

LETTER TO EDITOR

The Necessity of Implementing Clustered Care in Preterm Infants

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DEAR EDITOR

Clustered care has been recommended as one of the essential developmental care interventions for promoting sleep in preterm infants, which can improve the neurodevelopment of the preterm infant during the neonatal intensive care unit (NICU) hospitalization period.¹ Clustered care means clustering or grouping several nursing care procedures performed together instead of spacing them out over time. The main goal of clustering care is to allow the premature infants to rest for longer periods and avoid handling and disturbing their sleep pattern. It has been suggested that clustered care should be considered as a main care method.²

Care activities that are typically performed several times a day for preterm infants in the NICU can be included in clustered care.² Clustered care has also been provided by reducing the number of times baby care is delivered twice a day.³ The previous studies have clustered various non-invasive care procedures such as changing diapers, measuring the abdominal girth, taking the axillary temperature, providing oral care, changing the location of the pulse oximeter probe, weighing the infant, paying attention to gavage, and changing the position of the infant. In addition, routine procedures of the NICU, such as medication administration and measurement of vital signs, head circumference, and umbilical circumference, are also considered within the scope of clustered care.²

Clustered care affects the brain development of preterm infants and improves short- and long-term health outcomes.¹ Few studies have examined the short-term and long-term consequences of clustered care. Clustering of nursing care significantly improves the respiration, heart rate, blood oxygen saturation, and systolic blood pressure. Studies on the effect of clustered care on the behavioral responses of premature infants have also shown an increase in behavioral symptoms indicating stability and a decrease in behavioral symptoms indicative of stress. In addition, clustered care increases the infants' sleep duration and decreases their wake state and pain scores.²⁻⁴ Implementing clustered care reduces the frequency of manipulation, provides longer periods of sleep, and limits the energy consumption of the infant. Meanwhile, infants under clustered care have longer quiet and active sleep during a sleep cycle.² As to long-term outcomes, an increase in the body mass, height, and head circumference of infants who received clustered care has been reported 6 months and 12 months after receiving care. Clustered care

can improve the physical and intellectual development of infants and reduce the prevalence of diseases, including respiratory, umbilical, and intestinal infections in infants within one year after discharge. The level of parental satisfaction with nursing care has also been reported to increase.³

Nurses, other NICU health care professionals, and parents play a key role in implementing clustered care for premature infants admitted to the NICU.¹ Meanwhile, nurses have considerable impact on the provision of clustered care to premature infants, so their knowledge and practice in this field is important. A study investigated the knowledge and practice of nurses concerning clustered care and reported that only two-fifths of them had good knowledge about it. Although all the nurses performed well in the implementation of clustered care, the reason was not awareness of the importance of clustered care, but lack of time.⁵

Clustered care has been emphasized as a strategy to support infant sleep and reduce the stress imposed on premature infants hospitalized in NICU; however, the lack of knowledge of nurses working in NICU about clustered care, unclear details on the implementation of this approach, and lack of clarity about all the short- and long-term effects of this important care method on health and development of infants have led to its sub-optimum implementation. Therefore, nursing managers and policymakers should plan to improve the knowledge and practice of nurses and physicians and involve parents. Clinical research should identify the ways to categorize care procedures in clustered care and assess their consequences.

Conflict of Interest: None declared.

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