

In the Name of GOD



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REGISTRY PROPOSAL: (1-2 PAGES excluding references)

- A. Title of Registry
- B. Brief Intro to Registry –Literature Review (1-2 paragraphs)
- C. Registry Objectives (what is it you are specifically looking at, trying to reach?)
- D. Registry Design (participants, data collection, statistical analysis plan, etc.)
- E. Timeline for your Registry project (project deadlines set by you and your mentor)
- F. Who will provide support and feedback and how often will this occur?

A. Iranian registry of neuro developmental status of premature infants

B. Developmental disorders and neurological complications are more common in premature infants than in term infants, and existing studies indicate the need for long-term follow-up in these patients for early detection and early intervention. (1) However, in countries The development of preterm infants' survival rates has clearly increased due to appropriate progress in the field of prenatal care, but patients are not adequately followed up to assess the long-term complications of prematurity (2). These patients are at higher risk for developmental disorders - cerebral palsy - sensory and cognitive disorders, and improved parent-infant communication and early intervention improve these symptoms. (3) It has been proven that early intervention improves children's social and educational prognosis and has a significant role in the future of these patients and their impact on society (4). Other studies also suggest that early intervention services improve the prognosis in preterm infants and that care in these patients does not end in hospital stay and should be prolonged (5).

C. In this work we intend to study the neurological and developmental status of premature infants and high-risk infants for prevention of more neurological disorders with early detection and preventive care.

D. : In this study, preterm infants will be

enrolled in the study. Demographic and other data such as corrected age, gender,

height, weight, head circumference, gestational age, single infant or twin birth,

infant growth status based on growth curve at birth and one year, duration of

ventilator connection, Duration of hospitalization in the NICU, clinical problems

observed at birth, first, fifth, tenth and twentieth minute Apgar scores, type of

delivery, and clinical problems observed in mothers were collected through

infants'; medical records or questions from parents. ASQ Test was used to assess

infants'; developmental status at one year of age. In the present study, if a

developmental abnormality was observed in the ASQ Test, the Billy Test was

also performed for the infant. Also, detailed neurological examinations were also

performed.

Background: The probability of developmental delay in preterm infants

(gestational age < 37 weeks) was estimated more than term infants. The present

study aimed to evaluate the epidemiological and neurological developmental

evaluation of premature infants at the age of 10-14 months in Imam Hossein and

Mahdiah Hospitals in 2018 and 2019.

Methods: In this descriptive cross-sectional study, 87 preterm infants were

enrolled in the study. Demographic and other data such as corrected age, gender,

height, weight, head circumference, gestational age, single infant or twin birth, infant growth status based on growth curve at birth and one year, duration of ventilator connection, Duration of hospitalization in the NICU, clinical problems observed at birth, first, fifth, tenth and twentieth minute Apgar scores, type of delivery, and clinical problems observed in mothers were collected through infants' medical records or questions from parents. ASQ Test was used to assess infants' developmental status at one year of age. In the present study, if a developmental abnormality was observed in the ASQ Test, the Billy Test was also performed for the infant. Also, detailed neurological examinations were also performed. All collected data were recorded in patient information forms and evaluated by SPSS software version 23.

Results: Fifty-two percent of infants were boys. The mean corrected age was 376.70 ± 48.60 days. The mean gestational age in preterm infants was 32.77 ± 2.46 weeks. The most common clinical problems reported in preterm infants were hyperbilirubinemia (72.4%), respiratory distress syndrome (56.3%) and sepsis (41.4%), respectively. Most infants (63.2%) were breastfed and supplemented in the first year and 26.4% were exclusively breastfed. 9 infants (10.3%) were not breastfed in the first year of life. According to the ASQ Test, 64 infants (73.6%) had normal development and 23 infants (26.4%) had abnormal development.

There was a significant relationship between infants' developmental status and their age, corrected age, birth height, one year old weight, one year old height, ventilator duration, first and twentieth minute Apgar score, seizures, reflex

reduction, pneumonia, breastfeeding in the first year of life, ROP, occupational therapy and ECG findings at one year of age. Among these variables, only breastfeeding in the first year of life was able to predict infants' developmental status (OR = 0.18).

Conclusion: Based on the findings of the present study, the risk of developmental delay in preterm infants who are breastfed in the first year of life or the combination of breast milk and supplemental feeding is one fifth lower than other preterm infants.

Key words: Premature infants, Neurological development, □SQ, Neurological examination,