



(RESEARCH ARTICLE)



Developmental milestones of toddlers at selected areas of Nedumkandam, Idukki district, Kerala

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Abstract

Introduction: Globally 200 million children do not reach their developmental potentials in their first five years. The early identification of developmental delay is very critical. This study was undertaken to assess the developmental milestones of toddlers at selected areas of Nedumkandam, Idukki district, Kerala.

Method: The present study was an explorative study of 120 toddlers between the age group of 30-36 months from selected areas of Nedumkandam. Data were collected by using Modified ages and stages questionnaire. It is a series of questionnaires designed to screen the developmental performance of toddlers in the areas of communication, gross motor skill, fine motor skill, cognitive, and social development. The scale was answered 'yes' or 'sometimes' or 'not yet'. The total score is 60 and score range of 41-60 as normal development, 31-40 as mild delay and 0-30 as delayed.

Result: The result indicated that 76.7% of toddlers are having normal development up to the age, 20% are having mild delayed development and 3.3% are having delayed development. Regarding the aspects of development it has been noted that mean score of gross motor development is 11.1, fine motor development is 10.9, cognitive development is 9.3, social development is 10.7 and communication is 9.1. There is no association of developmental milestones with selected demographic variables.

Conclusion: The study was concluded that majority of the toddlers achieved the developmental milestones as per the age. The study also revealed that there was no association with selected demographic variables.

Keywords: Developmental milestones; Toddlers; Nedumkandam

1. Introduction

Healthy children are the future of a nation. The development of children has been considered as an integral part of national development. The national policy too recognizes children as the nation's supreme important asset [1, 2, 16]. The most basic care, given to the child is monitoring his growth and development. Developmental assessment is the process designed to understand the competencies of the child, care giver and environment, which is likely to help a child in making full use of developmental potentialities [3, 4]. Developmental delays should be diagnosed by comparison with characteristic variability of a milestone, not with respect to average age at achievement [5].

The first few years of life, especially infants and toddlers is a dynamic phase of life and is characteristic by rapid growth and development [6]. As estimated by the world health organization about 5% of the world's children 14 years of age

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and under have some type of moderate to severe disability [7, 8]. In India sources have found prevalence of 1.5- 2.5% of developmental delays in children under 2 years of age. This impairments impact not only the child and the family, but also the society. In terms of the cost of providing health care, educational support [1, 9].

Evidence support that early treatment of developmental disorder leads to improved outcomes for children and for benefits of early intervention [10]. An unshackled childhood is the foundation of stable adulthood, as any child's later years in determine by his /her own experiences during the childhood. Child development encompasses the ways in which children acquire skills in a range of domains including memory, cognition, language, gross and fine motor ability, social interaction and behavior [4, 12, 13]. The learning ability, thinking process work efficiency and productivity of an individual. Assessment will identify the strength and weakness of the child's abilities and will help in early intervention for developmental problems [14].

2. Material and methods

The study adopted non experimental descriptive design. Samples were 120 toddlers between the age of 30-36 months from selected areas of Nedumkandam, Iduki, Kerala. Purposive sampling technique was used for sampling. The toddlers who are sick at the time of assessment were excluded from the study.

Modified ages and stages questionnaire was used for the developmental assessment. It is a series of questionnaires designed to screen the developmental performance of toddlers in the areas of communication, gross motor skill, fine motor skill, cognitive and social development [13, 14]. The scale was answered 'yes' or 'sometimes' or 'not yet'. The total score is 60 and score range of 41-60 as normal development, 31-40 as mild delay and 0-30 as delayed.

3. Results

3.1. Section 1

Table 1 Description of samples according to demographic characteristics N=120.

Demographic variable	Frequency	Percentage
Birth order		
Single	38	31.6%
Child with sibling	82	68.3%
Type of family		
Nuclear family	68	56.6%
Joint family	52	43.4%
Gestation age at birth		
Preterm	24	20%
Term	96	80%

The demographic information of toddlers presented in Table 1 shows that majority are (68.3%) with sibling, 56.6% were living in nuclear family and 80% were born as term baby.

3.2. Section 2

Table 2 Developmental milestones of toddler N=120.

Milestones	Frequency	Percentage
Normal development	92	76.7%
Mild delayed development	24	20%
Delayed development	04	3.3 %

The above table shows that majority of toddlers (76.7%) having normal development, 20% of toddlers have mild delayed development and 3.3% are having delayed development.

3.3. Section 3

Table 3 Aspects of development (Mean and standard deviation) N=120

Aspects of development	mean	SD
Communication	9.1	1.79
Gross motor development	11.1	1.29
Fine motor development	10.9	1.56
Cognitive development	9.3	1.72
Social development	10.7	1.46

The above table shows that mean score of gross motor development is 11.1 with SD of 1.79, mean score of fine motor development is 10.9 with SD of 1.56, mean score of social development is 10.7 with SD of 1.46, mean score of communication is 9.1 with SD of 1.79 and mean score of cognitive development is 9.3 with SD of 1.72.

3.4. Section 4

Table 4 Association of developmental milestones with selected demographic variable N=120.

Demographic variable	F	p-value
Birth order	0.5	0.84
Type of family	0.3	0.53
Gestation age at birth	0.2	0.76

The result of the study showed that there is no association with developmental milestones with selected demographic variables as the p value is more than 0.05

4. Discussion

The aim of the present study was to assess the developmental milestones of toddlers between the age group of 30-36 months, and to associate the findings with selected demographic variables. The various aspects assessed in the developmental milestones include communication, gross motor development, fine motor development, cognitive development, and social development. The result indicated that 76.7% of toddlers are having normal development up to the age, 20% are having mild delayed development and 3.3% are having delayed development. Regarding the aspects of development it has been noted that mean score of gross motor development is 11.1, fine motor development is 10.9, cognitive development is 9.3 social development is 10.7 and communication is 9.1. There is no association of developmental milestones with selected demographic variables.

The prevalence of delayed milestones was lower than that reported in another clinic-based study conducted in Bhopal, India, among children below the age of two years. The authors of this study found that the prevalence of any developmental delay was 9.5% using the Trivandrum Developmental Screening Chart [13]. In addition to motor milestones, this study tool also assesses the achievement of language and social milestones. Furthermore, this study was a community-based cross-sectional study. The prevalence of delayed milestones was nearly 20% in a study conducted using the Ages and Stages Questionnaire followed by the Developmental Assessment Scale for Indian Infants in a Tertiary Care Setting in North India [14].

5. Conclusion

The study was concluded that majority of the toddlers achieved the developmental milestones as per the age. The study also revealed that there was no association with selected demographic variables. A further evaluation of the problem of the delay in achieving milestones needs to be performed. Due to the small sample size of the current study, it is suggested that future studies should replicate this research by using a larger representative sample.

Compliance with ethical standards

Acknowledgments

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Disclosure of conflict of interest

Authors declare no conflict of interest.

Statement of informed consent

Informed consent was obtained from parents of toddlers included in the study.

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