Symposium: Acute respiratory infection

Guest Editor: Vijay Kumar

Editorial: Need for a national control programme for acute respiratory infections

India has endorsed the policy of providing health by adopting primary health care (PHC) in consonance with Alma Ata Declaration, and to achieve health for all by 2000 AD. One of the major targets is reduction of infant mortality rate from 110 to 60 per 1000 and pre-school mortality rate from 30 to 10 per 1000. \(^1\) Efforts to universalise immunizations, promote the use of oral rehydration salts in the management of acute diarrheal disease and provide potable drinking water have already been initiated. These efforts will still leave untouched a major cause of infant and child death, that is acute respiratory infections (ARI).

ARI—A serious health problem

The ARI is a serious threat to infant and child survival in India. According to the Registrar General's published figures, these account for 15-20\% mortality during this age period. \(^2\) The current estimates of about 600,000 annual deaths during pre-school age period are realistic. The case fatality rates are high ranging, between 5-10\%. \(^3\) Evidence is accumulating that acute lower respiratory infections in early childhood predispose to the development of chronic obstructive airway disease in adult life. \(^4\) The ARI is a considerable strain on our overcrowded hospitals and health centres accounting for about 25-30\% consultations and around 25\% admissions. \(^5\) At an estimated rate of about 5-7 infections per child per year in the urban areas and 3-5 in the rural areas, considerable discomfort, dislocation and pressure on constrained economy is related to ARI.

ARI control programme

Available evidence in India indicates bacterial causation for acute lung infections in up to 70\% of cases with Staphylococcus pneumoniae, Staphylococcus aureus and haemophilus influenzae as the main organisms. \(^6,7\) The organisms are sensitive to antibiotics like cotrimoxazole, penicillin, ampicillin/amoxycillin. Fortunately in India streptococcus has not shown any penicillin resistance to date.

Considerable research both in hospital and community settings provides a strong technical base for launching a national ARI control programme. These studies relate to epidemiology, etiology, clinical management, hospital and community experiences and limited efforts for prevention. The existing data base for initiating concrete preventive measures is not as sound as for control of mortality.
Translation of technical knowledge into operational reality

It is now well accepted that traditional etiological or anatomical classification is not necessary for management-oriented decisions. The ARI can be categorised into mild, moderate and severe forms on the basis of three simple clinical manifestations viz. rapid respiratory rate (more than 50 per minute); presence of chest indrawing or breathing difficulty and inability to drink. If any of the above is present, it indicates moderate/severe forms which need to be treated with antibiotics. If chest retractions or indrawing are present referral is necessary. These signs and symptoms can be taught with ease to PHC workers and even the mothers. The adoption of this approach enables the transfer of skills and knowledge to health auxilliaries with no need for application of stethoscope, chest X-ray film or laboratory investigations which may be difficult to obtain in the community settings and in rural areas. Standard case management by adopting the universal usage of cotrimoxazole or penicillin injection in management of moderate cases in the community by PHC workers is demonstrated to be feasible. After a series of consultations and extensive review of available knowledge, WHO and UNICEF have recommended ARI control programmes comprising: (i) health education, (ii) standard case management (including discrimination of severity, use of antibiotics in moderate cases and referral of severe cases), and (iii) immunization with the objective of reducing mortality on a short-term basis.

Evidence of feasibility and impact is now accumulating. In Narangwal, the impact on mortality by penicillin injection in the treatment of pneumonia by health auxilliary was demonstrated. In Chandigarh, the impact of oral penicillin in reducing ARI related mortality in low birth weight was convincingly shown. In another study, also from Chandigarh, dramatic reduction in mortality by the use of cortimoxazole in the community is available. The feasibility of standard case management is under trial in Chandigarh, Varanasi, Delhi and Jhansi which provide a strong case for expanding these efforts.

Training modules for senior managers, mid-level managers, doctors working in small hospitals and community health workers have been developed and field tested in several countries. Their incorporation and integration with CDD and EPI training efforts has also been tested. India has the unique distinction of field testing this material developed by WHO. Health education aids, teaching slides and other supportive material, some of it developed in India, is now available for use in the community and hospital settings.

Very simple, inexpensive and rapid methods are available to evaluate the extent of the problem of ARI, assess the impact of standard case management and quantitate the utilisation rates. The simple verbal autopsy technique is a field applicable tool which can be applied with ease in assessing the cause of mortality.

ARI control as national programme

India has seen a vast expansion of its infrastructure and it continues to grow. The ARI control efforts are proposed to be an integral part of PHC. There is thus no additional need for creating or upgrading infrastructure or manpower. Multi-