Lay reporting and verbal autopsy in assessment of infant mortality

Infant mortality rate (IMR) is an important measure of health and development in a country.[1,2] The reduction in IMR from the existing rate of around 110/1000 to under 60/1000 live births is emphasized in India's plans for achieving health for all by 2000 AD.[3] For achieving this goal, monitoring of IMR and assessment of its causes are necessary prerequisites.

The most comprehensive information on infant mortality in India is obtained from the Registrar General's report. This is macro information collected periodically on an all-India basis on a selected sample. Consequently, there is considerable time lag between its production and availability, the most recent report relating to 1983.[4] It cannot be utilised for providing feed back for local decision making in attempting reductions of IMR. Hospital or institution-based studies cannot also be extrapolated for action in primary health centre (PHC) settings since 90% of the deaths occur in the community.[5]

The registration of births and deaths although compulsory in India, continues to be grossly incomplete and inaccurate. This task as carried out by the village chowkidar is unsatisfactory.[6,7] In recent years, multipurpose health workers were entrusted with this job but the statistics prepared by them were no better. Clearly, there is an urgent need to evaluate alternative, simple and inexpensive approaches. All the PHC workers need to be actively involved in collecting this information and reporting it regularly during their monthly meeting. The overlapping in the information due to different categories of PHC workers can be easily prevented by preparing an inventory and crossing out any duplicate information.[7] Further improvement is possible by asking selected key informants in villages about deaths and births and including them if they have not been reported by the PHC workers.

Uniform and reliable information on vital events in India through registration will be difficult and expensive. On a sentinel basis, periodic recall may be an alternative which can reinforce the Registrar General's report. For the recall of mortality events one year recall is acceptable, though compulsion is needed to avoid inaccuracies in recall period during the interview. Rapid cluster survey has been recommended by WHO for managementoriented decisions.[8]

For the determination of causes of deaths in the community, the difficulties commonly encountered are : (i) the information regarding death is available few weeks or months after the event and commonly the individual has not been seen or examined during the terminal illness by the health workers/professionals; (ii) no information on laboratory investigations or postmortem is available; (iii) it is very expensive to send professionally trained individuals for routine investigation of deaths since the villages are scattered; (iv) professionally trained personnel are not available in adequate number to undertake this task. Clearly, the methodology used for determination of cause of death in a hospital cannot be extended in PHC situations. A suitable alternative is the use of verbal autopsy

by trained lay reporters.

Verbal autopsy is an investigation of train of events or circumstances preceding death through an interview of the mother or any other relative who was looking after the infant. A structured interview is not as suitable as the combination of interview and conversation with the respondent keeping the focus on easily recognisable signs and symptoms. Since the opinion of one family member may be inaccurate, the inclusion of other family members and neighbours during the conversation is helpful. Communication is facilitated by the use of local terms for common illness. For example, 'naskat' or 'dhanush bai' or 'athwan' for neonatal tetanus; 'khasra' or 'kanthi ki bimari' for measles; and 'sokha' for malnutrition may help communication. Pneumonia may be described as 'pasli or bakkhi chalna' (intercostal recession), 'chaati rukna' (congested chest), 'chaati me chabka' (pain in the chest) etc. The use of descriptions of illnesses or vignettes is also helpful. The main focus in verbal autopsy is on illnesses or deaths which can be prevented through timely action in PHC settings. Since this approach is management-decision oriented and strives for improvement of health care delivery, the verbal autopsy should include the study of utilisation pattern, family behaviour and decision making during the terminal illness.

Verbal autopsy includes determination of causes of deaths according to the family's understanding about illness. Its value as a management tool is considerably enhanced by group discussions with professional colleagues who help the lay reporters in finalisation of cause of death. This discussion serves an additional purpose of training in the various preventive measures to be undertaken in future management of a similar problem. During discussion, as far as possible the underlying, associated and multiple causes of death are identified and this can permit coding and classification of cause of death according to the recommendations of WHO on lay reporting of deaths.[9]

In the initial stages the verbal autopsy technique needs to be validated through its application as a research tool in different PHC settings. Study protocols and verbal autopsy forms are available on request from the authors. After validation, the verbal autopsy and lay reporting of vital events can be adopted in the sentinel units and then extended to health service delivery systems in a carefully planned and phased manner.

The use of lay reporting and verbal autopsy will fill a major gap in our existing knowledge on infant mortality and help in determining death rates, age-specific mortality, cause-specific mortaliy and sex differentials. It deserves a high priority to be included as a service tool.

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Can we improve survival of the newborn in India?

Publication of series of articles on perinatal mortality (PNM) in the *Journal* signifies the keen interest of Indian investigators in an area of health care which has been difficult to tackle.[1-3] All these papers have some freshness about them.

The rural study by Shah is action-oriented.[1] The author categorised the risk into 'relative risk', 'attributable risk' and 'population attributable risk'. These concepts are useful for programme planning of intervention studies. Asphyxia was the major cause of late fetal deaths, mostly related to abnormal presentations, prolonged labour and placental factors. Unlike the hospital based studies where only 20 to 30% of early neonatal mortality (ENM) occurs among normal birth weight (NBW) babies, this study showed that half of the ENM occurred in NBW infants, where again common causes of death were birth asphyxia (BA) and feeding problems. Respiratory problems and infections were not frequently encountered as cause of ENM. This may possibly be due to difficulties encountered in diagnosing neonatal infections and respiratory disease in the field situation. The author did not categorise the cause of death among LBW infants except to say that 39 out of 41 such infants were preterm births. The common causes of death among preterm babies reported from hospital data are infections, hyaline membrane disease and recurrent apneic attacks.[4] It has been rightly emphasised that the strategy for intervention should involve training and relying on the traditional birth attendants (TBA) and community health guides (CHG) for reducing perinatal mortality in rural areas. These workers are locally available and can provide the care near the home. For the same reason the cases referred by TBAs and CHGs should be managed mostly at the local primary health centre (PHC). For this it is imperative that the facilities for perinatal and neonatal care are augmented according to the recommendations of national experts.[5,6] However, we are looking forward to the results of intervention strategies carried out in the light of above mentioned suggestions; only then hypothesis can be proved. One such