

The Need to Redefine Neonatal Period

Neonatal period is conventionally considered as first 28 days of life irrespective of period of gestation. Why a cut off of 28 days has been chosen is not clear? Is this definition satisfactory or should it be revised or at least debated? There is no biological or physiological basis for using the cut off of 28 days. It is possibly based on epidemiological considerations of high morbidity and mortality which is peculiar and specific to this period of life.

There are three serious limitations in using 28 days cut off for defining neonatal period. Firstly, an infant born at a gestation of 32 weeks would cross the neonatal period of life at a time when his post conceptional or corrected age would be 36 weeks of gestation only. The situation would be worse in extremely premature babies. Secondly, a significant number of extremely preterm babies die after the postnatal age of 28 days but at a post conceptional age of less than 40 weeks and they are not counted among neonatal deaths. Lastly, the health problems like ecology of bacterial pathogens and their clinical manifestations, unsatisfactory fluid and electrolyte homeostasis due to

renal immaturity and non specific stereotyped manifestations of diseases, *etc.* are identical not only during the first 28 days of life but up to first 3 months of life. For example, our diagnostic and therapeutic approaches towards management of septicemia, meningitis, pneumonia and diarrhea, *etc.* during first 4 weeks and between 4 weeks to 12 weeks of life are identical. Therefore, I would like to suggest that the neonatal period should be extended up to 12 weeks due to aforementioned biological and epidemiological considerations. Raising the upper limit of neonatal period to 12 weeks would also resolve the dilemma pertaining to preterm babies because a baby born at 28 weeks of gestation would achieve the gestational maturity of at least 40 weeks at the postnatal age of 12 weeks. Alternatively, 28 days of neonatal period should be counted after the corrected or post conceptional maturity of 40 weeks.

I think this issue needs to be seriously debated by the pediatricians, neonatologists and epidemiologists to achieve a consensus.

Meharban Singh,

Professor and Head,

Department of Pediatrics,

All India Institute of Medical Sciences,

Ansari Nagar, New Delhi 110 029.