Clinical Inquiry into the Effectiveness of Elevated Midline Head Positioning in the Prevention of Mortality in Extreme Low Birth Weight Premature Infants

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 There is a notable increase in the incidence of mothers having extreme low birth weight premature infants. This is largely attributable to unfavorable lifestyles of the mothers and chronic illnesses that result in premature deliveries. Habits such as smoking, lack of exercise, and drinking of alcohol are known to be responsible for low birth weight (LBW) deliveries. Once born, however, LBW infants face monumental challenges to survive because of their underdeveloped body systems and low immunity. The result is an elevated mortality rate for these infants. As such, problems that are encountered while caring for extreme low birth weight (ELBW) premature infants are immense. There is need, therefore, for evidence-based interventions to care for them. This paper looks at the process of clinical inquiry leading to one such evidence-based intervention.

**How the Problem was Identified**

 While working in the neonatal intensive care unit (NICU), it was noted that the mortality among the ELBW premature infants was quite high. Close follow-up of the post-mortem results subsequently showed that majority of these fatalities were caused by either cardiopulmonary complications or ventricular hemorrhage. Clearly, there was a problem that needed to be addressed.

**A Description of the Problem**

 The problem that was noted was that ELBW premature infants were dying in such large numbers that survival seemed to be an impossible feat to achieve. This happened typically within the first four to five days after the premature birth. On close scrutiny, it appeared that the problem was related to the way the premature babies were positioned in the incubators or warmers. This became apparent after the nurses tried putting the infants in different positions for a given number of hours each day. Anecdotally, it soon started appearing that when the ELBW premature infants are put in an elevated position, they survive longer.

**The Proposed Change in Practice**

 A decision was then made to search for evidence in support of a different intervention that would ensure that majority of the ELBW premature infants survived. Following the unscientific findings by the nurses in NICU to the effect that elevation was apparently beneficial, it was proposed that this be adopted as the official practice. But first, evidence had to be searched to support this practice.

**The Clinical Question**

 Circumstantial evidence has pointed at the possible fact that positioning could be the problem. The clinical question therefore is whether putting the ELBW premature infants in an elevated midline head position would prevent mortality from cardiopulmonary causes and ventricular hemorrhage. In the PICO format, this clinical question can be phrased as follows: *In extreme low birth weight premature infants (P), does the practice of putting them in an elevated midline head position (I) compared to supine position (C) improve cardiopulmonary function and lower the incidence of periventricular-intraventricular hemorrhage (O)?*

**Conclusion**

 Cases of rampant mortality among premature infants are not uncommon. However, with the keen eye of an observant nurse, a possible practical cause can always be isolated. This way, the problem can be identified and clinical inquiry instituted, as in this case, to find an evidence-based solution. In this case, the problem was identified as a wrong positioning technique and evidence is therefore to be found in support or otherwise of elevated midline head positioning.

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