to school dropouts⁶. One of the Millennium Development Goals as pledged by UN member states to achieve by 2015 is to attain Universal Primary Education with priority for providing quality education⁷. This part has already been taken up by Government of India and State Governments. But if some children are not having the normal vision then Universal Primary Education for all children cannot be achieved. Another problem is night blindness and conjunctival xerosis - the signs of Vitamin A deficiency (VAD). Bitot's spot has been considered as a prevalence criterion for determining the xerophthalmia problem from 6 months to 6 years of age by W.H.O.; however in older individuals these spots are often inactive sequelae of earlier disease of VAD⁸. So Bitot's spot had been considered separately in the present study. In these circumstances the present study was conducted among primary school children with the following objectives:

- (1) To assess the prevalence of abnormal visual acuity among these children
- (2) To find out any relationship between abnormal visual acuity with nutritional status, religion and caste
- (3) To find out the prevalence of VAD and Bitot's spot in these students and their relationships with different religions and castes

Materials and Methods

This study was an observational and cross-sectional study and was carried out in the Naxalbari village of Naxalbari Block in the Darjeeling district of West Bengal attached to North Bengal Medical College under the ROME programme. It is situated 22 kms. away from NBMC. In the study area there were 10 schools including Secondary schools having separate primary section running classes from Nursery, KG-I, KG-II and Class-I to Class-IV. From these 10 primary

schools 2 (20%) were selected by Simple Random Sampling method. One was primary section of Naxalbari Hindi High school and another was Khalpara Primary school. In these 2 primary schools there were 371 students. However among 371 students 331 students aged 3-12 years (Naxalbari Hindi High School 129 students and in Khalpara Primary School 202 students) could be examined. Forty students were absent during the days of examination. Every student was examined for once only by the faculty members of the Dept. of Community medicine. The children mainly belonged to the families of tea garden workers. The family income ranged from Rs. 750 - 1500 /- per month as was communicated by the school teachers. Average number of members in each family was $4.96 \approx 5$. So these children belonged to families of poor socio-economic strata. Weight of the children was recorded in Kilogram with the help of a weighing machine after '0' adjustment each time prior to allowing each child to stand on the machine. Height of the children was also recorded with the help of a steel made measuring tape. Weight and height were recorded to assess the nutritional status of the children. Weight and height were considered in percentile⁹. Conventionally normal range of variation in observations is taken between 3 rd. and 97th. percentile curves or mean ± 2 S.D.⁹. Each eye of every child was tested separately for Visual Acuity in the verandah of the school in day light by asking him / her to stand on a line demarcated with the help of a measuring tape 6 metres away from the Snellen's E-optotype chart. Each child was first explained the Snellen's E optotype chart with the direction at which the hands were open and how would he/she respond by his / her fingers showing the direction at which the hands of the E-optotype were opening. For VAD history of night blindness and sign of conjunctival xerosis were considered. Eyes of the students were also examined for the presence of any Bitot's spot. Eyes were tested with the help of a torch to find out the conjunctival xerosis and Bitot's spot. Data were collected in a pre-designed and pre-tested proforma; then they were compiled and statistical analysis was done, Chi-square (χ^2) test was applied as test of significance.

Result

Among 331 students examined religion wise break-up showed that Hindus, Muslims and Christians

were 281 (84.89%), 44 (13.29%) and 6 (1.81%) respectively. No student belonged to Sikh or Buddhist religion.

Scheduled Caste (SC) and Scheduled Tribe (ST) children were 18 (5.44%) and 103 (31.12%) respectively. Rest 210 (63.44%) belonged to Non-SC ST group.

In the age group of 7 - 8 years, female students were more than male ones but in other age groups the males exceeded the females and in the 3 -4 years group no female student was there. Moreover, the distribution showed that there were gradual rise in number of students from 3 - 4 years to 7 - 8 years and then there were fall in both the sexes. In females, this fall was more than males after 10 years of age; probably the guardians were reluctant to send their girls to school further. Females started cocooning from this age! (Table-I)

In the 5 - 6 years age group 2 children (1 Muslim male & 1 Hindu Non-SCST female) could not understand the Snellen's E optotype chart. Their Visual acuity could not be tested. So n became 329. Seven male (2.13%) and 5 female (1.52%) children could not read the 6/9 line; so these 12 (3.65%) children were having abnormal vision. In 7 - 8 years age groups in both the sexes children with the abnormal visual acuity were highest; 5 males and 4 females in this age group were contributing to 9 (75%) among 12 having abnormal vision in all the age groups. No statistically significant difference was found in two sexes ($\chi^2=0.09$, d.f.I, $p>.05$) (Table-II).

Five male students (41.67 %) and 4 female ones (33.33 %) in 7 - 8 years age group had abnormal visual acuity (VA). Two males (16.67%) and 1 female (8.33%) in 7 - 8 years age group were undernourished being in < 3rd percentile by weight. Rest 2 males and 1 female were in 3rd - 50th percentile weight group (-2SD from mean). So all the children having VA < 6/9 fell within 50th percentile weight group (Table-III).

Five male students (41.67 %) and 4 female ones (33.33 %) in 7 — 8 years age group had abnormal visual acuity (VA) when considered against height. Two males (16.67%) in 7 to 8 years and 1 male (8.33%) in 5 - 6 years age groups were in < 3rd percentile by height group whereas no female was found in this height group. However 4 males and all the 5 females were

found in 3rd - 50th percentile height group (-2SD from mean). Here all the children having VA < 6/9 fell within 50th percentile height group like those found in weight group (Table-IV).

Religion wise break - up showed that 11(91.67%) Hindu children and only 1 (8.33%) Muslim child had VA < 6/9. But there was no statistically significant difference between two religious groups when those having abnormal VA were compared with those having normal VA [Hindu vs. Muslim: χ^2 with Yates continuity correction=0.8, d.f. 1, $p>.05$]. However, no Christian child had this problem.

Caste wise break - up for abnormal VA showed that 1(8.33%), 6 (50%) and 5 (41.67%) belonged to Scheduled Caste (SC) Scheduled Tribe (ST) and Non-SCST groups respectively. The differences found in these groups were not statistically significant (in SC vs ST: χ^2 with Yates continuity correction = 0.28, d.f 1, $p>.05$; SC vs Non-SCST: χ^2 with Yates continuity correction 0.07, d.f 1, $p>.05$; ST vs Non-SCST: χ^2 with Yates continuity correction = 1.81, d.f. 1, $p>.05$, SC vs ST vs Non SCST: $\chi^2 = 2.52$, d.f. 2, $p>.05$) (Table-V).

Students of class 1 (25%) and Class 11 (50%) shared for 75% of the total abnormal VA. Nursery, KG 11 and Class IV students did not show any abnormal VA (Table-VI).

Twenty-seven students out of 331 students had Vitamin A deficiency (VAD). So prevalence of Vitamin A deficiency (VAD) was 8.16%. Nineteen (70.37%) males and 8 (29.63%) females had VAD; but the difference regarding presence and absence of VAD in 2 sexes was not statistically significant ($\chi^2 = 3.14$, d.f 1, $p>.05$). Among males 29.63% and 25.93 %) were present in I I - 12 years and 7 - 8 years age groups respectively. In females 7 -8 years age group showed highest prevalence (11. 11%) followed by 7.41 % in each of the 9 - 10 years and I 1 12 years age groups, However, when both the sexes were considered. 37.04% in each of the 7 8 years and II - 12 years age groups were found to be mainly affected (Table-VII).

Religion wise break - up showed that 22 (81.48%) Hindu, 4 (14.81%) Muslim and 1 (3 7%) Christian children had VAD, No statistically significant difference was found when the presence of VAD was compared with its absence in different religious groups (Hindu vs

Muslim: χ^2 with Yates continuity correction = 0.02, d.f. 1, $p > .05$; Hindu vs Christian: χ^2 with Yates continuity correction = 0.06, d.f. 1, $p > .05$; Muslim vs Christian: χ^2 with Yates continuity correction = 0.23, d.f. 1, $p > .05$, Hindu vs Muslim vs Christian: $\chi^2 = 0.67$, d.f. 2, $p > .05$) Caste wise break - up revealed that sufferers of VAD were 2 (7.41 %) SC, 14 (51.85%) ST and 11 (40.74%) Non-SC ST students. When SC students were compared with ST and Non-SCST students separately regarding presence and absence of VAD no statistical significance was found (SC vs ST,) χ^2 with Yates continuity correction = 0.35, H 1, $p > .05$; SC vs Non-SCST: χ^2 with Yates continuity correction = 0.35, d.f. 1, $p > .05$); but when ST students were compared with Non-SCST ones then difference was found to be statistically significant (ST vs Non-SCST: $\chi^2 = 6.55$, d.f. 1, $p < .05$); however, when all the 3 castes were considered together the differences were found to be statistically significant (SC vs ST vs Non-SCST: $\chi^2 = 6.66$, d.f. 2, $p < .05$) (Table-VIII).

Twelve students out of 331 had Bitot's spot; so prevalence of Bitot's spot was 3.63%. Females (58.33%) outnumber males (41.67%) in Bitot's spot; but when the presence and absence of Bitot's spot was considered in both the sexes, no statistically significant difference was found ($\chi^2 = 0.77$, d.f. 1, $p > .05$). Among males most commonly occurring age group was 7 - 8 years (33.33%) whereas in females it was 11 - 12 years (33.33%). In totality however 7 - 8 years age group (50%) exceeded the 11-12 years age group (41.67%) (Table-IX).

Religion wise break up showed that highest number of Bitot's spot was found among Hindus (83.33%) followed by Christians (16.67%) whereas no Muslim child had Bitot's spot. However, when presence and absence of Bitot's spot were compared between Hindu and Christian Students, statistically significant difference was found (Hindu vs. Christian: χ^2 with Yates continuity correction = 7.4, d.f. 1, $p < .01$). Caste wise break up showed that no SC student had Bitot's spot. Only ST students (83.33%) dominated the picture against the figure shown by Non- SC ST group (16.67%). However when presence and absence of Bitot's spot were compared between ST and Non-SCST groups, ST group's lead over Non-SCST group was statistically found to be highly significant (ST vs. Non-SCST: χ^2 with Yates continuity correction = 13.68, d.f. 1, $p < .001$) (Table-X).

All abnormal VA and Bitot's spot were found in Khalpara school students; 74.0% of VAD) were present in Khalpara School and rest in primary section of Naxalbari Hindi High School.

Discussion:

The study was an observational and cross-sectional one. In the two schools 331 primary students aged 3-12 years had been examined. Among 329 students 12 (3.65%) were found to have abnormal vision that is VA < 6/9 in any eye. This finding differed from that of Aligarh study where 13.2% children between 4 - 12 years were found to have a vision less than 6/6 in one or both the eyes⁵; in that study cut off point of visual acuity-for abnormal vision was < 6/6. In the present study the cut off point of VA < 6/9 in any eye was fixed up for abnormal vision as per our NPCB definition^{3,4}; moreover in this study age range also differed a little from Aligarh study⁵. It was found that 75% of students having VA < 6/9 belonged to 7 - 8 years age group - the highest among all the age groups being contributed by both the sexes (Males - 41.67% and Females - 33.33%). Therefore, 7 - 8 years age group should get special attention for screening of vision. It was further revealed that all the children having VA < 6/9 fell within 50th percentile of weight; when abnormal VA was considered against height it was found that all the children having VA < 6/9 fell within 50th percentile of height group like that in weight group.

However in height group no female student was found in < 3rd percentile category; but 3 (25%) males were in < 3rd percentile category. So the children with weight and height below 50th percentile should be considered as high risk groups for vision testing. Although apparently Hindu children (91.67%) far exceeded their Muslim (8.33%) peer group in having abnormal VA but no statistically significant difference was found between two groups when presence of VA was compared with its absence. No Christian child had this problem. Hindu and Muslim children should be closely monitored. Scheduled Tribe children had highest prevalence with 50% abnormal VA followed by Non- SC ST group (41.67%) and Scheduled Caste (SC) (8.33%); so ST and Non - SC ST groups would require close attention though the differences were not statistically significant. Students of Class II (50%)

followed by class I (25%) shared for 75% of the total abnormal VA. So students of Class I and Class II would require special attention. Prevalence of Vitamin A deficiency (VAD) was found to be 8.16% in the study group. Males (70.37%) far outnumber the females (29.63%) in Vitamin A deficiency; but regarding presence and absence of VAD no statistically significant difference was found. When both the sexes were considered. 3.7.04% in each of the 7 - 8 years and 11 - 12 years age groups were found to be mainly affected. As Vitamin A in oil is given upto 3 years of age in our country and it is a storage vitamin so possibly children do not develop its deficiency upto 4 years. In the present study children started having it from 5 years showing a peak at 7-8 years age group probably due to diminution of storage, deficient intake due to lack of nutrition education or some factors causing its drainage from the system. Again second peak at 11-12 years age group might be due to starting of growth heralding puberty in addition to factors mentioned above. It was not clear how the figures in 9 -10 years age group would appear so low in comparison to 7 -8 years and 11-12 years age groups. Apparently Hindus (81.48%) again stole the show in VAD when compared against Muslims (14.81%) and Christian (3.7%) students; but the differences were not statistically significant. As in distribution in abnormal VA, in VAD also ST students (51.85%) held its highest position followed by Non-SC ST (40.74%) and SC (7.4 1 %) ones. Though differences regarding presence and absence of VAD between SC and ST and between SC and Non-SCST were not statistically significant but the difference between ST and Non-SCST was statistically significant. When all the three groups were considered together the differences were statistically significant. Therefore, ST group would require necessary attention apart from the parents of the students of all the groups requiring more emphasis in nutrition education. When Bitot's spot (prevalence 3.63%) was considered it was striking that females (58.33%) outnumber males (41.67%) and so worse sufferers. Tracing for VAD in the families and the communities of those having Bitot's spot apart from serum retinol estimation for those with Bitot's spot would help in reducing community load of VAD. Hindu (83.33%) followed by Christian students (16.67%) had Bitot's spot whereas no Muslim student had it. However Hindu students with Bitot's spot were significantly higher than

their Christian friends and would require special attention. ST Students (83.33%) dominated in Bitot's spot whereas Non- SC ST group contributed only 16.67%. SC group had no Bitot's spot. This would require immediate attention for the ST segments being evidenced by the fact that ST students were having significantly higher incidence of Bitot's spot than Non-SCST group.

Recommendations:

1) Visual acuity (VA) testing should be a priority for 7 - 8 years age group, students of Class I and Class 11 and those children having weight and height upto 50". percentile for their age and sex 2) Regarding VAD, Vitamin A supplementation upto 6 years of age might be considered apart from imparting intense nutrition education for the parents.3) Tracing for VAD in the families and the communities of those having Bitot's spot would be helpful in reducing Vitamin A Deficiency in the community.

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Table 1. Distribution of the study population by Age and Sex (n= 331)

Age in years	Male		Female		Total	
	No.	(%)	No.	(%)	No.	(%)
3-4	6	(1.81)			6	(1.81)
5-6	37	(11.18)	32	(9.67)	69	(20.85)
7-8	61	(18.43)	65	(19.64)	126	(38.07)
9-10	38	(11.48)	33	(9.97)	71	(21.45)
11 -12	37	(11.18)	22	(6.65)	59	(17.82)
All age groups	179	(54.08)	152	(45.92)	331	(100)

Table 2. Distribution of normal and abnormal visual acuity (VA < 6/9) in different age and sex groups (n = 329)

Age in years	Male				Female				Total	
	Normal VA (Can read the 6/9 line)		Abnormal VA (Cannot read the 6/9 line)		Normal VA (Can read the 6/9 line)		Abnormal VA (Cannot read the 6/9 line)			
	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
3-4	6	(1.82)	—	—	—	—	—	—	6	(1.82)
5-6	35	(10.64)	1	(0.3)	30	(9.12)	1	(03)	67	(20,36)
7-8	56	(17.02)	5	(1.52)	61	(18.54)	4	(1.22)	126	(38.3)
9-10	38	(11.55)	—	—	33	(10.03)	—	—	71	(21.58)
11 -12	36	(10.94)	1	(0.3)	2	(6.60)	—	—	59	(17.93)
All age groups	171	(51.98)	7	(2.13)	146	(44.38)	5	(1.52)	329	(100)

Sex : Male vs. Female : $\chi^2 = 0.09$, d.f. 1, $P > .05$

Table 3. Distribution of abnormal visual acuity (VA) and weight in percentiles in different age and sex groups (n = 12)

Age in years	Male				Female				Total	
	< 3 rd .p No.(%)	3 rd - 50 th .p No.(%)	50 th - 97 th .p No.(%)	> 97 th . p No.(%)	< 3 rd .p No.(%)	3 rd - 50 th .p No.(%)	50 th - 97 th .p No.(%)	> 97 th . p No.(%)	No.	(%)
3 -4	—	—	—	—	—	—	—	—	—	—
5-6	—	1(8.33)	—	—	—	1(8.33)	—	—	2	(16.67)
7-8	2(16.67)	3 (25)	—	—	1(8.33)	3 (25)	—	—	9	(75)
9- 10	—	—	—	—	—	—	—	—	—	—
11 -12	—	1(8.33)	—	—	—	—	—	—	1	(8.33)
All age groups	2 (16.67)	5 (41.67)	—	—	1(8.33)	4(33.33)	—	—	12	(100)

p = percentile

Table 4. Distribution of abnormal visual acuity (VA) and height in percentiles (p) in different age and sex groups (n = 12)

Age in years	Male				Female				Total	
	< 3 rd .p No.(%)	3 rd - 50 th .p No.(%)	50 th - 97 th .p No.(%)	> 97 th . p No.(%)	< 3 rd .p No.(%)	3 rd - 50 th .p No.(%)	50 th - 97 th .p No.(%)	> 97 th . p No.(%)	No.	(%)
3-4	—	—	—	—	—	—	—	—	—	—
5-6	1 (8.33)	—	—	—	—	1 (8.33)	—	—	2	(16.67)
7-8	2 (16.67)	3 (25)	—	—	—	4(33.33)	—	—	9	(75)
9-10	—	—	—	—	—	—	—	—	—	—
11 -12	—	1(8.33)	—	—	—	—	—	—	1	(8.33)
All age groups	3 (25)	4 (33.33)	—	—	—	5 (41.67)	—	—	12	(100)

p = percentile

Table 5. Distribution of Visual Acuity (VA) according to religion and caste in different age and sex groups (n = 12)

Age in years	Sex	Religion			Total No.(%)	Scheduled No.(%)	Caste		Total No.(%)
		Hindu No.(%)	Muslim No.(%)	Christian No.(%)			Scheduled No.(%)	Non-SCST No.(%)	
3-4	Male	—	—	—	—	—	—	—	—
	Female	—	—	—	—	—	—	—	—
5-6	Male	1 (8.33)	—	—	1 (8.33)	—	—	1 (8.33)	1 (8.33)
	Female	1 (8.33)	—	—	1 (8.33)	—	—	1 (8.33)	1 (8.33)
7-8	Male	5 (41.67)	—	—	5 (41.67)	1(8.33)	3(25)	1 (8.33)	5 (41.67)
	Female	3 (25)	1 (8.33)	—	4 (33.33)	—	2(16.67)	2 (16.67)	4 (33.33)
9- 10	Male	—	—	—	—	—	—	—	—
	Female	—	—	—	—	—	—	—	—
11 -12	Male	1 (8.33)	—	—	1 (8.33)	—	1 (8.33)	—	1 (8.33)
	Female	—	—	—	—	—	—	—	—
All age groups	Both the sexes	11 (91.67)	1 (8.33)	—	12 (100)	1 (8.33)	6 (50)	5 (41.67)	12 (100)

Religion : Hindu vs. Muslim: c_2 with Yates continuity correction = 0.8, d.f. 1, $p > .05$

Caste : SC vs. ST: c_2 with Yates continuity correction = 0.28, d.f. 1, $p > .05$; SC vs. Non-SCST: c_2 with Yates continuity correction = 0.07, d.f. 1, $p > .05$; ST vs. Non-SCST: c_2 with Yates continuity correction = 1.81, d.f. 1, $p > .05$; SC vs. ST vs. Non-SCST: $c_2 = 2.52$, d.f. 2, $p > .05$

Table 6. Distribution of abnormal visual acuity (VA) in different classes of study according to age and sex groups (n = 12)

Age in years	Sex	Classes of study							Total	
		Nursery No. (%)	KG I No. (%)	KG II No. (%)	Class I No. (%)	Class II No. (%)	Class III No. (%)	Class IV No. (%)	No.	(%)
3-4	Male	—	—	—	—	—	—	—	—	—
	Female	—	—	—	—	—	—	—	—	—
5-6	Male	—	—	—	1(8.33)	—	—	—	1	(8.33)
	Female	—	1(8.33)	—	—	—	—	—	1	(8.33)
7 -8	Male	—	—	—	—	4(33.33)	1 (8,33)	—	5	(41,67)
	Female	—	—	—	2(16.67)	2(16.67)	—	—	4	(33.33)
9 -- 10	Male	—	—	—	—	—	—	—	—	—
	Female	—	—	—	—	—	—	—	—	—
11 -12	Male	—	—	—	—	—	1 (8.33)	—	1	(8.33)
	Female	—	—	—	—	—	—	—	—	—
All age	Both the sexes	—	1(8.33)	—	3 (25)	6 (50)	2 (16.67)	—	12	(100)

Table 7. Distribution of Vitamin A deficiency (VAD) according to Age and Sex (n=27)

Age in years	Male		Female		Total	
	No.	(%)	No.	(%)	No.	(%)
3 -4	—	—	—	—	—	—
5-6	1	(3.7)	1	(3.7)	2	(7.41)
7-8	7	(25.93)	3	(11.11)	10	(37.04)
9- 10	3	(11.11)	2	(7.41)	5	(18.52)
11 -12	8	(29.63)	2	(7.41)	10	(37.04)
All age groups	19	(70.37)	8	(29.63)	27	(100)

Sex: Male vs. Female: $X^2 = 3.14$, d.f. 1, $p > .05$

Table 8. Distribution of Vitamin A deficiency (VAD) according to religion and caste in different age and sex groups (n = 27)

Age in years	Sex	Religion			Total No.(%)	Caste			Total No.(%)
		Hindu No.(%)	Muslim No.(%)	Christian No.(%)		Scheduled No.(%)	Scheduled No.(%)	Non-SCST No.(%)	
3-4	Male	—	—	—	—	—	—	—	—
	Female	—	—	—	—	—	—	—	—
5 -6	Male	—	1 (3.7)	—	1 (3.7)	—	—	1(3.7)	1(3.7)
	Female	—	—	1 (3.7)	1(3.7)	—	1 (3.7)	—	1(3.7)
7-8	Male	5(18.52)	2(7.41)	—	7(25.93)	—	4(11.11)	3(11.11)	7(25.93)
	Female	3(11.11)	—	—	3(11.11)	—	2 (7.41)	1(3.7)	3(11.11)
9 - 10	Male	3(11.11)	—	—	3(11.11)	1(3.7)	1(3.7)	1(3.7)	3(11.11)
	Female	2(7.41)	—	—	2(7.41)	—	2 (7.41)	—	2(7.41)
11 -12	Male	7(25.93)	1(3.7)	—	8(29.63)	1 (3.7)	3 (11.11)	4(11.11)	8(29.63)
	Female	2(7.41)	—	—	2(7.41)	—	1 (3.7)	1(3.7)	2(7.41)
All age groups	Both the sexes	22(81.48)	4(14.81)	1 (3.7)	27(100)	2 (7.41)	14(51.85)	11(40.74)	27(100)

Religion: Hindu vs Muslim: X^2 with Yates continuity correction = 0.02, d.f. 1, $p > .05$; Hindu vs Christian: X^2 with Yates continuity correction = 0.06, d.f. 1, $p > .05$; Muslim vs Christian: χ^2 with Yates continuity correction = 0.53, d.f. 1, $p > .05$, - Hindu vs Muslim vs Christian: 0.67, d.f. 2, $p > .05$

Caste: SC vs ST: χ^2 with Yates continuity correction = 0.35, d.f. 1, $p > .05$; SC vs Non-SCST: χ^2 with Yates continuity correction = 0.35, H 1, $p > .05$; ST vs Non-SCST: $\chi^2 = 6.55$, d.f. 1, $p < .05$. SC vs ST vs Non-SCST: 6.66, d.f. 2, $p < .05$

Table 9. Distribution of Bitot's spot according to Age and Sex (n= 12)

Age in years	Male		Female		Total	
	No.	(%)	No.	(%)	No.	(%)
3-4	—	—	—	—	—	—
5-6	—	—	1	(8.33)	1	(8.33)
7-8	4	(33.33)	2	(16.66)	6	(50)
9-10	—	—	—	—	—	—
11-12	1	(8.33)	4	(33.33)	5	(41.67)
All age groups	5	(41.67)	7	(58.33)	12	(100)

Sex: Male vs. Female: $\chi^2 = 0.77$, d.f 1, $p > .05$

Table 10. Distribution of Bitot's spot according to religion and caste in different age and sex groups (n = 12)

Age in years	Sex	Religion			Total No.(%)	Scheduled No.(%)	Caste		Total No.(%)
		Hindu No.(%)	Muslim No.(%)	Christian No.(%)			Scheduled No.(%)	Non-SCST No.(%)	
3-4	Male	—	—	—	—	—	—	—	—
	Female	—	—	—	—	—	—	—	—
5-6	Male	—	—	—	—	—	—	—	—
	Female	—	—	1 (8.33)	1 (8.33)	—	1 (8.33)	—	1 (8.33)
7-8	Male	4 (33.33)	—	—	4 (33.33)	—	4 (33.33)	—	4 (33.33)
	Female	2 (16.67)	—	—	2 (16.67)	—	—	2 (16.67)	2 (16.67)
9-10	Male	—	—	—	—	—	—	—	—
	Female	—	—	—	—	—	—	—	—
11-12	Male	1 (8.33)	—	—	1 (8.33)	—	1 (8.33)	—	1 (8.33)
	Female	3 (25)	—	1 (8.33)	4 (33.33)	—	4 (33.33)	—	4 (33.33)
All age groups	Both the sexes	10 (83.33)	—	2 (16.67)	12 (100)	—	10 (83.33)	2 (16.67)	12 (100)

Religion: Hindu vs. Christian χ^2 with Yates continuity correction = 7.4, d.f 1, $p < .01$

Caste: ST vs. Non-SCST: χ^2 with Yates continuity correction = 13.69~ d.f 1, $p < .001$

INDIAN PUBLIC HEALTH ASSOCIATION

MINUTES OF THE 48TH ANNUAL GENERAL BODY MEETING

Minutes of the 48th Annual General Body Meeting of the Association held on 24th January 2004 at the Kalinga Institute of Industrial Technology, Bhubaneswar at 5.30 p.m. In all a total of 99 members attended the meeting. One-third quorum of members could not be achieved within the stipulated time. Thus, as per the regulations the meeting was adjourned and rescheduled after a gap of more than one hour.

At the outset, Dr. Ashok Kumar, President of the Association extended welcome to members present. Following discussions were held as per the agenda stated below.

Agenda No. 1 : To consider the election of Chairman, if necessary (in absence of President and all the Vice-presidents).

Dr. Ashok Kumar, President of the Association took the chair and presided over the meeting.

Agenda No. 2 : Confirmation of the minutes of the last 47th Annual General Body meeting held on 17th January 2003 at Nagpur.

The Secretary General, Prof. S.K. Ray highlighted the minutes including Auditor's remarks made in the last year's statement of accounts i.e. 31st December 2002 about the Income & Expenditures & Balance Sheet, where some of the items on the Assets side, such as Sundry debtors, stock in trade, bank balance of IPHA, Basic Drug Project, were discussed. Minutes were printed in the IJPH, Vol. 47, Issue no. 3 (July – September 2003). Discussions made in the 48th Annual Central Council meeting was also presented for consideration by the members and was follows.

In the context of the concerned audit Para, Dr.S.P. Mukhopadhyay past Secretary General said that

Amount of Rs 93924/-, as shown in the minutes (vide IJPH Vol.47, page 43 & 59), was due to non-sale of the publication of the Proceedings of 3rd International congress. This was infested by the insect & was spoiled. Further he said that Rs 8148/-, as shown against him in the Income expenditure balance sheet in connection with the basic drug project, has already been settled down with the previous auditor and passbooks etc was handed over to present Secretary General. But Dr. S. K. Ray, Secretary General strongly denied and said that he has enough proof to show that passbook and cheque book was not handed over to him. Nothing could be settled down at the personal level with the past auditor, as there is no document of such settlement in the audit report in subsequent years. He also added that present Auditor is also coming to attend the 48th AGBM to answer the queries of the members, if any. The matter may be discussed with him. Some of the member's advised to ignore the matter. But President and Secretary General mentioned that they would not take any responsibility in this regard. Further they said to write it off, auditor has to agree and accept the suggestion as per audit norms. Dr. Mahendra Dutta, Dr. Zile Singh participated in the discussion and advised that Dr. P.H.Anathanarayanan, auditor & Dr. S.P.Mukhopadhyaya would sit together to settle down the matter as per norms, so that, it could be considered for "write off" in the next AGBM. Dr. Zile Singh said that there is no need of informing the matter to 48th AGBM. President & Secretary General did not agree with him, as financial issue has to be settled at the AGBM with the concurrence of Auditor. However they agreed to the earlier suggestion given jointly by Dr. Mahendra Dutta and Dr Jile Singh to settle down the matter in presence of Dr. P.H.Anathanarayanan, Auditor and Dr. S.P.Mukhopadhyaya and report back to 49th AGBM".

This was approved by the members and minutes were then confirmed.

Agenda No. 3: To adopt the Annual Report of the Secretary General for the year 2003.

This year Annual Report was presented through LCD. Prof. S.K. Ray read out the annual report of the year 2003. The copy of which were circulated to the members present. The report was recommended for adoption by the 48th Annual Central Council meeting, held earlier. He highlighted the following points in the report

1. Renewal of the registration of the IPHA with Society Registration Act and amendment of regulation.
2. Writing a training manual on HIV/AIDS for private medical practitioners with the assistance West Bengal AIDS Control and Prevention Society, both in regional language and English.
3. Conducted an evaluation of "Accelerating reduction of LBW & Malnutrition at the Murshidabad district of West Bengal".
4. Conducted Coverage Evaluation Survey at the Barpeta & Dibrugarh district of Assam.
5. Participation in the "Nationwide Injection Safety Project" by India Clen, New Delhi.
6. Initiation of Core Group activities, RCH, Nutrition & Lifestyle diseases.
7. Participation in LEM survey, President Dr. Ashok Kumar as DDG Leprosy requested IPHA to propose few names for participation in LEM survey. Based on the request of President, Secretary General proposed some names for participation in the survey. Few members participated in the LEM survey during May - June 2003. This is the first time in the history of the IPHA, President involved association members in such national evaluation achievement.

Secretary General further brought into the notice of the members for discussions on some important issues, which were recorded as minute during the 48th Annual meeting of the Central Council this was as follows.

"Dr. S.P.Mukhopadhyaya raised a question that

what criteria were followed in regard to felicitation of 20 members of the association at the time of 48th All India Annual conference of IPHA. President, Secretary General, Mahendra Dutta & others present in the meeting replied that they have considered seniority, contribution in the different branches of public health, contribution in the activities of the association and also considered that they represent from the different regions of the country. The discussion was held and minuted during the Central Council meeting held in New Delhi on 5th December 2003. Zile Singh said that some criteria should be adopted for this purpose. President said that if there is feeling by the members that they could make better criteria than this they may kindly inform to the IPHA office for consideration by Central Council. Dr. Zile Singh and Dr. S. P. Mukhopadhyaya are requested to give their comments by 28th February 04 to Secretary General for further consideration.

Dr. Mukhopadhyaya mentioned that the delegates for 10th International congress were selected without intimating the members and this was never happened during his time. Dr. Ray mentioned that due notice was given in the IJPH well ahead and Dr. Mukhopadhyaya might have missed it and made such an unwarranted remarks about the present elected C.C. members. Further as per regulation of Constitution, Central Council have the right to take any such decision in the interest of association. In addition, information was received late. President said it was already mentioned in the Annual Report 2003 that if any members are interested and can arrange fund they can attend with the intimation to headquarter. Dr. Mukhopadhyaya said he might attend on his own. President & Secretary General said, in that case one has to follow the guidelines of the association and only designated office bearers can act as a spokesman on the basis of guidelines formulated by the association". Members present at the AGBM, agreed to it. Further minuted discussions were as follows.

"In regard to Projects conducted by the headquarter, Dr. S.P.Mukhopadhyaya & Dr. Dipika Sur said when Hadquarter of IPHA is performing any project in the state of West Bengal, West Bengal state branch of IPHA should be informed & involved. In reply, Secretary General said that they have enough capability to carry out the project with the help of members of the country. He mentioned that

Headquarter of IPHA does not belong to West Bengal State branch; it is an organization of the whole country and thus informing West Bengal State branch did not come. If branches need to be supported financially, as might have been meant, than all the branches in the country should be involved and supported. It is pertinent to mention that many members including Secretary General himself are member of the West Bengal State branch of IPHA. Further it is the decision of headquarters who is a preparing, submitting and getting the sanction of the project to find out whom to involve or whom not, as they are answerable to funding agency. Headquarter should not be dictated by the branches. Branches are functioning not as per the regulation of the society but as per the resolution of the 45th AGBM. In this context Secretary General mentioned that some demand was made by the concerned State branch that building should be owned by the branch with the headquarter, as they paid major share of the building fund. He said that it is untrue. Many of the branches contributed more or less the same amount as the concerned state branch and there was no resolutions at that time regarding the share of the building among the branches. Considering this IPHA Bhaban belongs to headquarter only, as per constitution and regulation of the Society". Members accepted the clarifications in the AGBM also.

Members also discussed and approved the following paragraph minuted in 48th Annual Central Council Meeting as follows.

"Prof. Ray, then enquired from Dr. S.P. Mukhopadhyay, the past Secretary General regarding the discrepancies in allotment of land for construction of the IPHA Bhavan. He cited from the record available that the initially the land was allotted at some area of Salt lake city (Bidhan Nagar) which appears to be a better area but finally the land has been allotted in Sector V, which is far away from the city and transport is scarcely available. Dr Mukhopadhyay explained the matter and was requested by the members to give it in writing so that it could be kept in the record". Members of AGBM noted this mater.

The association also published a Special Issue on Leprosy (Vol. 47, No. 4, October-December, 2003). This issue has been brought out with the untiring efforts of Chief Editor Prof. A.L. Sharma, which was sponsored by the WHO and the issue contains the

articles from national and international expert. Members all thanked Prof. A.L. Sharma, Chief Editor of IJPH for his great effort.

Finally, Prof. Ray pointed out that there were no encouraging responses from the branches in connection with the sending of their annual reports. Only 7 state and local branches have sent their report out of a total of 33 state and local branches. He, however, with the permission of the house, extended the date for sending the annual report by the branches, that have failed to do so, latest by 31st of March 2004, so that these are incorporated in the annual report for publication in the journal.

The annual report of the secretary general was approved and adopted.

Agenda NO. 4 : To adopt audited statement of accounts for the year ending 31st Dec. 2003.

Auditor Mr S.R.Barasia was present at the time of presentations of audited statement of accounts for the year ending on 31st December 2003. He explained the queries of the members and also the queries raised by Dr. S.P.Mukhopadhyay. Then the members accepted it. Secretary General informed that the Association is going to face an acute financial crisis in future. This is because of the fact that the bank interest, in which, most of such associations used to survive, has been drastically reduced to less than half in last few years as per government's policy. Therefore, presently association needs to double the amount of reserve fund, which is supposed to be kept as security deposit for its survival. He wanted some suggestions from the members, as how; he could overcome such situation for smooth running of the association. He also said that his predecessors have kept a very meagre amount as security deposit and only during the last 2 to 3 years present central council has kept in the fixed deposit around 5 laks. Dr. Mahendra Dutta suggested that money might be kept at LIC mutual benefit fund. One member from PGI Chandigarh suggested to utilise mutual fund, which might give a better turn over. Prof. P.H.Anathanarayanan advised to discuss with the auditor the profitable way to keep the money to have a best output. Prof Zile Singh advised to keep it only in a Nationalised bank. Other members like Hony.

Secretary Maharashtra Branch also spoke on the occasion. Mr S. R. Barasia, Auditor said that it is definitely safe to keep money in Nationalized Bank branch. However, he will explore other possibilities as per society regulations.

Agenda No. 5 :To consider the budget estimate for the period January-December 2004.

Auditor Mr S.R.Barasia was present at the time of presentation of budget, which was approved later on.

Agenda No. 6 :To consider the reports of the functional committee, if any.

Report of the other sub committees were also highlighted with special reference to the report of IPHA Bhaban Committee, Fellowship Committee, P.C.Sen & R.N.Roy best Paper award committee as well as Staff Committee etc. As regards staff committee following decision of Annual Central Council was ratified

“Dr. Mahendra Dutta and some other members said that this meeting would not be a right place to decide the staff related issue. It will be better if solution of this issue is entrusted to President and Secretary General of the association to decide finally and subsequently take actions”.

Agenda No. 7: To discuss the policy of IPHA regarding the current Health Programmes of national importance.

President and Secretary General advised members to play a proactive role in National Health Programs. All branches should also play the same proactive role and this should be the policy of the Association for all National programs. Further discussions were held based on the discussion of Annual Central Council meeting, which was as follows

“Dr. Asok Kumar, President of the Association informed that in the WHO meeting at Delhi, on the issue of progress made on “Calcutta declaration” he was invited. As he was preoccupied, he requested Dr. J.P.Gupta to attend the meeting. In this connection Prof P.H.Anathanarayanan also attended the same meeting as Director of the All India Institute of Hygiene & P.H.,

Calcutta. They throw some lights on the discussions held in the meeting with special reference to Public Health cadre structure in the state and earmark their position in public health. Dr. J.P. Gupta mentioned that in European commission project seven states have signed MOU for Public health cadre.

Dr. Zile Singh said that in army there is existence of public Health Cadre. He also suggested that 25% seats in Public Health for post graduate training. Dr. R. Biswas said that large numbers of PH persons are working in other sectors. Prof Madhumita Dobe & Dr. Kuntal Biswas mentioned that West Bengal has introduced Public Health Cadre in their State Health Service. Dr. S.P.Mukhopadhyaya said that he was consulted as IPHA representative and based on his recommendation Public Health cadre was started in the state. Dr. Kuntal Biswas and some other members mentioned that it was proposed and formulated by ASHD and not by any other association. However, all members supported the importance of Public Health cadre. The members felt the need for a larger forum in this regard. President felt that there is a mandatory need to formulate Policy in this regard. He said that health is a State subject and a Directory of Public Health Institutions should be made available for networking. Dr. P.H.Anathanarayanan kindly consented to hand over a list of such institutions to IPHA office. This would help to develop networking among the different Public Health institutions as well as with IPHA. Dr. Mahendra Dutta emphasized on quality of care by P.H. services in the country. Dr. J.P.Gupta, Ex-Director, NIH & FW, New Delhi & member IPHA, was requested by Dr. Asok Kumar, President of the association to kindly accept the offer to act as Ambassador for IPHA and undertake advocacy efforts on behalf of the Association with Central and State governments as well as other like minded associations, with an intimation to Headquarter Secretariat as well as to the President”. [In reacting to the minutes of the 48 Annual Central Council meeting members like Col Zile Singh, Dr. J.P. Gupta wanted to fight for the cause of Public Health jointly with IAPSM & IPHA. The members unanimously approved the idea. However some members like Dr. J.C.Gandhi opined that IPHA should form federation. Secretary General and some members opined that they were ready to work jointly but they have strong reservation to join in the federation, as identity of the Association would ultimately be lost. Dr. J.P. Gupta

said identity will not be lost and each association may exist to function normally. However some members had still some apprehension and reservation. Thus the members of ABGM could take no concrete decision on federation. Finally, Dr. Ashok Kumar, President of the association advised to start working on federation to initiate a joint action for the cause of public health. Further discussions could be held in the next Central Council meeting. Members present did not object to it].

In reacting to the minutes of the 48 Annual Central Council meeting members like Col Zile Singh, Dr. J.P.Gupta, Dr. Mahendra Dutta and others expressed the need to work jointly with other public health & allied associations for the cause of public health. The members unanimously approved the idea. However some members like Dr. J.C.Gandhi opined that IPHA should form P.H. federation. In respect of the reservation of some members that the identity of IPHA would be lost, Dr. J.P. Gupta explained that the proposed federation would be mean merger of constitute members of federation. Each member association will retain its identity as well as manner of function. The consensus by over whelming majority present was that the P.H. federation needs to be formed and some members like Col. Zile Singh & others stated that they would take up the matter regarding the formation of P.H. federation of the annual meeting of IAPSM at Chandigarh in February 04. Finally, Dr. Ashok Kumar, President of the association advised to start working on federation to initiate a joint action for the cause of public health.

N.B.: Italic write up portion is changed by the Chairman and bracketed portion was originally recorded & placed to the chairman. Members attended the 48th AGBM are requested to comment, which portion should be considered.

Agenda No. 8 :To consider the appointments of Auditors (Charter Accountants)

Mr. Sib Ratan Barasia was once again appointed as Auditor for the year 2004.

Agenda No. 9 :To consider the amendments of rules and regulations, if

any discuss any relevant issues related to recently accepted constitution if it is there.

No suggestion for amendment of rules and regulation was received

Agenda No. 10: To consider the resolutions brought forward by the individual members of the association for improvement of public health and health policy.

No resolution was brought forward by any individual member

Agenda No. 11 :To consider the information of election committee in the year before the election year and provide guidance based on the constitutional guidelines.

Election committee was formed unanimously as follows

Chairman: Prof P.H. Anathanarayanan

Co-Charman: Miss Bandana Roy

Convenor: Dr. Ajit Mukhopadhyay

Members: Dr. B.B.Biswas, Dr. Rabin Sinha, Mr Ram Mondal, one member would be elected by the election Committee. Secretary General will be the ex-officio member as per regulation. They will work as per the regulation

Agenda No. 12 :To consider the appeal for organizing the next annual conference by the branch (fixing up date, venue and theme of the conference).

Dr. Kapilarshami, Director, NIH & FW was requested to organise the next All India Conference. He assured that he will confirm by March/April 2004. In case Delhi fails to organise, Gujrat branch would be approached through Dr. J.C. Gandhi.

Agenda No. 13: To consider finalization of proposals of orations, awards etc of the association as well as prizes to the members and branches if any.

48th Annual Central Council meeting's decision on oration and award was ratified in the AGB, which was as follows

"It was unanimously decided that the late Dr.B.C.Dasgupta memorial oration will be delivered by Dr. Kapilashrami. It was proposed by the Secretary General that IPHA should conduct projects on National relevance for which the fund amounting to Rs 10,000/- may be sanctioned initially for one year. Afterwards attempts should be made to generate funding for the project, if some success is seen in initial project. Project committee, already formed, will finally review it for approval". Members accepted the idea.

Agenda No. 14 : Any other matter with the permission of the chairman.

Mr. A.K. Sur said obituary should be incorporated in the journal. Secretary General informed that neither branches nor any individual member reported this to him. He said nearly 2 years back U.P. state branch reported and IJPH published it. He also mentioned that till date nothing regarding Late Dr. B.Mullick came neither from Mr. A.K. Sur nor from West Bengal State branch and IJPH could not publish it.

Secretary General requested all members to update not only their own addresses but also report any change of the address of other members of the

Association, if they know it. Following discussion in 48th Annual Central Council Meeting was ratified in 48th AGBM.

"Secretary General said that cost of Journal is becoming too high thus maintenance of paper quality would be difficult. Members have to bear with it. He further suggested to send journal by email with secret code. Many members did not accept it. He further suggested that due to manifold increase in cost of postage, members should be requested to pay additional cost of postage."

No conclusion could be drawn even after long discussions both in the Central Council and AGBM. However it was decided that Editorial Board should come forward with specific suggestion in this regard to be discussed in the Central Council.

In regard to newly elected Central Council meeting President opined that, as there was no election during this year, there is no relevance of Newly Elected Central Council Meeting. Hence the meeting stands cancelled.

Sd/-
Dr. Ashok Kumar
President (Chairman)

Sd/-
Prof. Sandip K. Ray
Secretary General

Chairman's comments : In view of the factual deliberation of AGB Meeting, amended under the agenda no. 7 on pp 6-7 of these minutes.



INDIAN PUBLIC HEALTH ASSOCIATION
ANNUAL REPORT OF THE SECRETARY GENERAL,
FOR THE YEAR 2003

1. Renewal of registration of IPHA under Society Registration Act, West Bengal

Non-renewal of the registration of the association for more than a decade has led to lot of problems and hassles. It required repeated visits and lot of paperwork & ultimately the process was regularized, as you know. Our association is now properly registered with the Registrar of Societies, West Bengal about which we have informed earlier. Contribution of those who put in their untiring efforts from the background, to make this effort successful is sincerely acknowledged. The Registrar approved the revised constitution on 10.10.02. Certified copy was also received. On behalf of the association we are extremely thankful to Prof. Ramen Chowdhury, past Treasurer of the association, without whose help, this could not have been achieved. Earlier the election could not be conducted due to objections raised by some local members. However the election could be conducted during 2003-2004. The members noted some minor mistakes in the certified copy of the accepted constitution. This was circulated to the members through IJPH Volume 46 page 169 to 173. These modifications were unanimously accepted both in the Central Council and 47th AGB meeting. This was placed once again before the Registrar of Societies, West Bengal for final approval. Approval letter was received from the Registrar's office after number of visits in the month of November 03. Minor corrections have also been made. Certified copy is yet to be received. Office assistant should have more active in this regard. Until we receive the certified copy, the constitution could not be drafted as per the 47th AGB.

2. Activities

Formulation of training manual on HIV / AIDS for practitioners (allopaths and indigenous system).

The West Bengal State AIDS Control & Prevention Society (WBSACPS) had entrusted IPHA with the responsibility of preparing a training manual for private practitioners (allopaths and indigenous private practitioners) on relevant issues of HIV/AIDS. After several workshops with the academicians, program managers policy makers and target groups, the manual (English and Bengali versions) is ready. IPHA will shortly conduct training for this group in selected districts of West Bengal using this manual. It may be pertinent to mention that Prof Madhumita Dobe, Prof Sandip Ray & Prof Ranadeb Biswas from IPHA have participated in the trainers training program of Indian Medical Association as resource persons. Modules were highly appreciated by private practitioners. Necessary modifications were incorporated as suggested by the members of Indian Medical of Association. Modules were also sent to NACO for final comments. If NACO decides to adopt these modules then these will be used for similar training in other states. IPHA branches in the country may conduct similar training program for G.P.

Evaluation of "Accelerating reduction of LBW and Malnutrition" project in Murshidabad district of West Bengal is going on. Large numbers of members are participating in this activity sponsored by UNICEF.

Foundation Day Celebration

The foundation day of IPHA was celebrated on 28th September 2003 at the newly adopted field practice area of IPHA at an urban slum of Kolkata (near Tangra). As an inaugural initiative an advocacy campaign was conducted on that day through walks, public addresses, with overwhelming participation and involvement of the community in collaboration with a local NGO (Kalitara Mahila Samity). Prof P.H.Anathanarayanan, Director, AIH & PH & Faculty members of Health Education, Prof. Madhumita Dobe,

Joint Secretary (HQ) & Dr. Netai Mondal member Editorial board, Secretary General as well as other members participated in the rally. Poster competition was held on "Healthy Mother and Child". The local councilor and the Director AIH&PH distributed prizes on behalf of the association. Miss Manju Dey, a member of IPHA and Secretary of Kalitara Mahila Samita (an NGO) has extended her whole-hearted support to IPHA in organizing the rally & poster competition.

Central Council meetings

Four such meetings were held, including the Annual Central Council meeting and the newly elected central council meeting at Nagpur. One meeting was held at Nirman Bhaban, New Delhi, and the last one was organized at Kolkata. To facilitate participation of members from all parts of the country, the meeting venue was rotated. In these meetings, conference recommendations were finalized. Core group activities were discussed and future strategies recommended. Deliberations on the plans for participation of a representative delegation at the WFPHA conference at UK was also discussed at length and a list of delegates approved. In other meeting fellowship awards were declared. In the meeting held at New Delhi members from Pune, Delhi, Kolkata and Andhra Pradesh have participated.

Coverage Evaluation Survey

These surveys were carried out by our organization with the sponsorship of UNICEF, kolkata field office from November 02 to April 03 in five districts of West Bengal and one district of Assam. Report was prepared and will be presented during this conference at Bhubaneswar. Earlier report was shared with the members and academic experts in the Central Council meeting on 5th December 03, at New Delhi. Unicef has given two more districts to the association for Coverage Evaluation Survey in 2003 Dec 2004 March.

Participation in Injection Safety by India Clen, AIIMS, New Delhi

The Association was invited to participate in the Nation wide Injection Safety by India Clen, AIIMS. Memebrs not only participated in the project but also donated nearly Rs 6000/- from the advanced received.

3. Core group activities

The President of the association has shown dissatisfaction about the functioning of the core groups in the Central Council meeting at New Delhi. After discussion in the meeting Dr. Madhumita Dobe & Prof T.S.R. Sai were given responsibilities to form TOR for the core groups and present with the help of their members of the association, who could find time to contribute. TOR was developed and circulated to the President for his opinion and finalization.

TERMS OF REFERENCE

IPHA CORE GROUP IV, RCH, NUTRITION & LIFESTYLE DISEASES

- Objectives
 - i. To review the present scenario, with reference to the progress and problems of RCH, Nutrition and Lifestyle diseases in the country
 - ii. To identify the gaps/lacunae in their fit with the National Health Policy
 - iii. To suggest prioritized strategies for relevant change to fill the gaps in these areas
 - iv. To develop partnership with Govt. and Non-Govt. Sectors for implementation of the prioritized strategies in line with the recommendations of the Planning Commission Report and National Health Policy
- Proposed activities
 - a. Identification of thrust areas for research activities and conduction of research/projects in these areas.
 - b. Review present manpower adequacy, skills etc. and project training needs and methodology for capacity building based on actual requirements.
 - c. Sharing technical expertise and experience with National and International organizations, institutions in Private and Public sectors through workshops, meetings, seminars and conferences.
 - d. Promoting professional collaboration and co-

operation towards better quality outcomes through intra and inter-country networking.

- Expected outcomes

- I Strategy Document outlining the role of

- a. Govt. (Central and State)
- b. Professional bodies
- c. Other organizations

- II Towards fulfillment of the aforementioned objectives

- III Training manuals/modules for adequate and appropriate sensitization and capacity building for public health professionals

- IV Documentation and sharing Research outcomes in thrust areas for providing evidence base

- V Participation in National bodies for offering technical expertise and experience towards relevant planning, strategy development and evaluation in related issues.

Other core groups will follow more or less same guidelines.

Felicitation

Association has decided to felicitate 20 senior members for their great contribution in the field of Public Health as academicians and/or as Public Health specialist at the field level along with their contribution to the association. This decision to felicitate life members of the Association who are outstanding Public Health workers should be continued in future provided ACC & AGB permits.

4. Journal

Three issues of Indian Journal of Public Health, Vol. 47, and year 2003 were published and dispatched. Due to untiring effort of Prof A.L.Sharma, Chief Editor of IJPH, Indian Public Health Association could get sponsorship from World Health Association (SEARO) for publication of a special issue on *Leprosy. The issue contains articles from National & International experts. The issue is in the press & will be published by 22nd January 2004 as Vol 47, 4th issue.*

The journals are now dispatched in the "Franking" mail of P&T department. It seems, this has improved

delivery of the journal. The journal committee and Central Council have proposed some measures for improving the system of response to authors and minimizing printing errors. Monthly peer group meetings were proposed to respond quickly to members. These will be implemented immediately. A new instruction for contributing an article in the journal was incorporated in the last issue of the journal.

5. Branch Activities

Many of the branches are not carrying out activities as well as not sending report in time. Some branches are not following the resolutions of AGB. Report of the branches is not sent in time to incorporate in the Annual Report. Some branches were grossly violating rules of the society. Fund position & audited statement of the accounts is a must for the branches otherwise headquarter cannot be a party to such irregularities and will not be responsible for any financial problem. The branches carrying out good activities should be rewarded as done in 2000 & 2001. Henceforth branch activities should be closely monitored and branches should kindly follow the guidelines of the AGB for getting recognition/renewal. Some branch report received so far, is enclosed in separate sheet. Only 7 branches have submitted report between 8th to 21st January 2004.

6. R. N. Roy Best Paper Award

Evaluation was done for the assessment of best paper published in the journal for the years 1998 to 2000. Under the chairmanship of Prof. G. K. Pandey, the modality for the assessment was drawn and evaluation assessment is yet to be obtained from the panel of referees of national repute thus we can announce the result in time. I request the subcommittee to expedite the matter so that all the backlogs could be cleared by next year and authors could be well informed for presentations. However, award was given during 47th Annual Conference at Nagpur from 1998 to 2000.

7. Dr. P. C. Sen Best Paper Award on Rural Health Practice

Following a predetermined scoring system for awarding Dr. P. C. Sen Best Paper Award on Rural

Health Practice; judges from different parts of the country were approached in this process. Further judgment was done during presentation. Two papers were awarded, which were published in the vol 47 No 3 conference issue and already circulated to members.

8. Membership Drive

Around 173 life members and 120 Ordinary members joined the association this year.

9. WFPHA

You all know that our association is the Founder Member of the World Federation of Public Health Association. The IPHA has been invited to attend 10th International Congress on Public Health at Brighton, England, United Kingdom to be held in April 2004. 21 delegates have been nominated for attending the conference. The delegates will propose for hosting 11th International congress at Calcutta (Kolkata)- the birthplace of IPHA, befitting with the Golden Jubilee year of the organization. In this context it may be remembered that 3rd International congresses was held Calcutta (Kolkata) befitting with silver Jubilee year of IPHA in 1981.

10. Fellowship Award

The association considered the biodata of the members applied for the fellowship award through credential committee and then sent to fellow members for voting to decide on the fellowship award with the approval of central council.

Following life members were elected for the award of fellowship. The total number of votes polled was 69.

Name of the elected fellow member Votes obtained

1.	Prof. Madhumita Dobe, Kolkata	58
2.	Prof. Sanjoy Zodpey, Nagpur	57
3.	Prof. Depak K. Raut, Kolkata	49
4.	Prof. Manasi Chakraborty, Darjeeling	48
5.	Prof. Trilochan Sahu, Berhampur	47
6.	Prof. Rabindra Bose, Kolkata	46
7.	Lt. Col. B.S. Deswal, Pune	46
8.	Prof. Jyoti Bikash Saha, Darjeeling	40
9.	Prof. Arunabha Majumder, Kolkata	39
10.	Col. K. Chauhan, New Delhi	36

Considering the outstanding public health activities Honorary Fellowship is conferred to Dr. Surya Kanta Mishra Honorable Minister in Charge, Health & Family welfare & Panchayet in the year 2002. Honorary Fellowship is also conferred to Prof P.H.Ananthanarayanan for the year 2003 for his contribution in the community based Public Health Activities.

11. Financial position

This year Association has deposited Rs 1.05 lacks in general reserve fund. But fixed deposit is to be made. Money received as donation has not been deposited in spite of repeated instructions. Members are requested to suggest how this fund could better be utilized for income generation

12. IPHA Bhaban

Two professional NGOs had earlier proposed to conduct training activities at the Bhaban. In this context, an 'IPHA Bhaban Project Committee' has been formed under the chairmanship of Dr. Jayasree Mitra, Principal, Medical College, Kolkata. Dr. Surajit Ghosh is the convenor. A meeting was held in this regard. After going through the documents & records of the IPHA Bhaban some queries were raised in connection with the area sanctioned & area allotted. The past Honorary General Secretary or any other concerned person or member should explain this and the explanation should be endorsed at the ACC & AGB. It was also observed that following activities have not yet been done like mutation, electrification & water connection. Maintenance of the Building is a dire need. Members & Office bearers are at a loss to find out the avenues for generation of huge fund for this Bhaban. The committee suggested that all members should explore this. As per the suggestion of the committee the Secretary General & JS (HQ) visited the Bhaban with experts. and In the ground floor, a small Seminar room with a capacity of 30-35 persons along these 2 to 3 guest rooms could be arranged which might help in the income generation. As suggested initial cost might be around 3 to .5 laks. Members may comment in this regard. As per constitution, this Bhaban

belongs to the headquarter only not to any branch. Ownership of 'Bhaban' is not the prerogative of branches as per the regulation of Society.

13. Organising 47th Annual Conference

Maharashtra state branch of the Association has taken initiative for organizing the 47th Annual Conference through it's newly formed Vidharba branch. It is well-organized conference, which was organized in a period of two months only. Thanks to all it's members of both the branches, state & local). Special thanks should be given to Col A.L.Sharma, Dr. S.S.Salunke, Dr. Sanjoy Zodpey & many others (whose names I might have missed) for their untiring efforts.

16. Election

As per the revised constitution, general election was conducted first time in the history of IPHA for all the posts under the Chairmanship of Prof P.H.Anathanarayanan along with the strong support of Ms Banadana Roy as Convener. Enthusiasm was observed among the members. But members are requested to participate more in exercising their voting rights otherwise whole exercise will be frustrated. Due to mistake committed by press and also partly due to oversight, one member's name was inadvertently omitted from the ballot paper. Instead of intimating the Election committee, the concerned person sent a note through legal authority, letting down the prestige of the association. Election committee beforehand took steps to withhold the process of election of that particular post. Second election for that post was also held and the result was declared. Thanks to the election committee for their untiring efforts for conduction of the first General Election successfully.

15. FCRA

It is yet to come due to Non-availability of ' No News Paper certificate'. Recently some objection came in this regard and the objection is complied.

16. Website

The need for a website was long felt by IPHA, for better networking with members and for enhancing our visibility at National and International levels. With this in mind the web site www. ipha. net came into being. Presently it is in a fledgling state , designed by Dr. Subra S. Bose, C. C. Member (east) under the guidance of Dr Madhumita Dobe, Joint Secretary (HQ).Major domains covered include — History of IPHA, Membership information, Journals, Address directory, Update on new & completed projects etc.We were able to place the first announcement of the 48th All India Annual Conference at the web site. Quotations have been invited from leading web designers for renovating and regular updating of the site. The redesigned site is expected to be operative by February / March 2004.

17. PAN

Income tax return was submtted. Exemption under 80G is valid upto March 2005.

18. Membership registry

The registry has been updated till the despatch of last issue of the journal. It will be appreciated if members not only correct their own address but also send the address of other members if known .

I have briefly presented, the activities of the association and shall be happy to respond to the queries of honorable members in this regard. I am grateful to respected President of our association, office bearers, members of Central Council and editorial board and lastly to you all for your full support and patient hearing.

19. IPHA Branch Annual Report - 2003

(A) Gujarat State Branch

Two meetings were held where members who have retired from active govt. service and yet has a steam to contribute for services to the government and WHO for their consideration to

utilise their services, requested the govt. to organise workshoop with different stake holders against complex problems in view of increasing urban population and deteriorating state civic amenities and the IPHA Gujrat branch has assured of full technical support in their efforts actively participated and recommended the govt. during the PPI campaign as external monitors for IPPI prog. The Govt. of Gujrat appointed a committee of 3 IPHA members namely Dr.N.D.Ghasura, Dr. J.C. Gandhi and Dr. J.B.Shah in response to assurance given by the Hon. Health Minister to study the issues presented in the Assembly at the budget session and submit the recommendations to improve the level of health care through the SCs PHCs and CHCs . The branch has initiated a legal battle in reference to health services of highly specialized technical department instead a technocrat doctor and has provided all out support to the eligible candidates for -the post of Director Health Services who has filed a petition in the high court of Gujrat . Followings are the office bearers of the branch for 2003 -

President	Dr. J.C.Gandhi	Two members in CC.
Vice-president	Dr.A.P. Kasvekar	Dr. A,P. Kasvekar
Hon.Secretary	Dr. B.M. Soni	Dr. D.H. Bhatt
Jt. Secretary	Dr. J.K. Anjan	
Treasurer	Dr. R.M. Patel	
E.mail address of Dr. J.C.Gandhi - jcgandhi41@yahoo.com.in (Statement of audited report not received)		

(B) East Godavari Dist, branch, Kakinada

Branch took membership drive and motivated doctors to join as life member, rendered MCH services in slum areas of Kakinada. and other urban areas , participated in AIDS awareness programme, participated in Godavari Puskara Mela an event of 12 day duration where 4 to 5 lakh of people attend the mela. A statement of Income & Expenditure has been received. Followings are the office bearers for 2003

President	Dr.V.Chandrasekhar	Two members in CC.
Vice-president	Dr.P. N. Rao	Dr. K.S.Karunamurthy
Hon.secretary	Dr. T.S.R. Sai	Dr.,P.Subbarao
Jt. Secretary	Dr. B.V.V. Anjeneyelu	
Treasurer	Dr.B.V.V. Saryanarayana	

(C) West Beagal State branch

The branch organised its 47th annual state conference during July, 2001 with active collaboration of Howrah local branch . More than 200 member delegates participated in the conference . Also organised Flag-hoisting ceremony on 15th August at the IPHA Bhavan which was attended by the President Prof C R.Maity, Director of Medical Education and Secretary General IPHA HQ Prof S.K. Ray. Thier valuable suggestions were noted for future plan of action. The branch also took initiative to co-ordinate and sustain a close link between the local branches within the jurisdiction of the state branch and from time to time organised meetings to interact . The audited statement of Accounts for the year ending 31st December, 2002 has been received and the report for current year account will be submitted after completion of the auditing.

President	Prof.C.R. Maity	Two members in CC,
President-elect	Prof.S.P.Mukhopadhyay	Dr.S. Saha
Vice-presidents	Dr.(Mrs.) J. Mitra	Dr. S. Sarkar
	Smt. G. Bandopadhyay	
	Dr. S.K. Maji	
	Dr. S. K.Ojha	
Hon.Secretary	Dr.(Mrs) D. Sur	
Jt.Secretaries	Dr. S. Saha	
	Dr. S. Sarkar	
	Dr. G.P.Sarkhel	
	Dr.(Mrs)T. Chatterjee	

(D) Howrah Local branch

The branch orgazised the CME prog. on acute flacid paralysis at the IMA Hall, Howrah and observed the World Env. Day and World AIDS Day in collaboration with FIBIA. The branch took active initiative in organising the State annual conf. of West Bengal State branch . No accounts of statement has been received

President	Dr B.R. Satpathy	Two members in CC.
Vince-presidents	Dr: S. Sarkar	Dr. M. K. Ghosh
	Sri C.C Sinha	Dr. G. P. Sarkhel
Hon.Secretary	Dr. I. Hait	
Treasurer	Dr. G.P. Sarkhel	

(E) Diamond Harbour & Sunderban Extd. local br.

The branch organized assesment of jt. training on nutrition at ICDS areas of Sager block, first 2

cases of eye donation with the active initiative of Dr. K.Jana of the branch, blood donoation camp and health check up camp were organised . During the year 2002, the branch conducted KAP study on breast feed, titanus outbreak, RCH sensitization workshops for rural medical practioners, HIV/AIDS awareness organised and conducted Sustha Jauban mela.

President	Dr.A.Hasanat	Two members in CC.
Hon.secretary	Dr.H. Paul	Dr.H. Paul
	Dr.D. Maity	

(F) Barasat local branch

All activities initiated through voluntary involvement, members contributed voluntarily, the present account of the branch with saving is Rs. 849/- with A/c No. 9634/30 with Nabapally Co-op. Bank Ltd. The branch conducted several public health related work such as RCH,, HIV/ AIDS, School health prog.

President	Dr. A.P.Chattopadhyay	Two members in CC.
Vice-presidents	Smt. M. Dey	Smt. M. Dey
	Dr.D.K.Deb	Mr.A.K. Haldar
Hon.secretary	Mr.A.K.Haldar	
Treasurer	Mr.Dilip Bose	

(G) South Calcutta Dn. Town branch

The branch is conducting trag.programme for the students of health trag. centre on TB, leprosy, waste management etc. Took initiative in special drive of pulse polio and observed World Health Day, TB Day etc.

President	Mr. A.K. Sur	Two members in CC
Hon.secretary	Dr. B.B.Biswas	Dr.B.B. Biswas
Treasurer	Sri T.K.Dutta	Sri. T.K.Dutta

The accounts will be submitted in due course.

LONG LIVE OUR ASSOCIATION

Sd/- Dr. Sandip Kumar Ray
Secretary General

ASSOCIATION NEWS

Dr. S.D. Gaur, Ex-Professor and Head, Dept. of Preventive & Social Medicine, Institute of Medical Sciences, Banaras Himdu University, Varanasi and Past President of the IPHA has donated a seed money for organizing "the best paper competition" during the annual conference of the Association on every year On "**Environmental Health**". In this context, one session will be organized first time during the ensuing 49th All India Annual Conference of IPHA to be held at Lucknow from February 11 to 13, 2005. Eligibility of the contestants will be as follow.

"Public Health Specialist / Teachers of Community Medicine / Scientists from National Environment Engineering Institute, Nagpur / Institute of Occupational and Industrial Health / Department of Ecology and Public Health Engineering etc".

The selected best paper will be awarded with a certificate and cash. Selected candidate for the award will be evaluated by a panel of Public Health Experts that will be decided by the Association and their decision will be final. No TA / DA will be paid due to financial constraint. Interested candidates are requested to submit six copies of the paper along with a floppy and CD addressing to the Secretary General of the HQ Secretariat of the IPHA latest by 31st December, 2004. They are also requested to submit a certificate The paper entitled "....." is original, has not been sent for publication any where in the country and abroad the paper is neither accepted, nor is concurrently being considered for publication in any journal any where. The certificate should be signed by author / by all authors.

Sd/ Prof. Sandip K. Ray
Secretary General
IPHA HQ.

S.R. BARASIA & ASSOCIATES

3, DR. ABANI DUTTA ROAD, HOWRAH - 711 106

AUDIT REPORT

We have audited the Receipt & Payments, Income and Expenditure Accounts and Balance Sheet of Indian Public Health Association of 110, C. R. Avenue, Kolkata - 700 073, for the year ended 31st December, 2003 and according to best of our knowledge and belief and according to Explanation given to us. We certify that the Receipts & Payments, Income and Expenditure Accounts and Balance Sheet here in above stated gives the true and fair view of the state of affairs of M/s Indian Public Health Association for the period hereinabove stated.

For S. R. Barasia & Associates
Chartered Accountants

(Shiv Ratan Barasia)
Partner

Members desirous to receive copy of the Statement of Accounts, may send their request to Secretary General IPHA.

Phone: 26651250/9059 Mobile: 9831071902 E-mail: srbarasia@vsnl.com

INDIAN PUBLIC HEALTH ASSOCIATION NOTICE FOR 49th ANNUAL GENERAL BODY MEETING

The 49th Annual General Body meeting of the IPHA will be held on 11th February, 2005 at 16.30 hours at the K.G. Medical University, Lucknow (please enquire for the exact venue and time from registration counter). The agenda of the meeting are as follows.

Agenda:

1. To consider the election of the chairman, if necessary (in absence of President and all the Vice Presidents).
2. Confirmation of the minutes of the last 48th annual General Body Meeting held on 24th January, 2004 at Bhubaneswar, Orissa.
3. To adopt annual report of the Secretary General for the year 2004.
4. To adopt audited statement of accounts for the year ending 31st December 2004.
5. To consider the budget estimate for the period January-December 2005.
6. Declaration of results of election for the year 2005-2006 as communicated by the Central Council and its annual meeting and take up necessary action for the election of Office Bearers, Central Council Members and members of Editorial Board, if any as per the norms as well as announcing the names of the members, so elected, or any matter related to it.
7. To consider the reports of the functional committee, if any.
8. To discuss the policy of IPHA regarding the current Health Programmes of national importance.
9. To consider the appointments of Auditors (Charter Accountants).
10. To consider the amendments of rules and regulations, if any discuss any relevant issues related to recently accepted constitution if it is there.
11. To consider the resolution/s brought forward by the individual members of the association for improvement of public health and health policy.
12. To consider the information of election committee in he year before the election year and provide guidance based on the constitutional guidelines.
13. To consider he appeal for organizing the next annual conference by he branch (fixing up date, venue and theme of the conference).
14. To consider finalization of proposals of orations, awards etc of the association as well as prizes to the members and branches I any.
15. Any other matter with the permission of the chairman.

Sd/ Prof. Sandip K. Ray
Secretary General
IPHA HQ.

**RECOMMENDATIONS OF THE 48TH ANNUAL CONFERENCE
INDIAN PUBLIC HEALTH ASSOCIATION — BHUBANESWAR
JANUARY 24-26,2004**

RECOMMENDATIONS:

- 1) An effective public health cadre should be created Involving the public health specialists at both the national & state levels for better planning, implementation, 'monitoring & supervision of all public health activities.
- 2) Development of an integrated mechanism for private-public partnership for successful implementation of health care delivery in the country & necessary reforms should be worked out with participation of public health specialists.
- 3) A greater emphasis should be given about responsiveness of medical institutions to health needs of society through their activities in the field of education, research & health service delivery. The public health specialty for undergraduate & postgraduate education should be streamlined both at national & state level health institutions.
- 4) Public health specialists should be encouraged to carry out operational as well as scientific researches for better understanding of the various factors related to health & disease, which will be helpful in planning future action plans in the health system.
- 5) Suitable steps should be taken for formation of a common platform of various associations involved in public health such as IPHA, IAPSM, 1AE etc. This will facilitate in putting forth the problems relating public health with the authority & finding out new ideas & appropriate recommendation for networking health activities in the country.
- 6) There should be Regional Workshop on Public Health issues for State to be organized at different regional level.

Sd/- Prof. B. C. Das
Chairman, Organizing Committee

Sd/- Prof. Trilochan Sahu
Secretary, Organizing Committee

A BRIEF REPORT ON 48th ALL INDIA ANNUAL CONFERENCE OF IPHA

***ORGANISED BY STATE INSTITUTE OF HEALTH & FAMILY WELFARE, ORISSA,
FROM 24 TH . TO 26TH. JANUARY 2004 AT KIIT, BHUBANESWAR.***

The 48th. All, India Annual Conference of Indian Public Health Association was held at Bhubaneswar from 24th. to 26th. January 2004 at KIIT, Bhubaneswar. On 23rd . January, the preconference day, Continued Medical Education (CME) was conducted at the State Institute of Health & Family Welfare, Bhubaneswar. About 70 delegates participated in the CME on "Case Control Studies" conducted by Prof. Sanjay P. Zodpey in the forenoon. Similarly CMEs on "Emergency Health Management" was conducted by Prof. P.H. Ananthanarayanan and Prof. R. Biswas and "Health Sector Reforms - Its Options" by Prof.R.Biswas for the CDMOs, ADMOs (P.H.) and the Medical Officers of the State in the afternoon session that concluded at 6 p.m. 220 participants were present in both the CMEs. The discussions were interesting and brainstorming for the participants.

Executive Committee meeting of IPHA was held in the evening from 6-30 p.m. to 9.30 p.m. in the conference hall of SIHFW under the chairmanship of Dr. Ashok Kumar, President, IPHA..

Shri P.C.Ghadel, Honourable Minister of Health & Family Welfare and Women and Child Development, Orissa inaugurated the conference at 10 a.m. on 24 th January 2004 at the KIIT campus. The guests of honour were Shri P.K.Hota, Secretary, Health & Family Welfare, Govt. of India and Dr. P.C.Kesavankutty Nair, President Medical Council of India. Dr.Ashok Kumar, President of IPHA, chaired the inaugural session. Shri R.N.Senapati, IAS, Commissioner cum Secretary, Health & FW Dept. Orissa, Dr. M.C.Kapilashrami, Director, NIHFW, New Delhi, Dr.P.K.Samantray, Dr.P.K.Senapati, Director of Health Services, Orissa, Dr.Gopal C. Kar, Director, Medical Education & Training, Orissa were on the dais as revered guests. Prof. B.C.Das, Director, SIHFV, Orissa and Chairman, Organising committee Prof. Trilochan Sahu, Organising Secretary of the conference and Prof. S.K.Ray, Secretary General, IPHA were on the dais.

About 700 delegates from all over the country as well as abroad attended the conference.

Seven distinguished members including Prof. Trilochan Sahu and Prof. Sanjay Zodpey were awarded Fellowship of the Association.

Prof. Deoki Nandan delivered the prestigious Dr. B. C. Dasgupta Memorial oration just after the inaugural session. This was followed by Panel discussions on 'Health Sector Reforms - Meeting Challenges" chaired by Prof P. H. Ananthanarayanan and the panelists were Prof R. Biswas, Dr.H.N.Patnaik and Dr. P.K.Samantray.

Dr. Raj Sankar Ghosh and Dr.D.Mukherjee of NPSP held the panel discussion on "Polio eradication - present status and strategy of future" chaired by Dr.R.M.Tripathy highlighting the areas like NIDs , SNIDs and mop-up rounds. Other panel discussions and scientific deliberations were simultaneously held in different halls in the venue. Dr. M.C.Kapilashrami, Director, NIHFW, New Delhi, Dr.P.C.Keshavankutty Nair and Dr. Almas Ali discussed on "RCH-II - planning with a difference in relation to Health Sector Reforms" and this session was chaired by Col. (Dr.) Zile Singh of AFMC, Pune. They highlighted on strategies in Phase-II with Omphasis on reduction of vital MCH indicators viz. IMR, NMR & MMR and stress on improvement of Infrastructure and development of Monitoring system for smooth progress of the programme. Dr. D.Mukherjee, Dr. Manjusree Mohanty, Dr. Sabita Mohanty, Dr.J.Patnaik and Dr.R.K.Pati discussed about "Rational use of Drugs" emphasizing the role of Public Health Specialists in its promotion at Peripheral Health Institutions; the session was chaired by Prof.B.C.Das. A panel discussion on "Contingency plan of Health Sector Emergencies / Disasters" chaired by

Prof. Rajesh Kumar of PGI, Chandigarh was held with the panelists Prof. P.H. Ananthanarayanan, Prof R. Biswas and Dr.P.K.Senapati, D.H.S., Orissa; the session focused on 'safe community health during and after disaster with planning, implementation and monitoring involving Public Health Specialists. Dr. H.K.Das delivered a guest lecture on "Malaria Control and its current status"; the session was chaired by Prof. B.C.Das who highlighted the present scenario of Malaria in India and state and role of NAMP.

The General Body Meeting of IPHA was held from 6 p.m. to 7.30 p.m. The members pointed out that other associations viz. IAPSM, IAE, IPHA etc. should work in a common platform to produce stronger impetus on various public health issues and public health specialists. Dr. Gupta, Ex-Director NIHFV was requested to liaise with the different associations. The IPHA felicitated the senior members including Dr. Bandana Devi, Dr.Mahendra Dutta, Dr.P.K.Samantray of the Association for the first time in its history for their great contribution towards Public Health In India. The meeting was ended with a vote of thanks by Prof. S.K.Ray, Secretary General of IPHA. The organising committee hosted a gala dinner.

Dr. A. L. Saha Memorial Oration was delivered on 25th January, 2004 by Prof. B. C. Das, Director, SIHFV, Orissa on "Emerging and Re-emerging Communicable Diseases: Meeting the Challenge"; Dr. P. K. Samantray and Dr. Almas Ali chaired the session.

Prof. N.K. Arora of AIIMS, N.Delhi delivered a guest lecture on "Assessment of Injection Practice in India (Qualitative vs. Quantitative)" being conducted in more than 80 centres of the country narrating the survey methods and the findings; the session was chaired by Prof. O.P.Panigrahi. This was followed by a plenary session on "Immunisation" chaired by Prof B.V.N.Brahmeswar Rao and the panelists were Prof.M. Dobe, Dr.Rajkumar and Dr. Satish of PATH. They discussed about immunisation trend in A.P. and specific role of PATH along with the use of disposable handbags for disposal of used syringes and needles followed in that state. Dr. Almas Ali delivered a guest lecture on "Current Thinking on Population Development" clarifying how the thinking of population growth has been revised from "Counting the people" to the concept of "Count on the people"; the session was chaired by Prof.M.Dobe and Prof. S. Dasgupta. Then a plenary session chaired by Dr. K.Panjar was held on "Leprosy & its Elimination in India" - the panelists were Dr. Sanjay Zodpey, Dr.S.M.Kadam and Dr. P.K.B.Patnaik who highlighted NLEP on case detection and treatment with MDT.

Prof. Rajesh Kumar of PGI, Chandigarh delivered the prestigious Dr.S.C.Seal Memorial oration on "Epidemiological surveillance - backbone of public health" in the afternoon - the session being chaired by Prof. Trilochan Sahoo and Prof.R.Biswas.

A guest lecture delivered by Mr. P.K.Hota, Secretary, Family Welfare, Govt. of India on "Advocacy on the Issue of Quality Control-key to Population Stabilisation" - the session was chaired by Prof. S. Swain. He emphasized the role of Public Health Specialists in implementing different Govt's policies & programmes and urged the IPHA to play an effective role in planning, implementing and evaluation of the programmes. It was an interactive session. Prof.Zile Singh stated that a multicentric study was carried out on curriculum development in Public Health and Young members expressed their concern regarding accreditation and reorganization of Public Health speciality in absence of definite separate public health cadre in Central Health Services and in different State Health Services. The Secretary, Family Welfare, Govt. of India, would agree to look into the matter on receiving a proposal in this matter. The private - public partnership was emphasized to accelerate the process of public health efforts in this most attractive, participatory and thought provoking session of 2 hours duration and that helped in development of the recommendations of the conference.

A guest lecture session on "Gender and Adolescent Issues in RCH" chaired by Mrs. G.Banalata Devi, Deputy Director, SIHFV, Orissa and delivered by Prof. S.Pradhan of Xavier's Institute of Management, Bhubanesar was thought provoking.

A plenary session on "tracking Progress towards IDD elimination" chaired by Prof. Sanjay Zodpey was held with panelists like Prof. C. S. Pandav, Dr.D.M.Satpathy and Dr.D.Moorthy. The endemicity of IDD in Orissa

was revealed from the multiindicator cluster survey carried out in the state that included both qualitative and quantitative results. It was opined that social mobilization for promotion of use of iodised salt would prevent and control of IDD.

In the evening a very much attracting cultural programme was performed by the delegates from West Bengal under the leadership of Prof. M.Dobe of AIIPH&PH, Kolkata. The DANTB, Orissa also organized one play that interestingly reflected the measures for participation of the community in different health aspects.

On 26 . January in the morning (the 3rd day of the conference) the National Flag was hoisted and National Anthem was sung. The session on Dr. P.C.Sen Memorial best paper award was conducted and the award was given to Dr. R.N.Bhattacharya's paper "Study on visual acuity and Vitamin A deficiency in school children of Naxalbari, Darjeeling, West Bengal". This was followed by a panel discussion on "RNTCP - its scenari and challenges" chaired by Dr. P.K.Senapati, DHS and the panelists were Dr. R.N.Mania, Dr.N.Mishra, Mr.T.K.Roy, Dr.R.Meena, Dr.D.N.Nayek, Ms.Shanta Ray and Dr. A.Chottray. This was the most interesting session at the fag end of the conference.

Six scientific sessions, each of about 2 to 2½hrs. duration, were carried out in different venues on all the 3 days of the conference in which the delegates presented the accepted papers and the sessions were attended by eminent public health specialists. The best paper awards were given in each chapter of the scientific session. The best paper awardees were Dr. S.K.Swain, Prof.Sanjay Zodpey, Dr.T.K.Prasad, Dr.suchitra Haldar, Col.(Dr.) Zile Singh and Dr. B.Tripathi. A poster session was also held and the best poster presentation award was given to Dr. M.M.Mourya. The scientific sessions were of high quality that encouraged young public health specialists to undertake research in public health.

The valedictory session was held around 1-30 p.m. presided by Shri R.N.Senapati, Commissioner cum Secretary, Health & Family Welfare, Govt. of Orissa. The office bearers of organising committee offered their heart felt thanks to one and all who helped in organising this National Conference. Delegates from different corners of the country expressed their satisfaction and thanked the organisers for conducting the conference successfully.

ASSOCIATION NEWS

Indian Public Health Association is going to provide fund to the extent of Rs. 6 to 10 thousand for submission of a project individually or jointly (2 maximum). The scope is given to the members only whose age is below 50 years. In this context, one session will be organized first time during the ensuing 49th All India Annual Conference of IPHA to be held at Lucknow from February 11 to 13, 2005.

For further detail please consult Headquarter Secretariat

Sd/ Prof. Sandip K. Ray
Secretary General
IPHA HQ.

EVALUATION OF COLD CHAIN SYSTEM IN CHANDIGARH DURING PPI CAMPAIGN 2001-2002

N. K. Goel, H.M. Swami, S.P.S. Bhatia

Deptt. of Community Medicine, Govt. Medical College, Chandigarh

Summary

Objective: To evaluate the maintenance of cold chain system (CCS) in intensified pulse polio immunization (IPPI) programme, during December 2001 and January 2002 in Union Territory (UT) Chandigarh. **Materials & methods:** A Cross sectional time bound study was conducted in seven centres, where OPV vials were stored prior to IPPI and 20 IPPI Booths in UT, Chandigarh. Booths were selected by stratified random sampling technique. The status of cold chain equipments was assessed at headquarter of IPPI, 06 regional (distribution) centres, 20 IPPI posts and 05 house to house teams. **Results:** The cold chain sickness rate was found to be 9.7% in January, 2002. There were reports of breakdown of cold chain maintenance due to defective plugs and sockets, faults in thermostat, leakage of gas. But all vaccine samples picked up randomly were reported potent, as per the test reports provided by Central Research Institute (CRI), Kasauli during the period of study. **Observation & discussion:** temperature charting and cold chain maintenance was found satisfactory, but necessity of improvement, specially regarding the handling of vaccines by the female health worker. Lids of vaccine carriers not closed tightly, frequent opening of lids during immunization, direct exposure of vaccine to atmospheric temperature, keeping the vaccine vial in hand or pocket. **More emphasis is to be given on maintenance of cold chain system in orientation training programme of all Health functionaries before the Intensified Pulse Polio Immunization (IPPI) programme.**

KEY WORDS: Cold chain sickness rate, Deep Freezer, Ice Lined Refrigerator, vaccine carrier, vaccine potency.

Introduction:

Since the inception of the Immunization programme whether it was Expanded Programme of Immunization in 1978 or its gradual revision updation into Universal Immunization Programme in 1985, there has been a great need of strict maintenance of Cold Chain System for all the vaccines from the site of production to the point of consumption. India has attained an immunization coverage of >85%¹. To sustain high level of immunization coverage there is need for strict monitoring of the existing immunization programme² as especially improving cold chain system. In tropical country like ours maintenance of vaccines at a recommended temperature for OPV from - 20°C at headquarter and at + 2° C to + 8°C at PPI post is a big challenge as faulty handling and storage may occur

in any part of the World and are more common than generally believed⁵⁻¹⁰. Therefore constant monitoring and feedback for action is also very vital^{3,4,11}.

With more than 90% immunization coverage achieved in Chandigarh^{3,4} it is important that this coverage level is to be maintained and all components of cold chain system are to be monitored strictly according to guidelines not only during the routine immunization programme but also during intensified pulse polio immunization campaign. As large number of Pulse Polio vaccine vials are required to be stored while conducting National Immunization Days (NID). Therefore, the monitoring of cold chain maintenance is vital. Keeping this in mind, the present study was conducted for evaluation of cold chain system in UT, Chandigarh during IPPI campaign in 2001-2002.

Materials & methods:

This cross sectional study was conducted one week prior to NID and on Immunization Days in December, 2001, January, 2002 and house to house visit during PPI programme. A checklist recommended by the experts of cold chain system was used for recording the details of temperature record, condition of Deep Freezers/Ice-Lined Refrigerators, Vaccine Carrier (VC), Vaccine Day Carriers (VDC), use of dial thermometer, handling of them by female health workers⁶. Data on repair and replacement of Deep Freezers / Ice Lined Refrigerators (DF/ILRS) and reports of vaccine potency tests were also obtained from the District Immunization Officer (DIO).

Results:

During the survey programme, the investigators visited the headquarter, 6 regional (distributor) centres and 20 PPI posts out of 461 booths were selected on the basis of stratified random sampling technique. There was only one trained refrigerator technician stationed at UT Headquarter to attend the complaints relating to malfunctioning of Deep Freezer /Ice line Refrigerator of UT, Chandigarh. Data from the UT, Chandigarh has shown that during 2001-2002, 32 DFs (300 litres-12, 225 litres-2 & 140 litres-18) and 40 ILRs.(300 litres-12,140 litres-28) were commissioned in the previous year. Of these 4DFs and 3 ILRs had developed snags and were not functioning at the time of survey (Table 1). At some places the power sockets and plugs were of inferior quality with frequent reports of burning of electricity points. It is also evident from the Table - 1, that not a single Walk in Freezer or Walk in Cooler has been supplied to the headquarter and regional centres as well to take care of power failure. Cold chain sickness rate for January, 2002 stood 9.7%.

Supply of vaccine was regular and smooth. The performance reports was satisfactory but cold chain sickness rate was seldom nor reported to National PPI Coordinator. Of ten (10) DFs examined during investigation, all were in good condition and were functioning normally, diluents were not kept in DFs and were stored at + 2°C to + 8°C temperature. It was observed that 1,95,000 doses of OPV were stored in one DF against its capacity of 90,000 dosage at Headquarter for vaccination before NID, though, temperature was recorded twice daily but only one (1) out of ten (10) registers was checked by the Supervisor or Incharge Medical Officer during supervisory visits,

Temperature was not recorded on Sundays and any holidays in 4 DFs. In one DF it was observed that temperature ranged - 11°C to - 12°C (against the recommendation of - 20°C) for almost one year.

Of thirteen (13) ILRs examined at the time of survey at Headquarter (ILRs-7) and a six (6) regional centres (ILRs-6), the level of installation was found correct. Two (2) ILRs were kept at a place in a room which received direct sunlight. Eight (8) ILRs were found not locked at the time of survey. Three (3) ILRs were not defrosted periodically and in all three (3) ILRs more than 6mm thick ice layer was observed. All except one ILR was kept adequately i.e. 10cm from the wall. It was also observed that, six(6) ILRs (46%) were installed in the store rooms which were either not fully ventilated or more number of equipments were placed in that particular room (Table-2).

During IPPI, other vaccines like BCG, DPT, DT & TT were transferred to Cold room/DFs at Punjab centre. In eight(8) ILRs (61.5%) vaccines were overstocked and not stacked neatly. Though, there were separate earmarked charts for each ILR but temperature charting in ten (10) ILRs (77%)was neither signed by supervisor/medical officer nor reporting of breakdowns, power failure and repair was recorded. The temperature charts were not up to date in three (3) ILRs.

During IPPI campaign, twenty (20) immunization sessions were attended (Table-3). All female health workers used vaccine carriers for carrying the vaccines. In five percent (5%) vaccine carrier (VC), cracks in the wall lining were seen. Fifty percent (50%) health workers did not wipe ice packs before putting in VC. Three (15%) out twenty VC, vaccine vials were not kept in polythene bags before putting in. All workers except one checked VVM of vials during immunization session. Ten Percent (10%) did not secure lids tightly and similarly Ten Percent (10%) did not keep vaccine carriers in shade during immunization session. Frequent opening of vaccine carrier was observed at eight sites (40%). At one IPPI post, it was observed that ice slab was available but it was not used though the ice pack has melt in the vaccine carrier.

During house to house IPPI campaign investigators met 5 teams on the way and following observations were recorded (Table- 4)

These teams used four (4) vaccine carriers and two (2) vaccine day carriers (VDCs). Certain improper vaccine handling practice were observed like direct

exposure of vials to sunlight, frequent opening of VCs/ VDCs, keeping the vaccine vial in hand or pocket.

All vaccine samples collected during IPPI programme i.e. during 2001-2002 from field were found to be potent according to test reports on vaccine potency provided by Central Research Institute, Kasauli.

Discussion:

High quality maintenance of cold chain system is vital for the success of poliomyelitis eradication as being envisaged by Govt. of India in collaboration with World Health Organization (WHO) & Rotary International^{3,11}. The present study has shown that temperature maintenance was quite good, but there was still room for improvement as supervision was poor. Sockets, plugs & wiring were of inferior quality and power failure has also occurred. The findings in this investigation are consistent with those from other studies that found problems with vaccine storage & handling⁵⁻¹⁰.

Day carrier vaccines have been withdrawn from the field but somehow due to paucity of VCs, these were used, this practice is to be discouraged since their use exposes vaccines to higher temperature¹¹ and adequate number of VCs should be arranged beforehand during the PPI days. Vaccine carrier with cracked wall lining should not be used at any cost¹¹.

Effective supervision was lacking which is evident from the fact that total 1,95,000 doses were stored against the capacity of 90,000. Over stocking of vaccine vials was also found in 61.5% inspected ILRs, DFs & vaccine carriers are placed in areas, which receive direct sunlight¹³. Defrosting of three (3) ILRs was not done regularly and one (1) ILR was not kept adequately from the wall. The ventilation of the store room was poor in some of the store rooms, it may lead to exposure of vaccines to higher temperature and result in the loss of vaccine potency. All minor repairs are to be done within seven days and vaccines are to be stored at +2°C to +8°C in cold boxes during the sickness period of DF/ILRs¹¹. The practices of improper handling of vaccine i.e. not wiping the ice packs before putting in VCs, not keeping vaccine vials in polythene bags, not checking VVM vial during immunization sessions, the direct exposure of vials to the sunlight, frequent opening of vaccine carriers; keeping the vaccine vial in hand or pocket, not using of ice slab though the ice pack has melt, shows carelessness &

slackness of the health workers. It has also been reported worldwide⁵⁻¹¹. It shows the requirement of adequate training of health staff involved in IPPI campaign.

The retrospective analysis of cold chain maintenance as vindicated by CRI Kasauli report reflected a satisfactory picture in the study area. Aggarwal¹¹, Sokhey¹⁴ had also reported steady improvement in cold chain in late 1980s & mid 1990's. Vaccine potency tests are very useful for strengthening & restrengthening of cold chain and dealing with any lacuna identified.

The power sockets, plugs & wiring of good quality should be provided. Power failure should not be allowed at any cost and walk in freezers & walk-in-coolers may be supplied to maintain the cold chain during power failures. The storerooms should be equipped either with more exhaust fans or less number of equipment be placed to keep them fully ventilated.

There is acute shortage of Deep Freezers to store OPV vials at Headquarter especially during IPPI Campaigns. It is therefore, recommended that more number of DFs may be made available to prevent any iota of doubt regarding Cold Chain maintenance.

More emphasis is to be given to the maintenance of Cold Chain system during the orientation, training of all health professionals involved in PPI programme.

Acknowledgements:

Authors are thankful to District Immunization Officer for providing necessary data.

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Table-1: Status of cold chain equipments during IPPI 2001-2002.

Cold chain	Commissioned No.	Not functioning during survey No.
Walk in Freezers (WIF)	—	—
Walk in Coolers	—	—
Deep Freezers capacity		
300 Ltr	12	02
225 Ltr	02	01
140 Ltr	18	01
Total	32	04
Ice-lined Refrigerator Capacity		
300 Ltr.	12	01
140 Ltr.	28	02
Total	40	03
Total	72	07

Cold chain sickness rate - 09.72% (Jan, 2002)

Table-2: Status of monitoring of ice-linked refrigerator (ILR-13).

Ice linked refrigerators (ILR)-13	Yes
Correct level of installation	13
Locked	05
Away from Sunlight	11
Defrosted periodically	10
> 6mm thick ice layer	03
Kept adequately (10cm) from wall	12
Plugged to socket permanently	13
Installed with the voltage stabilizer	13
Used for keeping food/drink/drugs	—
Storeroom fully ventilated	07
Vaccines	
- Stocked neatly	05
- Rotated	13
- Frozen	—
- Expired	—
- Kept in door	—
- Over stocked	—
Temperature chart	
- Separate for each ILR	—
- Up to date	10
- Reporting of breakdown etc.	03
- Signed by Supervisor/MO	03

Table-3: Status of cold chain equipments of vaccine transportation i.e. vaccine carriers (No. 20)

Vaccine carriers (No. 20) examined	No(%)
Any cracks in the wall	01
Ice packs wiped before putting in	10
Vaccine vials kept in polythene bags before putting in	17
VVM checked	19
Lids secured tightly	18
Opened frequently	08
Kept in shade (Away from sunlight) during immunization session	18
Extra Ice slab - Available	19
- Being used	18

Table-4: Status of VCs & VDCs during house to house PPI campaign.

Vaccine carriers & vaccine day carriers	Vaccine carriers examined (04)		Vaccine day carriers examined (02)	
	Yes	No	Yes	No
Any cracks in the wall	-	4	-	2
Ice packs wiped before putting in	3	1	2	-
Vaccine vials kept in polythene bags before putting in	3	1	-	2
VVM checked	3	1	2	-
Lids secured tightly	4	-	1	1
Opened frequently	1	3	1	1
Kept in shade (Away from sunlight) during immunization session	3	1	1	1
Traveled by the shortest route	4	-	2	-

UTILISATION PATTERN OF BLOOD IN A TEACHING HOSPITAL OF KOLKATA

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Summary

An annual utilisation of blood transfusion services at several depts. of R.G. Kar Medical College and Hospital, Kolkata were assessed among a sample of 3122 patients selected by Systematic Random Sampling Technique from the register made available in the blood bank there.

Record analysis revealed that overall 79.4% of supplied blood units were actually transfused, wastage of 21.6%. Wastage was maximum in the Department of Gynae & Obstetrics (33.11%) and Surgery (32.87%). Only single unit of blood was requisitioned and transfused for 5.44% & 30.90% of the patients respectively. Most common indications of blood transfusion were for surgical cases (37.92%), followed by anaemia (34.80%) and haemorrhage (26.92%). The use of blood and blood products merit attention, appraisal and instructional guiding accordingly.

Key words: Blood requisition, Blood transfusion, Wastage, Single unit transfusion, indication for transfusion, Blood utilization.

Introduction:

Medical science has progressed tremendously over the years but, as yet, no substitute of blood has been discovered and thus, blood transfusion is an essential part of modern-day health care. While 17% of the global population in developed countries benefit from approximately 60% of the 75 million units of blood donated each year in the world, the remaining 83% of the global population, living in the developing countries, have access to only 40% of the blood supply¹. Hence people are dying from the lack of blood. Increase in demand for blood is outstripping the increase in donation; each year the demand for blood rise by 2-3%². Every year, through out the world, approximately, 150000 pregnancy-related deaths could be avoided if appropriate transfusion therapy could be carried out¹. There is another side of the coin, too. While millions of lives are saved through blood transfusion, it is not without its potential risks for the recipients, the most important being the Transfusion Transmissible Infections (TTI). In India, there is a substantial gap between the demand and availability of blood and blood products. There is a considerable shortage of blood even in metropolises. The supply is

50% or less than its requirement. The situation is even worse with regard to the availability of blood components and plasma product³.

Blood, being a scarce and expensive human resource, should be prescribed judiciously and appropriately. Prescribing decisions should be based on national guidelines on the clinical usage of blood; taking the individual patients' needs into consideration, with minimum cost and wastage, optimum safety and efficacy⁴.

Evidence from different part of the world indicate considerable variation in the pattern of clinical blood use among different hospitals, different clinical setting and even among different clinicians within same team, suggesting inappropriate use⁴. In this perspective' the study aims to assess utilization pattern of blood and its wastage, if any, in a leading teaching hospital of kolkata.

Materials and Methods:

A record based descriptive study was conducted in the year of 2001 from the month of January to December at RGKMC&H to assess the utilization

pattern of blood for the hospital. A pre-designed proforma was used to collect the relevant informations. From a register maintained at the Blood Bank, a sampling-frame of patients for whom blood was requisitioned and supplied, was prepared. From this sampling frame 20% of the patients were selected by systematic random sampling technique, thus a total of 3122 patients constituted the final sample. Selected study subjects were then followed up in respective departments till their discharge and details of blood transfusion such as indication, numbers of units received and transfused were retrieved from the bed head tickets.

Results:

A total 3122 patients were followed up during the study period, to whom 7689 units of blood were supplied out of which only 6028 units were transfused; indicating an average supply and transfusion per patients as 2.46 and 1.93 units respectively. Overall 79.4% of supplied blood units were actually transfused to the patients, thus as a whole wastage in different departments of this hospital was found to be 21.6%. Maximum wastage of blood was noted in the Department of Gynae & Obstetrics (33.11 %) and Surgery (32.87%) followed by that in other departments (Table 1).

It was also found that, in this hospital as a whole excluding the department of Paediatrics, single unit blood was requisitioned for 141 (5.44%) out of a total of 2592 patients. Surprisingly enough, despite being asked for more than one unit, single unit blood was supplied from the blood bank in case of 546 (21.06%) patients. Single unit transfusion was practiced in 801(30.90%) patients which included cases where single unit was supplied and some other cases where more than one unit was available.

Intradepartmental analysis also revealed that single unit blood requisition and transfusion was predominantly practiced by the departments of Surgery (9.96% & 39.09% respectively) and G&O (5.36% & 38.34% respectively). However, single unit blood requisition and transfusion was not made by other departments viz. Eye, ENT and Cardiology (Table 2).

Table 3 lists the various indications for blood transfusion among the recipients of blood in the

different departments of RGKMC&H. Operative causes (37.92%) was found to be the commonest indication, followed by anaemia (34.80%) and haemorrhage (26.92 %) for transfusion of blood (Table 3). Out of 1990 units of blood transfused for operative causes, 1592 units (80%) were utilised for planned operation.

Department wise analysis revealed that anaemia and haemorrhage were two equally important indications for blood transfusion in the department of Medicine, anaemia was the major indication (85.37%) in the department of Paediatrics. However, Operative causes were the major indication in the departments of Gynae & Obstetrics and Surgery, 77.90% and 77.44% respectively (Table 3).

Discussion:

Ideally a patient should receive the components instead of whole blood, unfortunately this hospital not having the components separation facilities, whole blood requisition and transfusion to the patients is still the usual practice. Blood is an expensive and scarce resource. Unnecessary transfusion and wastage may cause shortfall in supply of blood. Despite this fact it was observed that 21.60% of total blood units received for transfusion was wasted in different departments of RGKMC&H. This practice was found to be maximum in the department of Gynae and Obstetrics (33.11 %) closely followed by that in Surgery (32.87%). In these two departments, usual practice was to hold a ration of cross-matched blood for operative cases to combat any unforeseen complications during or after operation and more often than not, this blood was not utilised whenever the anticipated complications did not occur. This practice could be the most leading reason for high wastage of blood. In situation where such holding is unavoidable, perhaps a better option would be to keep a reserve of blood for the operative cases in the Blood Bank itself and not in the ward; which can be supplied to the patient on demand and if not utilised, can be used for other patients on need.

Appropriate use of blood can save life, improve health but at the same time it also carries potential risk for the recipient⁴. Hence, it is essential to evaluate clinical transfusion practice to identify any constraint on the appropriate clinical use of blood, reasons for wastage and suggest remedial action for any deficiency.

Even though single unit blood transfusion has very doubtful role⁴; practice of single unit blood requisition and transfusion was widely prevalent in this hospital. Moreover, single unit transfusion was higher than single unit blood receipt, indicating not only blood wastage but also ineffective as well as hazardous blood transfusion with all its potential risks (Table 2). This undesirable practice may be due to lack of awareness or inappropriate practice among the concerned health personnel.

Although, majority of elective surgical procedures don't result in significant blood loss to require blood transfusion⁴, yet we observed that commonest indication for blood transfusion in this hospital was the operative causes (37.92%), which included both emergency and planned operations; surprisingly enough 80% being used for planned surgery.

Careful assessment and management prior to surgery could reduce the need for transfusion and peri-operative blood loss could be reduced significantly by meticulous surgical techniques, use of posture, tourniquets vasoconstrictors and suitable anaesthetic techniques⁴.

It may also be mentioned here that, we tried to evaluate how patients are assessed prior to transfusion and whether blood is prescribed on the basis of both clinical and laboratory indication. We observed that there was no blood ordering schedule and standard operating procedure in different stage of transfusion practice. Moreover, review of hospital records revealed that in most cases either it was incompletely filled up or required information was not available. Under such circumstances it is suggested that the record keeping need to be revised to improve its usefulness.

Although truly comparable studies are not readily available, findings of the present study aptly indicate the need for certain remedial measures.

Conclusion:

Appropriate and rational use of blood is essential and all kinds of wastage of blood and blood products must be strictly discouraged. Local policies and guidelines should be developed with regard to procurement and use of blood and blood products based on National policy on blood. Establishment of an ongoing monitoring system in respect of collection, distribution and use of blood and blood products at different levels, in-house training of concerned personnel coupled with feed back system should be incorporated in the blood transfusion service.

Acknowledgement

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Table-1: Utilisation pattern & wastage of blood in different departments of RGKMC&H.

Departments	Received	Blood Units Transfused	Wasted
Medicine	2776	2419	357 (12.86%)
Surgery	1907	1280	627 (32.87%)
Gynae & Obstetrics	1990	1331	659 (33.11%)
Paediatrics	898	884	14 (1.55%)
Other Departments	118	114	4 (3.38%)
Total	7689	6028	1661(21.60%)

Table-2: Practice of single unit requisition, supply & transfusion of blood in the different departments of RGKMC&H.

Department.	Total no. of patients	Single unit of blood		
		Requisitioned	Supplied from Blood Bank	Transfused
Medicine	833	16(1.92)	130(15.61)	162(19.45)
Surgery	793	79(9.96)	205(25.85)	310(39.09)
Gynae & Obstetrics	858	46(5.36)	211(24.59)	329(38.34)
Other*departments	58	0	0	0
Total**	2592	141(5.44)	546(21.06)	801(30.90)

N.B.: The figures in parenthesis indicate percentage.

*Other departments include - Eye, ENT & Cardiology

**The department of Paediatrics was excluded, as blood units in this department are requisitioned according to per Kg. body weight of the patient.

Table-3: Indication for transfusion of blood in the different departments of RGKMC&H

Indications	Medicine	Surgery	Units of blood transfused			Total
			Gynae & Obstetrics	Paediatrics	Others	
Anaemia	1228 (50.77)	148 (11.45)	43 (3.24)	755 (85.37)	57 (50.00)	2231 (34.80)
Haemorrhage	1191 (49.23)	160 (12.50)	251 (18.86)	122 (13.83)	57 (50.00)	1781 (26.92)
Operative	0	953 (74.44)	1037 (77.90)	0	0	1990 (37-92)
Miscellaneous*	0	19 (1.56)	0	7 (0.80)	0	26 (0.36)
Total	2419 (100)	1280 (100)	1331 (100)	884 (100)	114 (100)	6028 (100)

N.B- Figure in parenthesis indicates percentage.

***(Exchange transfusion, Septicaemia, Malignancy, Burns, dialysis etc.)**

BOOK REVIEW:

***'BIOMEDICAL WASTE MANAGEMENT IN INDIA' - DR. J. KISHORE,
DR. G. K. INGLE - CENTURY PUBLICATIONS, NEW DELHI, 2004.***

Biomedical waste management has become a major challenge to the health care, professionals all over the world. In the developing or underdeveloped parts of the world, the problem is much more serious. Lack of awareness among the health care providers, civic bodies, as well as among common people is a major factor. Lack of legislation, or, even if there are laws, deficiencies of law enforcing mechanism poses a major problem. Lack of resources for developing proper biomedical waste treatment and disposal infrastructure is also a serious obstacle. Rapid introduction of newer diagnostic and therapeutic procedures, increasing use of a variety of disposable appliances, growing number of health care institutions particularly in private sector, all these have lead to generation of an additional quantum of biomedical waste over and above the conventional waste generation. Unless the problem is addressed appropriately and urgently, biomedical waste will soon pose a serious threat to human health.

In this context, the book 'Biomedical. Waste Management In India' is highly relevant. there is a short -but informative description of the classification, hazards and diseases associated with biomedical waste. The main attraction of the book is the chapter on the legislations related to biomedical waste management. It will be very useful for the reader to get, in one place, the details of the biomedical waste management and handling rules, environment protection act, safe disposal of radioactive waste rules, hazardous waste management and handling rules and municipal solid waste management and handling rules. Another very useful area dealt with in this book is the management of biomedical waste. The methods of waste segregation, handling, storage, transportation, treatment and disposal have been described with emphasis on practical and technical details. The specifications of waste treatment and disposal appliances, the standards laid down by different regulatory authorities and. related managerial issues are presented in details. Even a list of addresses of the manufacturers of waste management appliances has been provided. This will be of great help to the health care professionals and managers.

The editing and presentation may be improved further. Authors may think about improving the quality of the pictures in next edition.

Since long there has been a felt need for a comprehensive book on the subject. This handy document will be useful for all the stake holders involved in biomedical waste management.

Prof. Samir Dasgupta

ANALYSIS OF POTABLE WATER IN AND AROUND B.G. NAGAR, BELLUR, MANDYA DIST.

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Adichunchanagiri Institute of Medical sciences is a rural medical college situated on NH48 (Bangalore-Mangalore highway). The institute is surrounded. by several villages and few highway dhabas and hotels catering the food requirement of travelers. Several reports were available on the quality of drinking water of urban areas. Lacunae exist with regard to reports on the quality of water in rural areas. Hence, the present study was undertaken to assess the potability of drinking water samples in and around B.G.Nagar.

This study was conducted from February-September 2000. Samples from public water supply, taps, tube wells & step wells of B.G. Nagar & surrounding villages and highway dhabas and hotels were collected. Five samples were collected from each source at weekly intervals. The samples were analysed within 2 hours of collection.¹ Most probable number (MPN) of E.coli and Streptococcus faecalis were calculated by multiple tube technique using Macconkeys lactose broth² and glucose azide broth² respectively. The confirmation of presence of true (faecal) coliform. bacilli was done by Eijkman test².

For direct plating method a loopful of water sample was inoculated on to plates of Mac Conkey(Mac) agar, Salmonella-Shigella(SS) agar and TCBS agar. Inoculated plates were incubated at 37°C for 24 hours and the isolates were identified².

Results:

All the-samples collected from public water supply taps from B.G.Nagar, Suranahalli and Elladahalli were negative for E.coli and St.faecalis.

Similarly all the tube well water samples used for public consumption from surrounding villages except Maradevanahalli were negative for E.coli and St. faecalis.

Step well water collected from Javaranaahalli was highly contaminated and unfit for human consumption, Escherichia coli/100 ml (MPN) and Streptococcus faecalis/100 ml (MPN) were observed to be > 180 and 100.

Water samples from hotels and dhabas on national highway were negative except in two instances. E. coli / 100ml (MPN) and Streptococcus faecalis / 100 ml (MPN) were observed in two location were 180, 75 and 13.6, 2. Other bacteria isolated from water samples by direct plating were Klebsiella, Proteus and Pseudomonas sps. (Table 1).

Organisms	Well Water	Tube well Water	Public taps
Klebsiella sp alone	—	2	NIL
Klebsiella sp + Pseudomonas	—	3	NIL
Klebsiella sp + Proteus	—	1	NIL
Klebsiella sp+ Pseudomonas+ others	1	—	NIL

It was encouraging to see that the E.coli and St.faecalis in tube well water from Maradevanahalli, Step well water of Javaranaahalli and drinking water of dhabas were all much below the WHO standards for drinking water quality³. The main source of contamination in step well of Javaranaahalli was probably faecal contamination & Tube well of Maradevanahalli may be drainage canal running near by tube well. It is evident that water supply from above sources were not reliable and requires purification. The managements of the dhabas were intimated to take the necessary step for purification of water supply used for drinking purpose.

Klebsiella, Proteus and Pseudomonas sps were other organisms encountered in water samples. These coincide with the observation made by Manjula⁴ and others who conducted similar studies in 1992.

The present work reveals the contamination of public water supplies even at rural areas and need for

periodical checking of bacteriological analysis of water sources to avoid potential health hazards.

Acknowledgement:

The authors are grateful to The Principal, Dr. Lalitha Mahale. AIMS and Dr (Mrs.) S. Kantha. Dean and Director, AIMS for their Co-Operation to carry out this work.

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INDIAN PUBLIC HEALTH ASSOCIATION NOTICE FOR 49th ANNUAL CENTRAL COUNCIL MEETING

The 49th Annual Central Council Meeting of the IPHA will be held on 10th February, 2005 at 18.00 hours at the K.G. Medical University, Lucknow (please enquire for exact venue and time from the organizers of the conference). The agenda of the meeting are as follows.

Agenda:

1. To consider the election of the chairman, if necessary (in absence of President and all the Vice Presidents).
2. Counting of ballot papers.
3. Confirmation of the minutes of the previous annual central council meeting (2004).
4. To adopt annual report of the previous year (2004).
5. Adoption of the audited statement of accounts.
6. To consider the budget estimate for the period January-December 2005.
7. Declaration of results of election for the year 2005-2006 as communicated by the Central Council and its annual meeting and take up necessary action for the election of Office Bearers, Central Council Members and members of Editorial Board, if any as per the norms as well as announcing the names of the members, so elected, or any matter related to it.
8. To consider the reports of the functional committee, if any.
9. To discuss the policy of IPHA regarding the current Health Programmes of national importance.
10. Proposal and finalization of orations and awards of the Association.
11. To consider the appointments of Auditors (Charter Accountants).
12. To consider the amendments of rules and regulations, if any discuss any relevant issues related to recently accepted constitution if it is there.
13. To consider the resolution/s brought forward by the individual members of the association for improvement of public health and health policy.
14. To consider the information of election committee in he year before the election year and provide guidance based on the constitutional guidelines.
15. Any other matter with the permission of the chairman.

Sd/ Prof. Sandip K. Ray
Secretary General , IPHA HQ.

AN EPIDEMIOLOGICAL INVESTIGATION OF JAUNDICE OUTBREAK IN A SLUM AREA OF CHETLA, KOLKATA

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Viral hepatitis is an important public health problem in India.^{1,2} Based on clinical diagnosis, around 100000 cases of viral hepatitis are reported annually in India and the number reported is a gross underestimate of the actual incidence of the disease.³ Epidemics of enterically transmitted hepatitis is well documented from different parts of our country. Almost all outbreaks of viral hepatitis in India are due to faeco orally transmitted hepatitis-E³.

During the 2nd week of September 1999, few cases of jaundice attended the Urban Health Centre, Chetla, Kolkata from a particular locality. Few more cases of jaundice were also reported to have occurred from the same locality. Therefore, an epidemiological investigation was undertaken to find out the time, place and person distribution of the jaundice cases, its source(s) of infection and existence of epidemic, if any.

The investigation was conducted in a slum area of Chetla at 4/1, Burdwan road of ward no. 82 of Calcutta Municipal Corporation. The area was under service coverage of Urban Health Centre (UHC), Chetla, the field practice area of All India Institute of Hygiene and Public Health, Kolkata. The study was done during the period of September – December 1999.

Firstly, the area was visited with local health workers of UHC, Chetla and some basic information were obtained. Considering family as the sampling unit, a community based house to house survey, by complete enumeration of all the families of the specified area was conducted using a pre-designed schedule; thus a total of 34 families were studied. Presence of yellow discolouration of bulbar conjunctiva or similar history within last two months and dark coloured urine were the criteria for identifying a jaundice case.

Besides demographic data, relevant information necessary to assess the possible epidemiological factors (e.g. source of drinking water, excreta disposal, overcrowding etc.) were also collected. Similarly, other exposures, like blood transfusion, hospitalisation, injection and surgical procedure were also collected. Reports of laboratory investigations, as available were recorded.

Samples of drinking water were also tested in the Microbiology department of All India Institute of Hygiene and Public Health, Kolkata for Most Probable Number (MPN) and faecal coliforms.

Out of 34 families surveyed in the community, 13 families were found with one or more cases of jaundice. The outbreak occurred in a densely populated slum area with intermittent piped water supply from Calcutta Municipal Corporation. Families were found to receive their water supply from both outside house and inside house municipal taps. The main outside house pipeline was situated on the road-side pavement and in few households, water was also drawn to inside house through connecting sub-pipeline.

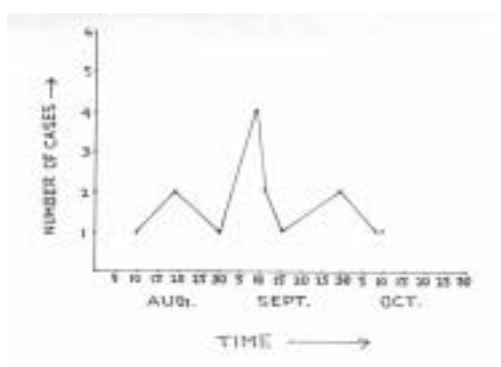
Among 197 total population living in the area, 15 jaundice cases were found, with an overall attack rate of 7.6% (Table 1). The epidemic curve (Fig. 1) shows that the outbreak started in the second week of August 1999, reached its peak in the 1st week of September and subsided in the early 2nd week of October same year. The first and last cases were reported on 10 August and 9 October 1999 respectively. After the last case of 9th October, no jaundice case was subsequently found during follow up visits up to the 2nd week of December, 1999.

Table 1: Distribution of study population by age and sex and attack rates

Age group (Years)	Male			Female			Total		
	Population	Cases	Attack rate (%)	Population	Cases	Attack rate (%)	Population	Cases	Attack rate (%)
0-4	11	2	18.2	7	-	-	18	2	11.1
5-9	8	5	62.5	9	5	55.6	17	10	58.8
10-14	4	-	-	12	2	16.6	16	2	12.5
15-24	26	-	-	23	1	4.4	49	1	2.1
25-59	45	-	-	39	-	-	84	-	-
≥60	4	-	-	9	-	-	13	-	-
Total	98	7	7.1*	99	8	8.1*	197	15	7.6

* $\chi^2 = 0.06$, $p > 0.05$

Table 1 shows the age and sex distribution of study population together with number of jaundice cases and attack rates. Most of the cases (93.3%) occurred among the children below 15 years of age. Though the overall attack rate was 7.6%, the maximum attack rate (58.8%) was in age group of 5 – 9 years. The difference in attack rates of jaundice of both sexes were not significant statistically ($\chi^2 = 0.06$, $p > 0.05$).

Fig. 1: Epidemic curve of the outbreak

By occupation, majority of the cases were either student (60%) or at home (33.3%). The clinical manifestations of the cases were presented in table 2.

Table 2: Clinical manifestations of cases (n= 15)

Signs / symptoms	No. (%)
Dark coloured urine	14 (93.3)
Yellow colouration of eyes	15 (100.0)
Anorexia	11 (73.3)
Nausea/Vomiting	9 (60.0)
Pain abdomen	9 (60.0)
History of fever	13 (86.7)

It was observed that 7 patients had already done serum bilirubin estimation and the bilirubin level was more than 2 mg/dl in all the cases. One of them had also done investigation for HbsAg and found negative. There was no history of surgery, hospitalisation or blood transfusion among the cases during the last six months prior to the onset of jaundice. Only 2 patients had received hepatitis B vaccine, but there was no history of receiving any other injection.

The investigation also revealed that overcrowding prevailed in all the families, none of the families had more than 50 sq.ft floor space per person and majority of the affected families (61.5%) had even less than 30 sq.ft floor space per person. 57.1% of families had 6 or more persons per family. The proportion of families with jaundice case(s) was also found to increase with decrease in per capita floor space of their houses.

Intermittent piped water supply from Calcutta Municipal Corporation was the only source of drinking water in the area. While 50% of families with inside house water supply were found with case(s) of jaundice; 27.8% of families with outside house water supply had jaundice cases ($\chi^2=1.76$, $p>0.05$). Due to intermittent water supply, all the families in the area were found to store drinking water in plastic pots in an unhygienic manner. Subsequently, bacteriological examination of water samples collected from all the taps of both sources (outside house and inside house) revealed presence of faecal coliforms in 50% samples of each source and were declared unfit for human consumption.

None of the families had separate sanitary latrines of their own, only the community latrines (sanitary) constructed for common use were being used by all the families. However, children often had to defecate in the neighbouring areas in open-air. Drainage system was virtually non-existent.

There was no routine reporting of jaundice cases in Urban Health Centre, Chetla for the last 5 years. In 1999, from January to July, 12 cases of jaundice were recorded in UHC Chetla, which serves a population of about 100000. Therefore, the present study was conducted in a particular locality under the service area of UHC, Chetla, having a population of only 197 living in 34 families, which revealed total 15 cases to occur within a short span of 2 months. People of the locality also reported as not experienced such jaundice cases in this area during the previous 4 to 5 years. This points to an excess occurrence of jaundice in the area. Presentation of the cases as revealed from physical examination, history and increased serum bilirubin level confirms the diagnosis of viral hepatitis.

Absence of history of receiving blood transfusion or injection (except for 2 cases who received hepatitis B vaccine), exposure to surgery, hospitalisation etc.; mild nature and shorter duration of the cases without any case fatality; prior history of receiving hepatitis B vaccination; HbsAg negativity etc. all these point to

the fact that the infection was presumably not parenteral. In contrast, poor environmental and sanitary condition e.g. overcrowding, lack of proper excreta disposal, practice of open-air defaecation, intermittent water supply, improper storage and use of water, non-existence of drainage system are all in favour of enteric transmission of the infection.

So, it may be presumed that contaminated water was the possible source of infection. Presence of faecal coliforms in some samples of drinking water strengthened this possibility. On bacteriological examination, 50% of water samples from both inside and outside house taps showed faecal coliforms. Nonetheless, negativity of faecal coliforms in 50% of the water samples does not confirm absence of virus. However, absence of universal contamination may even be due to single sample of water collected from each source. Moreover, in spite of adequate disinfection of water at source, further contamination in its distribution system can also not be overruled. So, the outbreak is assumed to be enterically transmitted either viral hepatitis A or hepatitis E. As identification of marker of the agent (Hepatitis A or E virus) was not feasible. Thus, identification of the causative agent remains inconclusive; except that clustering of cases among children, rather than young adults, indicates the agent to be in favour of hepatitis A virus. However, in terms of policy implications for control of these enteric diseases, the dilemma of Hepatitis A or E is of little relevance.

The overall attack rate of 7.6% in the current outbreak was found to be very high as compared to two other reports wherein it was 3.46%⁴ and 1.2%⁵. But two other studies reported more or less similar attack rates of 8.6%⁶ and 7.0%⁷. The age specific attack rates (Table 1) of the present outbreak were found to be different from other reports^{4, 5, 7}, the maximum attack rate (36.7%) was in the age group of 5-14 years in the present outbreak. Two third (66.7%) of the cases occurred in children of 5-9 years age group and almost all of the cases (93.3%) were found in children below 15 years of age. Adults were found to be spared of infection. Contrary to this finding, other studies reported maximum occurrence of cases among young adults^{4, 5, 7}, which was consistent with their conclusion of Non-A Non-B hepatitis outbreak.

All faeco-orally transmitted disease outbreaks usually occur during summer months. The present outbreak also started in the 3rd week of August with

its peak in 1st week of September (Fig. 1). The finding corroborates with other study by Prasad K. R. et al⁴. The outbreak subsided in the 1st half of October 1999.

Although termination of the outbreak seems to be due to contact effect with field staff emphasizing personal hygiene and use of boiling water; persistence of sub-clinical infection thereafter or termination of the outbreak by natural immunity could not be ruled out.

If the underlying environmental problems remain unattended or uncared for, it can be apprehended that such outbreaks will continue to recur time and again.

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BOOK REVIEW:

"PRINCIPLES AND PRACTICE OF BIOSTATISTICS" – DR J. V. DIXIT M/S BANARSIDAS BHANOT (PUBLISHERS), JABALPUR- 482001

The essence of Biostatistics must be perceived by doctors and research scholars working at various fields of medical sciences to understand and interpretate the facts & findings of medical research. We are always in search of such a book of Biostatistics, wherein the difficult statistical issues have been depicted in simple, lucid & interesting manner covering the areas of interest of doctors, students and research workers. We should express our thanks to Dr J. V. Dixit for such a nice presentation to medical fraternity. "Principles and Practice of Biostatistics" has covered most of the areas of statistics required in different fields of medical sciences. This book has been enriched by inclusion of chapter like 'Research Methodology' covering 'selection of research, Problems., 'research design., 'study design', 'writing -research papers' etc. Inclusion of multivariate analysis, analysis of variances, nonparametric test & Fisher's exact test and Mc Nemar test have made this publication more attractive to post graduate students & research workers. Numerous illustrative examples & exercises are the assets of this book, which will definitely facilitate comprehension and application of this subject.

Good editorial correction is necessary to minimize printing mistakes. Incorporation of few more topics like, 'life table concept, 'time series analysis' may be suggested to make the book more comprehensive.

Dr Nirmal Kumar Mandal

Prof. Asok Mandal

A STUDY OF THE PERCEPTION, COMMUNICATION AND COVERAGE OF PULSE POLIO IMMUNIZATION PROGRAMME IN A DELHI SLUM

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In 1988, the World Health Assembly (WHA) and its members committed to the goal of eradication of poliomyelitis by the year 2000¹. Kerala was able to reach "zero polio" state using OPV only. The main aim of pulse polio immunization (PPI) is to interrupt the transmission of wild poliovirus by replacing the wild virus with vaccine virus. The vaccine virus gives protection to the individual by the induction of local immunity and the transmission of vaccine virus confers protection to the population. OPV is relatively inexpensive (Rs. 3/dose) and easy to administer². Pulse Polio Immunization (PPI) was started by Government of India (GOI) in 1995², after a successful campaign was executed in Delhi in 1994. In order to understand the reasons for not achieving 100% coverage, we conducted a study in urban slums of South Delhi to know the different sources of communication that are being implemented for increasing and sustaining participation in PPI. In addition, knowledge, practice and behavior were also studied for PPI and about coverage and knowledge of universal Immunization Programme (UIP) among study subject was also carried out.

The study was a part of IV semester MBBS student's urban health training activity. A cross sectional study was designed. The area chosen was Arnbedkar Camp located near Nehru Place, a slum in South Delhi. The study was conducted in January and February 2001. House to house visits were made and the families having children up to five years and willing to participate were included in the study. Oral informed consent was taken. A convenient sample size of 325 was chosen depending on resources available primarily in terms of time and manpower. An interview schedule was prepared, pre-tested and modified accordingly. All the 12 investigators, were trained so as to minimize inter observer variations. Analysis was done using EPI INFO 6.01.

A total of 329 families participated in the study. Majority of families were Hindus (96%). 78.4% mothers and 39.5% fathers were illiterate. In 79.3% of the cases, mothers were the informants. 40% of the informants were in the age group of 26 to 30 years and 31% in 21 to 25 years age group. Out of 484 under five children, 54% were male. A total of 56.2% of the informants had some knowledge about disease, 41.3% had no knowledge or were misinformed (2.5%). With respect to the prevention from the disease, that is the role of OPV, 62.3% were aware about it 81.8% respondents knew about target age group (0 to 5 years) for PPI and a large number of people (94.5%) were aware about the exact location of PPI booth. The health workers (67.2%) were the main sources of information on PPI followed by Radio & TV (48.9%), neighbours (23.1%). A total of 98.2% of families utilized the opportunity for giving OPV on the PPI round. Of those who have not utilized the opportunity, various reasons given were, not informed (47%), out of station (21%), reluctance to go (4%), parents gone home (11%) and no answer in 17%.

About 9% of families heard some types of rumor pertaining to OPV like, PPI affects fertility, may cause impotence, 2 drops given in PPI were equated with 2 child family norm, and in addition some local leaders suggested not to take polio drops.

There is a marginal gender bias in utilizing PPI, while in 92.4% (n = 243) of males were taken to booth as compared to 85.1% of females. A study carried out in West Bengal during the PPI 95-96 round showed that 85.9% males & 82.2% females had utilized this opportunity.³ In our study, only 43% of them knew about precautions such as that child should not be given anything hot for at least 30 minutes.

Literacy status did not show any significant role in coverage of PPI. Employment status of mother may

have some effect as shown in the study. A total of 7.1% unemployed mother got their child immunized during PPI at home. If working mothers were employed on Sunday, 6.4% children got polio drops during home visit. If working mother were free on Sunday, none of children received drops at home.

The knowledge regarding UIP was poor among them. It was 26.1% for Measles, 22.1% for Pertusis, 15.5% for Polio and Tuberculosis, 9.1% for Tetanus and 4.2% for Diphtheria. Similar trends were found in a study in West Bengal³.

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ASSOCIATION NEWS

The election committee after proper scrutiny of the nomination papers, received by them, has intimated that the following posts are to be filled in by inviting fresh nominations for the year 2005-2006.

- | | |
|---|-------------|
| (a) Central Council Members, South Zone | - TWO POSTS |
| (b) Member – Editorial Board | - ONE POST |

Therefore, fresh nominations are invited from interested members of the IPHA as per regulation, on payment of Rs. 500/- (Rs. Five hundred only – non refundable) along with bio-data to be submitted either in person or through authorized representative before 6.00 pm on 10th February, 2005 to the Headquarters Secretariate at the venue of the 49th All India Annual Conference of IPHA preferably at the venue of Annual Central Council meeting (please enquire from organizers) Lucknow from February 11 to 13, 2005.

The nomination papers will be considered by the annual meeting of central council scheduled to be held on 10th February, 2005 and later to be ratified by Annual General Body meeting scheduled to be held on 11th February, 2005 at the Conference venue. All nomination papers should be submitted in the format published vide IJPH, Volume 48, No. 2, April-June 2004. Candidates are requested to provide their telephone Number(s), E.mail ID if any along with the nomination forms.

Sd/ Prof. Sandip K. Ray
Secretary General
IPHA HQ.

LOW BIRTH WEIGHT AND MATERNAL SOCIO-BIOLOGICAL DETERMINANTS SITUATION IN A MEDICAL COLLEGE HOSPITAL

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Maternal and child health services in India, over the years, had been overwhelmingly dominated by the services aimed at meeting mostly the family planning targets and to some extent the immunization targets¹. The interventions for ensuring child Survival were paid less attention. The initiatives undertaken through the National Child Survival and Safe Motherhood programme² and later the Reproductive and Child Health programme³ sought to rectify the situation. One of the major child survival goal is to reduce the proportion of low birth weight (LBW) newborns to below 10%⁴. Birth Weight is a critical determinant of survival, growth and development as well as a sensitive indicator of the access and adequacy of the health care services rendered by the health system^{4,5}. The present study sought to measure the proportion of LBW in a tertiary level medical college hospital and to assess the some of the maternal socio-biological determinants of LBW.

The study was carried out at the obstetric in-patient department of NRS Medical College Hospital, Kolkata. Considering the prevalence of LBW as 30%⁶ and allowable error of 5%, sample size was estimated to be 323⁷. An addition of 5% was made to the sample size considering the possibility of non-availability of certain information in the antenatal records, which gave a sample size of 340. Regarding maternal height, maternal weight and Hb %, the standard values suggested in RCH module for Medical Officers³ were adhered to. As record of pre-pregnancy weight will not be available in this study design, weight recorded at early part of pregnancy [at or before 16 weeks of gestation] was assumed as a measure of overall baseline nutritional status of the mother. Record of Hb estimation done after 28 weeks of gestation was considered as the Hb status of the mother during pregnancy. In case of repeat estimations, the latest available value was recorded.

343 consecutive events of live births were studied. The incidence of LBW was found to be 34.7%. 10.2% newborns weighed below 2000 gm. UNICEF estimates

(.2003) shows the LBW prevalence in least developed, developing and industrialized countries of the world as 18%, 14% and 7% respectively⁹. The magnitude of LBW revealed in this study is worse than even the least developed countries of the world.⁹ Among illiterate mothers, proportion of LBW was 51.8%, whereas, those with literacy of secondary level or above, this was 26.6%. Role of maternal education on the birth weight has been revealed in other studies too^{8,10}. 50% of babies born to mothers of age below 18 years were LBW

Among the babies born to primigravida, 37.6% babies were LBW. Similar findings were documented in multiple other studies^{2,4,5,8,10-14}. 42.4% babies born to mothers who performed heavy physical work during their antenatal period were LBW, whereas, among moderate and sedentary workers, proportion of LBW was 34.0% and 18.2% respectively. Multicentric study in India, Nepal and Sri Lanka also revealed very high LBW (81.3%) among mothers engaged in heavy work⁸. Among babies born to mothers with height less than 145 cm., 66.7% were LBW. 53.8% babies born to mothers with weight less than 45 Kg in the early part of their pregnancy were found to be LBW. Relationship between the anthropometric measurements and birth weight were established in many other studies^{4,5,8-12,15}. 52.6% babies were LBW in case of mothers with Hb level of less than 8gm% measured in the 3rd trimester of pregnancy. Maternal malnutrition, anaemia in particular is established as a critical factor behind LBW problem in India in other studies too^{11-13,15}.

Globally, the lowest mean birth weight has been reported from Asia. In the Countries of the Indian sub-continent, the mean birth weight ranged from 2700 to 3000 gm with corresponding LBW rate of 30% to 40%¹⁶. In contrast, in different developed countries range of mean birth weight is from 3300 to 3500 gm with LBW rates ranging between 4% to 8%¹⁶. The study results indicated that upto now the ongoing programmes have failed to attain expected impact on the LBW situation in this region. The Present study

highlighted certain major areas that will require thrust while planning intervention strategies.

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Table-1 : Magnitude of LBW: different studies.

Birth weight (gm.)	Present study (n= 343)	Haryana ⁸	Ernakulum ⁸	Least developed	UNICEF ⁹		
					Developing	Industrialized	World
< 2500	34.7%	38.9%	28.4%	18.0%	14.0%	7.0%	14.0%
< 2000	10.2%	7.0%	3.0%	—	—	—	—

Table-2: Maternal socio-biological factors and LBW.

Factors	LBW			Factors	LBW		
	No.	(%)	(n)		No.	(%)	(n)
Literacy				Age			
Illiterate	29	(51.8)	(56)	< 18	16	(50.0)	(32)
Just literate	8	(40.0)	(20)	18-30	86	(32.3)	(266)
Primary	62	(32.3)	(192)	> 30	17	(37.8)	(45)
Secondary or above	20	(26.6)	(75)				
Parity				Physical labour			
Primi	74	(37.6)	(197)	Heavy	73	(42.4)	(172)
1-3	38	(30.9)	(123)	Moderate	32	(34.0)	(94)
> 3	7	(30.4)	(23)	Sedentary	14	(18.2)	(77)
Height				Weight (kg)*			
< 145	20	(66.7)	(30)	< 45	41	(48.8)	(84)
≥145	99	(31.6)	(313)	≥45	64	(27.7)	(231)
Hb (gm%)**							
< 8	10	(52.6)	(19)				
8-11	82	(36.6)	(224)				
≥11	14	(18.4)	(76)				

* 28 records not available

** 24 records not available