Their Life in Your Hands – Physician Attitude and the Survival of Extremely Preterm Infants

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In its short history as a distinct specialty, neonatology has witnessed remarkable improvements in the survival of very low birth weight (VLBW) infants. During the last two decades these improvements have extended to the extremely low birth weight (ELBW) population where survivors are now reported in some of the smallest and most immature infants for whom care has ever been provided. Survival without major health complications has also increased and the trends indicate that survival rates will rise even more in the coming years. However, there remains wide variation in the survival and outcomes of the very preterm infants and this is particularly marked in infants of <26 weeks gestation who are often regarded as being of borderline viability. Rates of survival to discharge currently vary ranging from 0% to 9.8% at 22 weeks, 1% to 52% at 23 weeks, 31% to 67% at 24 weeks, 66% to 82% at 25 weeks, and 78% to 85% at 26 weeks (1-3). Although many high-income countries have developed national recommendations to support healthcare professionals in making difficult resuscitation decisions for extremely preterm infants (EPIs), such guidance is heavily influenced by the prevailing cultural, social and legal factors. It is evident however, that while existing national recommendations may influence national policies and local practices, they fail to account for the large inter- and intra-country variations observed in survival and outcomes of EPIs.

Several studies have highlighted practice variation between physicians at extremely preterm gestations (4). As national guidelines are not binding for practice and allow for personal interpretation, physician attitude towards saving EPIs has emerged as a potential major contributor to variations in clinical outcomes. Khan et al (5) suggested that 'attitude is a little thing that makes a big difference' on outcomes for this group of infants. Personal beliefs may provide an important bias in practical decision making (6). Whereas some physicians are concerned about the quality of life when making decisions, others may consider sanctity of life to be more important. A physician's perception of the impact of adverse outcomes that may follow the provision of treatment below their preferred birthweight or gestation threshold influences their practice. Physicians' perception of EPIs' viability and hence management decisions, inevitably determine the life course of an individual infant (7). Professional experience, age and religious background may also affect the attitudes of physicians towards saving infants of borderline viability.

The generally pessimistic attitude of healthcare providers towards survival and long-term neurodevelopmental outcomes of EPIs has been highlighted by several studies (6, 8). Those who are pessimistic are less likely to intervene at earlier gestations in the clinical setting. A US survey of obstetricians and neonatologists found that they underestimated survival and handicap-free rates in infants born at 23 weeks gestation upwards with obstetricians being generally more pessimistic. Paediatricians who underestimated survival were less likely to intervene with cardiopulmonary resuscitation or use mechanical ventilation (8). A Canadian study found that paediatricians and nurses overestimated the mortality of VLBW infants and

there was a strong correlation between a negative attitude towards saving the VLBW infant and a negatively false perception of outcome (9). Poor survival then becomes a 'self-fulfilling prophecy'. The Swedish EXPRESS study (10) and a Danish study (11) which examined the impact of a change in attitude from minimal intervention to proactive management for infants born <27 weeks reported improved survival without a concomitant increase in morbidity.

Current evidence suggests that physician attitudes may account for the large part of the inter-hospital and between region variation in survival, and to a lesser extent the survival without severe impairment in this unique patient population. Despite the availability of better outcome data on EPIs from population studies, physicians studying the same data may come to entirely different conclusions leading them to adopt different treatment options dependent on their personal perception of the available outcome data. While good ethics should start with good facts, good facts do not necessarily lead to a moral consensus.

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Biography

Richard Mupanemunda completed his undergraduate medical studies from the University of Southampton and went on to train in paediatrics and neonatal medicine in the UK and North America before taking up his current post in neonatal medicine at the University Hospitals Birmingham NHS Foundation Trust. His interests include the use of inhaled nitric oxide in the treatment of hypoxic respiratory failure in newborns, airway management and the ethics of healthcare provision. He has

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