Neonatal near miss: a potentially useful approach to assess quality of newborn care

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Reducing infant mortality and improving maternal health are the two of the eight Millennium Development Goals (MDG) set by the international community to promote development worldwide. It is crucial to strengthen the health systems and improve the quality of care women and children receive, in particular during childbirth, to make progress in these goals. Valid and reliable tools are needed to routinely assess quality of care and provide improvements accordingly.

Assessment of severe acute maternal morbidity, defined as "maternal near miss," is recommended as a measure of the quality of maternal health care, in particular in settings where maternal deaths have become relatively rare.[1] In such instances, focusing on near miss allows identification of sufficient number of cases to study and understand health system failures within a shorter time-period as compared to maternal death studies. Furthermore, studying near miss to identify health system failures is more acceptable for health care providers as it is associated with a positive outcome. Assessment of near miss cases would also permit interviewing women to understand their perceptions of the care received if needed. Thus, maternal near miss audits are increasingly been used to monitor quality of obstetric care.

In order to facilitate the wider use of maternal near miss approach to monitor and improve obstetric care, the World Health Organization (WHO) has recently facilitated the development of a standard definition of maternal near miss and a set of criteria with which a maternal near miss case should be identified.[1] This definition describes a maternal

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near miss as "a woman who nearly died, but survived a complication during pregnancy, childbirth or within 42 days of termination of pregnancy." The criteria represent a set of clinical, laboratory, and management-based identifiers, which are applicable to both developed and developing country settings. Comparisons thus can be made across settings and countries. A number of indicators combining maternal mortality and maternal near miss is also proposed to enable calculation and interpretation of such comparisons.

Near miss concept in pediatrics or neonatology has also been used in the context of severe conditions such as severe cases of neonatal jaundice, encephalopathy, or as "near miss sudden infant death syndrome" from as early as the 1970's.[2-5] Its use as a tool to improve clinical care for newborns, however, has not been widespread and consistent. The same advantages of using maternal near miss approach over studying maternal deaths would apply to assess quality of care and identify remediable health system factors for improving care for newborn babies. First, because the number of ill survivors identified will be as many as four times the number newborn deaths, the number of cases from which information can be collected will be higher in assessments of neonatal near miss. Second, lessons learnt from near misses will reinforce the lessons learnt from assessing deaths. Finally, comparative ratios/indices combining deaths with near misses can be calculated.[6]

There is however, no standard definition or internationally agreed identification criteria for neonatal near miss cases.

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Development of such criteria would facilitate the use of neonatal near miss as a measure of quality of newborn care and quality improvement tool. These criteria would have to be simple, feasible to use at the individual facility and at the health system level, meaningful for clinicians, managers and health care professionals, stable in terms of severity, and applicable to a variety of settings regardless of the development level.[1] Agreement on such criteria will depend on the generation of evidence on the ability of candidate criterion to detect the real severe cases, the feasibility of easy collection of data within clinical care and the applicability to different settings.

Pileggi et al., in this issue of Jornal de Pediatria, report on a study that explored the use of the neonatal near miss concept as a tool to evaluate the quality of neonatal care, similar to maternal near miss approach. They analyzed data from 19 hospitals in Brazil included in the WHO Global Survey on maternal and perinatal health. Using the available variables within the survey, they constructed and tested a pragmatic definition and criteria for neonatal near miss concept. The findings indicate the potential usability of the constructed criteria in assessing the quality of newborn care. The conceptualization and operationalization of neonatal near miss within this study deserve attention in further development of the near miss concept for newborns as a quality of care tool. The study thus, makes a useful contribution to the literature in this area.[7]

As the other health related MDGs, achievement of the goal of reducing child mortality will largely depend on strong health systems where quality of clinical care is an intrinsic element. Neonatal deaths constitute a significant portion of the overall child mortality. Routine studies of neonatal near miss and availability of standard tools for this purpose, by improving the quality of care, should contribute to reducing deaths of newborns through assuring the quality of care they receive during childbirth.

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