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Research Article

The Impact of Premature Birth on Behavioral Problems among Mild Intellectually Disabled Children: A Cohort Study in Rajahmundry

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ABSTRACT

This study identifies the type of birth incidence and disabled children's behavioral problems (i.e., hyperactivity, Lethargy, Stereotypical, Irritability behaviors) during the 6-15 years. The objectives of the study were to explore the Birth effects on behavioral problems among mild intellectually disabled children, to find out the significant difference between demographic variables on Behavioral problems among mild intellectually disabled children. The age ranged from six to fifteen years, boys included 272 and girls included 228. The total sample consisted of 500 mild intellectually disabled children. The present study explores the impact of premature birth on behavioral problems (irritability, lethargy, hyperactivity, stereotypy, and inappropriate speech) among mild intellectually disabled children that attend special schools across the north coastal districts of Andhra Pradesh. According to results description and tables data, premature birth was associated with the increase in lethargy and irritability in children with intellectually disabled, when compare to full-term-born children. Mildly disabled children, particularly pre-mature show increasing Lethargy, stereotype behavior problems, hyperactivity, over time.

Keywords: Intellectual disability; Gestational term; Preterm; Full-term; Behavioral problems

INTRODUCTION

Children with intellectual disabilities and recognized behavioral problems face lasting consequences, including reduced access to educational and leisure activities, increased risk of neglect and abuse, and strained relationships [1-5]. As noted earlier, there is a large disparity between the mental health needs of children with disabilities and their subsequent care. Although there is a wide variation in the rate of prevalence reported for a behavioral problem, it is clear that behavioral problems are exhibited by a significant minority of people with intellectual disabilities. Research generally indicates that 10 to 17% of people with intellectual disabilities are related to behavioral problems [6-10]. Behavioral problems have adverse effects on the lives of a significant minority of people with intellectual disabilities. Children with behavioral problems have problems at school, in social and family settings, as well as in adolescence. It is now well documented that premature infants have a significant risk of neurodevelopmental disabled. Studies in this area have generally focused on the motor and cognitive squeezes of prematurity, with less attention to nature, behavior, and emotional disturbances. Recent data suggest that premature infants may also have abnormalities in behavior and social development, which may be a precursor to later learning disabilities and mental disorders that occur in childhood. There is a higher risk for behavioral and psychological problems. Our review focuses on issues from birth to preschool age in infants less than 34 weeks of gestation.

In the 1990s there were numerous studies of problems, behavioral and emotional functions in preterm infants. However, procedural errors in the study design prevented any conclusive conclusions regarding these functions. There is a wider range of errors of gestational age related to clinical use, birth weights of subjects, smaller sample size, lack of psychometric sound assessment tools, lack of controls, and failure to provide medical information than population-based models and psychosocial risk factors. Research results can be considered inconsistent based on the fact that multiple respondents have reported on the behavior of children in different contexts. Studies on infant nature and behavior were obtained through maternal ratings. But the mother ratings of

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nature reflect the characteristics of the mother rather than the baby. 6 researchers reported a significant association between maternal mental health and behavior in children. Parental reports of behavioral problems and social competence are often different from those of teachers, who relatively attribute children's behavior to their peers' behavior similarly; there is often disagreement between maternal and clinical ratings.

Infant nature is a very relevant factor in the development because early difficulties can lead to subsequent behavioral abuse in preterm infants and affect the quality of their relationships with caregivers. Based on standard parent report measurements, it was found that preterm infants and children generally exhibit less flexibility, rhythm, activity, attention, and consistency than full-term infants. Premature infants were also found to have more severe mood swings, more difficult to relieve, and more passive. Socially less responsive. Infants, preterm infants were found to be more likely to be arrhythmic, less persistent, and more susceptible to adaptability and negativity. Increased activity and intensity of certain tendencies, and lack of consistency.

In a study by, a higher incidence of ADHD was found in parent reports at 5 years of age, but no significant difference was found in teacher reports [11-15]. Other studies suggested that preterm children exhibit neurodevelopmental problems and low birth weight and gestational age. There appear to be some indications that men are at greater risk and that adverse social conditions exacerbate these behaviors. As long as adverse environmental conditions are not controlled, then it is a risk of behavioral problems in premature infants. Most studies suggest that behavioral problems are associated with the effect of these adverse factors may be greater in low birth weight infants. Home nurturing promotes the development of self-regulatory behaviors. Nature and behavior are related to gestational age and have a weak association with cognition, periventricular leukemia, intraventricular hemorrhage, and cerebral palsy. Children with a birth weight of <750 g are at risk for attention problems. Recent reports indicate that behavioral problems and attention problems persist until school age in most preterm babies born in the 1990s. As the survival rate in preterm infants is high, the cumulative number on the health care system for behavioral and psychological problems is likely to increase.

METHODOLOGY

Aim

The study aimed to explore the type of effects of birth on behavioral problems in children with mild intellectual disabilities.

Objective

To identify the differences between preterm birth and full-term birth mild intellectual disables behavioral problems.

NH-1: There will be a significant difference between mild intellectually disabled gestational period (Preterm and full-term) children as on behavioral problems.

NH-2: There will be a significant difference between mild intellectually disabled gestational period (Preterm and full-term) children as on behavioral problems.

NH-3: There will be a significant difference between mild intellectually disabled gestational period (Preterm and full-term) children as on behavioral problems.

NH-4: There will be a significant difference between problems of children with an intellectual disability based on their gestational period (Preterm and full term) concerning their Stereotype behavior.

NH-5: There will be a significant difference between problems of children with an intellectual disability based on their gestational term (Preterm and full-term) with respect to their hyperactivity.

NH-6: There will be a significant difference between problems of children with an intellectual disability based on their gestational term (Preterm and full-term) with respect to their inappropriate speech.

Study design

Sample: The participants of the present study included children with a mild intellectual disability according to the diagnostic criteria of the DSM-IV TR. These children study in special schools in the northern coastal districts of Andhra Pradesh. The ages ranged between 6–15 years, with 272 in boys and 228 in girls. The total sample consisted of 500 mildly intellectually disabled children,

(a) Inclusion criteria: Children with behavioral problems include children with mild intellectual disabilities. Children under the age of 15 are included. Children with mild intellectual disabilities over 16 years of age are excluded.

Tools: Aberrant behavior checklist and demographic variables were used for the present study.

(b) Aberrant behavior checklist: The Aberrant behavior checklist was developed by Aman, MG. Singh, N. N., Stewart, A. W., and Field C. J. (L985A). The aberrant behavior checklist is a symptom checklist for assessing the effects of treatment and as a tool to assess behavior in mentally retarded individuals (child through adult). Administration: 10 to 15 minutes. The checklist has 58 items divided into five sub-categories: I. Irritability, agitation, crying (15 items); 11. lethargy, social withdrawal (16 items); III. Stereotypic Behavior (7 items); IV, hyperactivity, non-compliance (l6 items); and V, Inappropriate speech (item 4). The researcher used the Telugu translation of ABC. Raju et al. [12] developed the checklist can be answered by choosing one of four drugs. Coefficient alpha ranged from 0.85 to 0.92, Spearman's rank correlation coefficients ranged from 0.65 to 0.75 for inter-rater reliability tests, and correlations ranged from 0.58 to 0.76 for test-retest reliability. All reliability coefficients were statistically significant ($p<0.01$). The factor validity and reliability of the Telugu version of ABC provided evidence of factor validity and reliability compared to the original English version and appears to be useful for assessing behavioral disorders in Indian children with intellectual disabilities.

RESULTS AND DISCUSSION

NH-1: There will be a significant difference between mild intellectually disabled gestational period (Preterm and full-term) children as on behavioral problems.

Table 1: The t-test for intellectual disability children based on their gestational period (preterm and full-term) as on behavioral problems.

Type of behavioral problems	Type of birth	N	Mean	Std. Dev.	t-value	P-Value
Behavioral problems	Full term group	370	62.57	12.42	2.17*	0.03
	Pre term group	130	66.28	12.31		

*Significant at 0.05 level

Table 1 shown the resulting t-value is 2.17 and the p-value is 0.03, which is statistically significant at the 0.05 level. This suggests that there is a significant difference between intellectual disabilities born preterm children has more behavioral problems rather than the full-term group.

NH-2: There will be a significant difference between mild intellectually disabled gestational period (Preterm and full-term) children as on behavioral problems.

Table 2: The t-test for intellectual disability children based on their gestational period (preterm and full term) as on irritability.

Type of behavioral problems	Type of birth	N	Mean	Std. Dev.	t-value	P-Value
Irritability	Full term group	370	15.96	3.88	1.98*	0.05
	Pre term group	130	17.2	4.1		

*Significant at 0.05 level

Here were depicted results in Table 2 that the average score of children with intellectual disability for their irritability depending on the gestational age that full-term birth children score (M=15.96, SD=3.88) and Preterm group score (M=17.20, SD=4.10) respectively. The resulting t-value is 1.98 and the P-value is statistically significant at the 0.05 level. This suggests that there is a significant difference between intellectual disabilities born preterm children has more irritability rather than the full-term group. This suggests that there is a significant difference in children with intellectual disabilities based on the gestational period. Intellectual disabilities at pre-term birth children have higher rates of irritability than full-term birth children.

NH-3: There will be a significant difference between mild intellectually disabled gestational period (Preterm and full-term) children as on behavioral problems (Table 3).

Table 3: The t-test for intellectual disability children based on their gestational period (preterm and full term) as on lethargy.

Type of behavioral problems	Type of birth	N	Mean	Std. Dev.	t-value	P-Value
Lethargy	Full-term group	370	17.75	4.01	2.01*	0.05
	Pre-term group	130	18.65	4.32		

*Significant at 0.05 level

The resulting t-value is 2.01 and the P-value is statistically significant at the 0.05 level. This suggests that there is a significant difference between intellectual disabilities born pre term children have more irritability rather than full term group.

NH-4: There will be a the significant difference between problems of children with an intellectual disability based on their gestational period (pre term and full term) with respect to their stereotype behavior.

Table 4: t-test for intellectual disability children based on their gestational term (preterm and full term) with respect to their hyperactivity.

Type of behavioral problems	Type of birth	N	Mean	Std. Dev.	t-value	P-Value
Stereotype behavior	Full-term group	370	6.85	2.42	2.58**	0.01
	Pre-term group	130	7.81	2.34		

**Significant at 0.05 level

Table 4 depicted the descriptive statistics scores of children with intellectual disability with respect to their lethargy depending on the gestational age that full term birth children score (M=17.75, SD=4.01) and Pre term group score (M=18.68, SD=4.32) respectively. The resulting t-value is 2.01 and the P-value is statistically significant at the 0.05 level. This suggests that there

is a significant difference between intellectual disabilities born pre term children have more irritability rather than full term group.

This suggests that there is a significant difference between children with intellectual disabilities based on their birth and that children with intellectual disabilities at a normal birth are more likely to have behavioral problems related to their stereotypes than those born prematurely.

NH-5: There will be a the significant difference between problems of children with an intellectual disability based on their gestational term (pre-term and full-term) with respect to their hyper activity (Table 5).

Table 5: The t-test for intellectual disability children based on their gestational term (pre-term and full term) with respect to their hyperactivity.

Type of behavioral problems	Type of birth	N	Mean	Std. Dev.	t-value	P-Value
Hyperactivity	Full-term group	370	17.42	4.54	1.10 NS	0.21
	Pre-term group	130	17.77	4.23		

NS: Not Significant

Table 5 depicted the descriptive statistics scores of children with intellectual disability for their lethargy depending on the gestational age that full-term birth children score (M=17.75, SD=4.01) and Preterm group score (M=18.68, SD=4.32) respectively.

The resulting t-value is 2.01 and the P-value is statistically significant at the 0.05 level. This suggests that there is a significant difference between intellectual disabilities born preterm children has more irritability rather than the full-term group.

This suggests that there is a significant difference between children with intellectual disabilities based on their birth and that children with intellectual disabilities at a normal birth are more likely to have behavioral problems related to their stereotypes than those born prematurely.

NH-6: There will be a the significant difference between problems of children with an intellectual disability based on their gestational term (Pre term and full term) with respect to their inappropriate speech (Table 6).

Table 6: The t-test for intellectual disability children based on their gestational term (pre- term and full-term) as on inappropriate speech.

Type of behavioral problems	Type of birth	N	Mean	Std. Dev.	t-value	P-Value
Inappropriate speech	Full term group	370	4.59	1.9	1.26 NS	0.18
	Pre term group	130	4.85	1.96		

NS: Not Significant

The resulting t-value was 1.26 and the P-value is 0.18, which is statistically non-significant at the 0.05 or 0.01 level. Hence there was no significant difference between intellectual disabled preterm and full term gestational children inappropriate speech.

Findings

The present study found that there was a significant difference between children preterm and full-term birth as on behavioral Problems. Results revealed preterm birth mild intellectual disabled children have more behavioral problems rather than full-term birth mild intellectual disables.

Study results revealed that there was a significant difference between children with an intellectual disability based on their gestational term preterm birth children has high problems for their behavioral problem of Irritability than that of full-term Birth.

Study shows that there was a significant difference between children with an intellectual disability based on their gestational term preterm birth of children has in lethargy than that of full-term children with mild intellectual disables.

The present study found that there was a significant difference between children with an intellectual disability based on their gestational terms.

Preterm birth of children has stereotype behavior than that of preterm birth of children with mild intellectual disables.

The present study identified that there is no significant difference between children with mild intellectual disables based on their gestation term. There was no significant difference between preterm and full-term birth children's hyperactivity and inappropriate speech.

CONCLUSION

The present study explored the impact of premature birth on behavioral problems (irritability, lethargy, hyperactivity, stereotypy, and inappropriate speech) among mild intellectually disabled children that attend special schools across north coastal districts of Andhra Pradesh.

The present study revealed that children with intellectually disabled, which are born preterm have more behavioral problems than full-term-born children. Particularly, premature birth was associated with increase lethargy and irritability in children with intellectually disabled. On the other hand, stereotypy behavior was an increase in children born full-term when compared to children born preterm. No significant difference in hyperactivity and inappropriate speech was observed between the preterm group and the full-term group.

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