Every year some 12 million children die before the age of 5 years. Of these deaths 70 percent are caused by five common preventable or easily treatable childhood conditions: acute respiratory infections (mostly pneumonia), diarrhoea, measles, malaria, malnutrition and often combination of these. Many of these deaths could be prevented using existing knowledge and affordable tools. Despite this, more than 25,000 under-five children die from these illnesses each day. Neonatal causes are attributable to 37 percent cases of prematurity congenital, asphyxia, sepsis, diarrhoea, tetanus and others.

In India common illnesses in children below five are mainly fever (27%), acute respiratory infections (17%), diarrhoea (13%) and malnutrition (43%). They are often found in combination. Infant mortality rate continues to be high at 68 per 1000 live births and under five mortality rate at 95/1000 live births per year. Neonatal mortality contributes to 64 percent of infant deaths and most of these deaths occur during the first week of life. Mortality rate in second month is also higher than at later ages.

Contributing Factors
Factors that contribute to illness are poor living conditions like lack of safe water supply, poor hygiene, overcrowding; inability of parents to recognise danger signs and delay in seeking appropriate treatment. The problem is compounded by the poor quality of care provided at the health facilities. All the above mentioned factors contribute to increased infant and childhood mortality which are considered to be the sensitive indicators of inequity and poverty. It is no surprise that the children who are most commonly malnourished and who are most likely to die of their illness belong to the most vulnerable and under-privileged population.

Projections based on 1996 analysis in the Global Burden of Disease indicate that these conditions will continue to make major contributions to childhood mortality through the year 2020 unless significant efforts are made to control them.

IMCI Concept
During the mid-1990s, the World Health Organisation (WHO) and UNICEF with many other agencies, institutions and individuals responded to the challenge of high child morbidity and mortality by developing a strategy known as the Integrated Management of Childhood Illnesses (IMCI). IMCI is a national programme not only aiming towards reducing infant mortality rate but also towards mortality reduction in first two months of life, particularly in the first week of life. This global strategy focussing on preventing and treating illness in children 2-59 months of age has been adopted by nine out of 11 South East Asian Region (SEAR) member states. The package has been adapted and is in use in India, Nepal, Bangladesh, Bhutan, Indonesia Timor-Leste, Myanmar, Korea and Maldives etc.

Indian Adaptation of IMCI
Ministry of Health and Family Welfare (MOH & FW) Government of India, constituted a National Adaptation Group of Experts (NAG) in 2002 – 2003 to localise IMCI strategy and protocols for the Indian context. The NAG under the chairmanship Dr MK Bhan, Professor of paediatrics AIIMS (now Secretary Biotechnology Department) collaborated with UNICEF, WHO, Department of Women and Child Development, National Vector Borne Disease Control Programme (NVBDCP) and professional organisations i.e. Indian Medical Association, National Neonatology Forum (NNF) and Indian Academy of Paediatrics (IAP).

This strategy has been further expanded in India to include all neonates and renamed as Integrated Management of Neonatal and Childhood diseases (IMNCI). The guidelines target children less than 5 years old - the age group that bears the highest burden of deaths from common childhood diseases (Fig. 1).

Integrated Evidence-based Syndromic Approach to Case Management
IMNCI adopts an algorithmic approach that encourages health providers to address a sick child in a systematic manner to address several medical conditions, that often coexist, rather than the presenting symptom only which often is the case when child health programmes are implemented in a vertical fashion. Apart from treating medical condition, the strategy insists that each contact with the sick child can be utilised for preventive and promotive health interventions. For instance all children are screened for malnutrition and the immunisation status, assessed and age-appropriate feeding advice and
immunisation services are offered. The guidelines include rational, effective and affordable use of drugs and diagnostic tools. It also emphasises on importance of evaluation of evidence form clinical research and caution against the use of intuition, unsystematic clinical experience and untested pathophysiologic reasoning for medical decision making.

**Goals of IMNCI**

The major goals of IMNCI are:

- Standardised case management of sick newborns and children
- Focus on the most common causes of mortality
- Nutritional assessment and counselling for all sick infants and children
- Home care for newborns to promote exclusive breastfeeding, prevent hypothermia, improve illness recognition & timely care seeking.

**Components of IMNCI**

IMNCI aims towards improving practices in health facilities, the health system and at home. At the core of the strategy is integrated case management of the most common neonatal and childhood problems with a focus on the most common causes of death. It has three main components:

- Improvement in the case management skills of health workers through the provision of locally adopted guidelines and training activities to promote their use
- Improvement in the health system for effective case management of childhood illness, especially essential drug supplies
- Improvement in family and community practices in relation to child health is especially important, with practical interventions needed to help mothers respond promptly to childhood illnesses. Some ideas such as the sick child home visit, communication skills training for health workers, and media health promotion campaigns require evaluation for cost-effectiveness.

**Principles of Integrated Care**

Depending on a child’s age, various clinical signs and symptoms differ in their degrees of reliability and diagnostic value and importance. Therefore the IMNCI guidelines recommend case management procedures based on two age categories; Young infant age up to 2 months and children 2 months up to 5 years (Fig. 2).

The IMNCI guidelines are based on the following principles:

- All sick young infants up to 2 months of age must be assessed for “possible bacterial infection/ jaundice”. Then they must be also assessed for the major symptoms of “diarrhoea”.
- All sick children age 2 months up to 5 years must be examined for general “danger signs” which indicate the need for immediate referral or admission to a hospital. They must be also routinely assessed for major symptoms like cough or difficulty in breathing, diarrhoea, fever and ear problems
- All sick young infants and children 2 months up to 5 years must be routinely assessed for nutritional and immunisation status, feeding problems and other potential problems.
- Only a limited number of carefully selected clinical signs are used, based on evidence of their sensitivity and specificity to detect disease. These signs were selected considering the conditions and realities of first level health facilities.
- A combination of individual signs leads to an infant’s or a child’s classification(s) rather than a diagnosis. Colour-coded classification(s) indicate severity or condition and call for specific actions; pink suggests hospital referral or admission, yellow indicates initiation of specific treatment and green calls for home management.
- It addresses most of the major reasons a sick infant or child is brought to a clinic. An infant or child retuning with chronic problems or less common illnesses may require special care. The guidelines do not describe the management of trauma or other acute emergencies due to accidents or injuries. They also do not cover care at birth.
- Management procedures use a limited num-
Preparation of Nursing Personnel

Nursing personnel at various levels like ANM, GNM and BSc level are being prepared to handle children. The current syllabus of ANM includes IMNCI module, NRHM component, SBA module, standard safety guidelines for infection control and life saving drugs. The syllabi of GNM and BSc Nursing has community health nursing, Child health nursing and IMNCI is also being incorporated so that they all can be trained at pre-service level. In addition, IMNCI training through distance learning to the nursing students undergoing graduation programme has been initiated for speedy implementation of activities. Simultaneously in-service training has been also given to the nursing personnel being given in selected states like Haryana, Punjab, Rajasthan, UP, Gujarat etc. Under RCH project ANMs and Staff nurses along with regular nursing personnel have also been employed in all sub-centres, primary health centres and community health centres. With this type of preparation of nurses in India, they can prove to be very important ones in managing sick children in the community and hospital as well.

Contribution of Nurses in Reducing Childhood Morbidity and Mortality

Nurses play crucial role in the hospital as well as in the community while taking care of sick children. They have a great partnership with other team members in identifying, classifying, and appropriately treating them by using simple cost effective strategies. All the cases can be easily identified at early stage during home visits, regular immunisation programmes held in the community, in area of work such as sub-centre, primary health centre and community health centre and managed appropriately by early interventions. Nurses also regularly counsel the caretakers about how to give oral drugs, treat local infections at home, feeding, and fluids and when to return. Nutritional assessment and counseling for all sick infants and children. In addition home care for new-borns to promote exclusive breastfeeding, prevent hypothermia, improve illness recognition and timely care seeking are also explained to the mothers.

Conclusion

The responsibility of the nursing personnel is to identify and capture large number of neonates and children under-five who never reach health facilities by mandated home visits. The challenge is now before the frontline health care providers (nursing staff) to deliver this package to all those who need it the most.

References

1. Integrated Management of Childhood Illness: Multi-Country Evaluation. www.who.int/imci-mce