

SUPPORTING FACILITIES

As in previous years, during 2004-05 also, the Council's permanent institutes/centres and Centres for Advanced Research continued to provide referral services, training, *etc.* in their concerned area. The Chennai-based National Institute of Epidemiology (NIE) and Institute for Research in Medical Statistics (IRMS) at New Delhi continued to provide statistical consultancy and services to the Councils headquarters and institutes as well as to scientist from non-ICMR institutes.

The Council continued to coordinate international collaboration in biomedical research between India and other countries (such as France, Germany, USA, Cuba, Canada, China *etc.*) and with international agencies such as WHO.

The newly created Intellectual Property Rights (IPR) cell of the Council is engaged in providing awareness about and protection of IPR to scientists of the Council besides conducting workshops and training programmes in this area.

NATIONAL INSTITUTE OF EPIDEMIOLOGY (NIE), CHENNAI

Surveillance after Indian Ocean Tsunami

On 26th December 2004, the Indian coastline experienced a devastating tsunami. The NIE, in consultation with Government of Tamil Nadu, sent teams to assist in establishing the emergency

surveillance system in the tsunami affected districts and to respond to any detected outbreaks. The teams also carried out rapid assessment of the temporary shelters of displaced populations to assess the water and sanitation facilities.

Three teams from the institute were sent to the districts of Cuddalore, Nagapattinam and Kanyakumari, which were worst affected by the Tsunami. Each team was constituted with an epidemiologist, two Field Epidemiology Training Programme (FETP) scholars and a statistician. The objective of the emergency surveillance system was to (1) estimate retrospectively the burden of morbidity and mortality associated with the tsunami and (2) conduct surveillance prospectively for tsunami related injuries and other conditions. The teams carried out surveillance of syndromes including drowning, tsunami related and other injuries, acute diarrhoea, fever without rash or cough, fever with rash, fever with cough, acute jaundice syndrome, unusual syndromes and acute stress reactions.

In order to assess the prevalence of chronic psychological manifestations of tsunami including post-traumatic stress disorder (PTSD), NIE carried out a survey in March 2005 in one of the affected villages in Cuddalore district (population: 515, tsunami death toll: 76 persons). A total of 314 adults (median age 33 yr.) who relocated in temporary brick houses were interviewed. Of them, 13% had PTSD. Female sex, absence of income, loss



of a family member and tsunami-related injury were found to be significantly associated with PTSD.

Field Epidemiology Training Programme (FETP)

The Institute has been conducting a two-year Field Epidemiology Training Programme (FETP) since 2001. A total of 30 scholars have been admitted for the course till January 2005. The scholars represent different states in the country namely Andhra Pradesh, Orissa, West Bengal, Bihar, Madhya Pradesh, Tamil Nadu, Himachal Pradesh, Maharashtra, Uttaranchal, Mizoram and Andaman and Nicobar islands. During 2004-2005, FETP scholars were involved in investigation of outbreaks of Chandipura virus infection in Nanded, viral encephalitis in Saharanpur (U. P.), cholera in inmates of a Care Centre in Tamil Nadu and Kala-azar in West Bengal.

Clinical Trials for Traditional Remedies

The Institute continues to be actively involved in clinical trials of traditional remedies sponsored by the Council. Study on a flexible dose of *Vijayasar* (*P. marsupium*) among specific groups of type 2 diabetes mellitus patients is being carried out at Chennai, Cuttack and Kottayam centres. The trial is complete in all the four participating centres and data are being analyzed.

Leprosy Vaccine Trial

NIE is the international co-ordinating centre for the multicentric trial to assess the efficacy and effectiveness of 6 month

multi-bacillary MDT (uniform MDT) for all types of leprosy patients through general health services. Trial is being conducted in four centres in India and one centre in China. A total of 1795 patients have been enrolled till March 2005.

The NIE is the co-ordinating centre for WHO sponsored trial for treatment of paucibacillary leprosy patients with single dose of rifampicin, ofloxacin and minocycline (ROM). Trial of single dose ROM was conducted in January 2004. The results obtained were encouraging, notably high proportion of patients had complete clearance. It was considered worthwhile to conduct one more year of follow up of these studies to see if the results achieved so far are sustained or not. Hence, follow up survey has been planned.

Epidemiology of RTIs/STIs in a Rural Community adjacent to Truck Stops

A longitudinal three-phase study in a rural population surrounding two major truck stops on National Highway No. 4 was carried out to establish social and behavioural correlates of STIs, to estimate level of awareness about them and to initiate interventions for their control to assess the impact of interventions objectively. In the baseline survey 13.5% prevalence of symptomatic RTI/STIs has been found.

Psycho-social Challenges faced by HIV Infected Persons

Study was initiated to understand the impact of HIV positive status on the infected individuals (personally, emotionally and socially). All HIV infected

persons attending the hospital of Institute of Venereology at Chennai were interviewed individually in private using interview guide. Before proceeding with the interview, the respondents were informed about the purpose and informed consent was obtained. The study is nearing completion. Data has been collected for 625 persons.

Estimation of the Prevalence of HIV Infection and Other STDs among Injection Drug Users (IDUs) and Their Sexual Partners

Study was taken up to determine HIV prevalence in injection drug users (IDUs) and their regular sex partners in Chennai. A total of 226 IDUs and their regular sex partners were enrolled in 2003 and after obtaining informed consent, a semi-structured questionnaire was administered and serum was tested for HIV antibody. The results revealed that HIV seroprevalence was 30% in IDUs and 5% in their regular sex partners. While in 25% of couples only the male partner was HIV positive, 5% of the couples were concordant for HIV infection and 70% were HIV negative. Fifty seven percent of the HIV positive IDUs and 45% of the HIV infected women thought that they had 'no chance' or 'very little chance' of getting HIV, reflecting low HIV risk perception. More than 20% IDUs reported borrowing or lending of injection equipment. In univariate analyses 'sex' and 'condom use' with sex workers had no bearing but 'more than twice a day injecting frequency', 'history of incarceration', 'tattoos', 'recruitment from northern part of the city', and ever-injecting drug in drug-selling places had significant association

with HIV infection in IDUs. In an adjusted model, the odds of HIV infection were two times higher among IDUs who had ever injected drug in drug-selling places and six times higher in those who were recruited from northern part of central Chennai. Reducing injection equipment sharing practices and unsafe tattooing through targeted and environmental interventions, increasing HIV risk perception, and promoting safer sex practices among IDUs and their sex partners are urgent programme needs.

Prevalence of Cardiovascular Risk Factors in an Urban Industrial Population in South India

The study was done to determine the prevalence of cardiovascular risk factors in 1163 subjects (age 18-69 yr.) in an industrial unit in Chennai. The study results indicated high prevalence of behavioural risk factor such as tobacco use, central obesity, hypertension and diabetes in this population. Effective risk factor intervention programme is being developed to decrease the risk of cardiovascular diseases in future.

INSTITUTE FOR RESEARCH IN MEDICAL STATISTICS (ICMR), NEW DELHI

Base Line Survey on Impact Assessment of ICDS Food Fortification in Uttar Pradesh

The project entrusted to IRMS by the World Food Programme was undertaken with the objectives to determine the baseline prevalence of iron and vitamin A deficiencies among children 6-59 months



of age in Kanpur Dehat (UP), to monitor the supplementation of fortified food and to undertake end line evaluation of the impact of supplementation. The results indicated that the level of moderate anaemia was 68% in experimental group whereas it was 83% in controls. The nutritional status of the preschool children according to Gomez classification (NCHS standard) was moderate *i.e* 44.3% and 38.6% for experimental and control groups respectively. Only 20% had normal nutritional status.

Estimates of Maternal Mortality Ratio in India and its States

The study sponsored by Ministry of Family Welfare was undertaken with the objectives to estimate the maternal mortality ratio at the state level, to study the medical as well as socio-cultural causes of maternal mortality. For this development and validation of the survey instruments and examination of the feasibility of the proposed methodology are being undertaken. The results reveal that snowballing technique captures maternal deaths, which are missed in the house-to-house survey. Pilot survey revealed that such omissions are over 10%. The estimates of MMR and birth rate for the states covered in pilot survey, though based on small samples, provide estimates comparable with those from other sources. The study indicated that majority of maternal deaths occurred in women of younger age group and with birth of first or second parity. This has programmatic implications/lessons. The main cause of maternal death was PPH (17%) followed by post partum septicemia (13%) and

anaemia (12%). About one quarter of the maternal deaths were observed to be during antenatal period and over two thirds in post natal period. A significant observation was that half of the deliveries were conducted by untrained *dais* and large percentage (more than 60%) of the maternal deaths occurred in SC, ST and OBC households.

Birth and Death Registration System in India

A pilot study was conducted by IRMS to review the existing system of birth and death registration in Punjab and U.P. and to suggest modifications for making registration system more effective. In U.P., it was observed that registration of births and deaths was not a usual practice but only need based where the certificate was required. In Punjab, both birth and death registration was 'a usual practice in the area' but the families received the certificates only when the same were needed. The system of registration was observed to be almost non-functional in U.P. due to lack of funds at district level, non-availability of the required stationery, lack of coordination among different functionaries and almost no interest of the *Gram Panchayat Vikas Adhikari* in the registration work. The families had no knowledge of registration as well as they did not feel any necessity for the same. The notifier system was not at all functional in U.P. whereas the success of the system in Punjab was due to the *Chowkidar* working as notifier. The functionaries at Registrar and Notifier level did not receive any formal training in birth and death registration.

Innovative Study of Awareness about STD/HIV/AIDS among Truck Drivers in India

The project was taken up to create awareness on STD and HIV/AIDS and its preventive measures, motivate for adoption of behaviour change, to examine the effectiveness of different components of intervention programme through a series of qualitative research methods and to identify the priority areas for potential improvements in future. Awareness campaigns were carried out with regular distribution of leaflets containing pictorial information about STDs, HIV/AIDS, condom demonstration with the penis model, one to one and one to group counselling and free medical check-up camps.

Awareness/educational programme by peer educators, role play, street play, etc. by outreach workers and counseling and clinical services by trained professionals have resulted in definite impact on knowledge and behaviour of truckers as well as community people in the villages included in the intervention programme. All the participants admitted that they now know the correct use of condoms and condoms were made available by the project staff in and around their transport offices. At present most of the truckers keep condoms in first aid box of their trucks since they are fully aware that using condom is the only way of preventing HIV/AIDS.

Examination of WHO Guidelines for Exclusive Breast Feeding in relation to Child Survival

The study has utilized data of the National Family Health Survey, 1992-93

(NFHS-1), which was initiated by the Ministry of Health and Family Welfare, Government of India and coordinated by the International Institute of Population Sciences, Mumbai. The foregoing study has revisited the findings of a recent research that has stated breastfeeding with supplements to be more beneficial than exclusive breastfeeding even for children at very young ages (below four months) for the survival of infant. The study negates the findings of recent research by recommending breast feeding throughout first year of life. The study also confirms the WHO recommendations of food supplements along with breast feeding from six months. The research endeavor illustrates that introduction of plain water as early as one month after birth can reduce infant mortality in India. However, in tropical country like India, this needs to be further investigated with longitudinal data.

ICMR LIBRARY NETWORK

To encourage electronic resources sharing, ICMR has taken initiative to provide one point access to over 550+ journals subscribed currently by ICMR's network of 24 library and information centres by subscribing to JCCC@ICMR. It also provides access to 200+ open access biomedical journals and 11,800 journals covered under J-Gate which has also been subscribed by the Council.

In addition to JCCC@ICMR the Council has also been subscribing to ProQuest Medical Library for six ICMR Institutes through which these institutes can access to over 550 full text journals. These six institutes located in various regions cater to the needs of other



institutes by supplying photocopies of the articles required by them. It is also under consideration to link ProQuest Medical Library through JCCC@ICMR for optimal utilization of this database by all ICMR institutes. Training programmes are also conducted regional wise and individually in all ICMR institutes for awareness among the scientist as well as library and information professionals and for wide utilization of these database.

INDO-FOREIGN COLLABORATION

The Council coordinates international collaboration in biomedical research between India and other countries such as France, Germany, USA, Cuba, Canada, China, Iran, Myanmar, Mozambique *etc.* and national and international agencies such as WHO, Ministry of Science & Technology *etc.* A total of 44 exchange visits of scientists to and from India were arranged under international collaborative projects/ programmes during the year. Four meetings of Health Ministry's Screening Committee (HMSC) were organized, wherein 40 projects for international collaboration / assistance were approved by the Indian side. To achieve the objective of building up a highly skilled pool of biomedical researchers the ICMR has taken up new initiatives and awarded 6 ICMR International Fellowships for young Indian biomedical scientists and for one scientist from developing country (Cuba) for

training / exposure to the latest advancements of knowledge in the area of work. The Council also coordinates the WHO Biennium Programme .

INTELLECTUAL PROPERTY RIGHTS

The basic activity of IPR is primarily concerned with awareness generation and protection of IPR. The IPR Unit conducted workshops and training programmes to sensitize the ICMR scientists to take up innovation driven research. A total of 5 patents including one PCT patent was filed at Indian Patent Office and European Patent Office. One US and two Indian patents have been granted by USPTO and Indian Patent Office respectively. The US patent was granted on "Species-specific PCR assay for detection of *Leishmania donovani* in clinical samples of kala-azar and post kala-azar dermal leishmaniasis" while an Indian patent has been granted to "Controlled release formulation (CRF) of a DPE-28". Another Indian patent on "Insect repellent device" is likely to be granted. Four applications are in advanced stage of filing.

TRAINING PROGRAMMES

During the year under report, training programmes and workshops were organized by various ICMR Institutes. The Institutes also continued to provide referral services in their areas of research.