

EFFECTIVENESS OF EARLY INTERVENTION PROGRAM AMONG INFANTS BORN TERM



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Abstract:

BACKGROUND AND AIM:

To evaluate the effectiveness of early intervention program among infants born term.

Infants born term who had completed (39-41) weeks of gestation. Early newborns should benefit from interventions that encourage parents to improve the quality of their child's environment. The rate of enrolment in the EI Programme was higher for babies born late preterm or early term than for babies born full term. Early intervention programmes work to reduce the negative effects of poverty and other risk factors that are frequently present, such as low birth weight, uneducated parents, and family stress, as well as neurodevelopmental deficits, cognitive delays, academic failures, and social and psychological factors like low birth weight.

OBJECTIVE: To Analyse the impact of an early intervention programme among infants born term.

METHODS: Study Type: Experimental study, Sampling technique: Convenient sampling technique, Sample size: 30

RESULT:

Using the paired 't-test and the unpaired 't-test, the values were statistically examined. A statistically significant difference was found between Group A and Group B as well as within each group, according to the statistical analysis performed on the quantitative data. The hammsmith scale's post-test mean value for the experimental group and the control group are calculated

CONCLUSION:

The results obtained from the research concluded that infants born term are more likely to need Early intervention program services and may benefit from much more frequent screening for development issues or handicap. The article concludes that auditory, visual, vestibular and tactile stimulation are effective among term infants.

Keywords: Term, Prematurity, gestational age, developmental outcomes, and postnatal development, early intervention.

INTRODUCTION:

Infants born term who had completed (39-41) weeks of gestation. Early newborns should benefit from interventions that encourage parents to improve the quality of their child's environment ^[1]. Infants who were born preterm or early had a higher rate of enrollment in the EI Programme than those who were born full term ^[2]. Early intervention programmes aim to reduce the effects of poverty and other frequently coexisting risk factors like low birth weight, uneducated parents, and family stress, as well as neurodevelopmental deficits, cognitive delays, academic failures, and social and psychological factors like low birth weight ^[3]. It

aims to help 1,000 low-birth-weight premature infants from birth to age three by enhancing home safety and health, enhancing children's skills, giving parents access to a variety of information and/or social and emotional support, and enhancing parents' coping mechanisms [4]. In order to identify the newborns who were most at risk for enrollment, we first assessed the proportion of children enrolled in EI programme services within the first three years after birth among infants who were born term based on mother and newborn characteristics [5]. According to the Early Intervention Handbook, "multidisciplinary services are offered to children from birth to age five to promote child health and well-being, enhance emerging competencies, reduce developmental delays, remediate existing or emerging disabilities, prevent functional decline, and promote adaptive parenting and overall family function [6]. Cognitive, physical, communication, adaptive, and social-emotional development are the five domains of development that EI offers a variety of rehabilitation therapies that concentrate on [7]. Because of the enormous plasticity of the immature brain, early life has the greatest developmental potential [8]. Intervention before 40–44 weeks PMA should, according to a review by De Graaf-Peters and Hadders-Algra, be restricted to initiatives that replicate the uterine environment, like the Newborn Individualised Developmental Care and Assessment Programme (NIDCAP) [9]. However, the plan should incorporate active development stimulation between weeks 40 and 44. Recent research suggests that the best time for brain damage repair is the era of dendritic expansion and active synapse formation [10]. Infants with disabilities typically face challenges today, but early intervention is a requirement to maximise their developmental outcomes [11]. Early intervention begins with a thorough examination of the child's abilities and requirements as well as those of the family. It then moves on to the provision of appropriate supports and services, active monitoring, and reevaluation as the child develops [12]. It has been assumed that full-term newborns born between 37 and 41 weeks' gestational age are a low-risk, homogeneous population [13]. Term caesarean section births are associated with higher morbidity than term neonates, according to recent evidence from studies based on delivery method (39-41 weeks) [14]. Due to problems that might lead to worse results if pregnancy is allowed to continue, late-preterm birth or early-term birth is the best outcome for the woman, the baby, or both [15,16]. These ailments can be grouped as placental, maternal, foetal, or even a combination of all four, such as placenta previa, preeclampsia, and multiple gestations. Concerns associated to early delivery that are common to all conditions include prematurity-related morbidities like as intraventricular haemorrhage and respiratory distress syndrome, as well as maternal delivery-related morbidities such as failed induction and caesarean birth [17,18]. Term delivery may be advised, nevertheless, if continuing the pregnancy has higher risks such bleeding, uterine rupture, and stillbirth [19,20].

METHODOLOGY:

In this study, 30 samples have been selected under inclusion and exclusion criteria by the convenient sampling technique. The subjects provided their informed consent after being fully informed of the technique. The study was conducted in government and private hospitals around Chennai & Tiruvallur, the samples were observed in a time period of 2 months. Their sociodemographic details like name, age, height, weight also been asked and filled by the researcher.

INCLUSION CRITERIA:

- Age: 39-41 weeks.
- Gender: Male and Female
- Low birth weight

EXCLUSION CRITERIA:

- Cortical blindness
- Hydrocephalus
- Congenital abnormalities
- Retinopathy

STATISTICAL ANALYSIS:

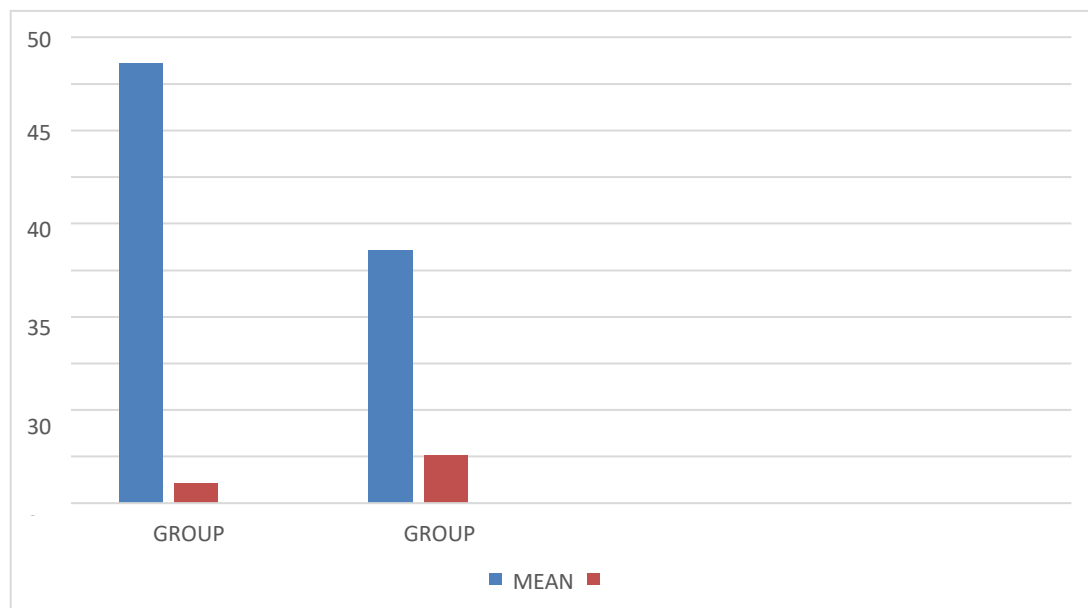
There were statistically significant differences between the experimental group and the conventional group as well as within the group, according to the statistical analysis done with the quantitative data from the Hammersmith scale.

RESULT:

The experimental group (Group-A)'s pre-test mean hammersmith scale score was 13.73, while that of the control group (Group-B) was 13.47. An study of the quantitative data from the Hammersmith scale using statistical methods indicated statistically significant differences between the experimental group and the control group as well as within the group. The experimental group (Group-A)'s post-test mean hammersmith scale score was 45.27, while that of the control group (Group-B) was 27.20.

TABLE 1: Post-test mean value and SD value of Group A and Group B.

	MEAN	SD
GROUP A	45.27	27.20
GROUP B	2.40	5.13



GRAPH 1: Post-test mean value and SD value of Group A and Group B

DISCUSSION:

According to our research, singletons and neonatal survivors who are born at 41/7 complete weeks of gestation are more likely to register in EI programmes and services when they are younger. The number of participants in the MA EI programme increased prior to 41 weeks gestation with each week that passed. Asian children, boys, and those whose mothers were under 40, ungraduated, and covered by the government all had the lowest enrollment prevalence when compared to other racial and ethnic groupings. Regardless of gestational age group, speech and language pathologists, occupational therapists, and developmental specialists provided the majority of the EI programme services. Our findings are consistent with two other studies that examined developmental delay and disability using EI programme services data from less educated and more racially and ethnically diverse individuals. A New York City birth cohort from 1999 to 2001 was used in one study, while a Florida birth cohort from 1996 to 1997 was used in the other. These studies, along with our own, add to the growing body of research showing that children born late preterm and early term, as opposed to their term counterparts, are more likely to experience long-term adverse developmental outcomes, such as behavioural problems, cerebral palsy, subpar academic performance, and special education needs. The majority of studies, however, did not differentiate between premature and term births. Knowing the amount to which gestational age at birth influences developmental delay throughout the entire spectrum of preterm infants will have an impact on planning for EI programming, allocating resources, and medical practises for monitoring neurodevelopment. Intervention strategies in early schooling may have long-lasting benefits for the cognitive and social development. The infant health and development project found that in terms of behaviour, reading, and math abilities at years 3, 8, and 16, those children who participated in an extensive EI programme and weighed between 2001 and 2500g at birth fared better than those who only received follow-up services. The advantages of EI services for infants with lower birth weights could not be measured. One of the numerous benefits of the study is the huge sample size and population-based data from a longitudinally integrated data system. Our study may be less prone to incorrect classification and overestimation of term born children because we used a mix of LMP and clinical estimates to determine gestational age. More accurate estimated relative risks may be obtained by comparing this reduction in bias to earlier studies that evaluated gestational age without using clinical estimations. Our study has a few flaws despite these important benefits.

CONCLUSION

The results obtained from the research concluded that infants born term are more likely to need Early intervention program services and may benefit from much more frequent screening for development issues or handicap. The article concludes that auditory, visual, vestibular and tactile stimulation are effective among term infants.

This study suggests that the gestational age at delivery may have distinct long-term consequences on development since involvement in the EI programme services serves as a powerful proxy for concern over developmental deficiencies. Tactile stimulation refers to the gentle and brief rubbing of a new born with the purpose of activating sensory receptors by touch stimulus, and is important from an obstetrician's standpoint. This study has significant implications for developing MA EI programmes, making judgments about developmental screening, and predicting needs for providing developmental services.

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