WORLD JOURNAL OF PHARMACEUTICAL RESEARCH
SJIF Impact Factor 8.084
Volume 12, Issue 19, 633-640. Research Article ISSN 2277–7105

KNOWLEDGE REGARDING GROWTH AND DEVELOPMENT OF INFANTS AMONG MOTHERS

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Article Received on
04 September 2023,

Revised on 25 Sept. 2023,
Accepted on 15 Oct. 2023

DOI: 10.20959/wjpr202319-29965

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ABSTRACT

Introduction: A healthy adult emerges from a healthy infant, and the parent plays a vital role in keeping the child healthy. **Objectives:** 1. Identify the level of knowledge among mothers regarding the growth and development of infants. 2. Find an association between mothers' level of knowledge and selected socio-demographic variables. 3. Prepare an information booklet for mothers on the growth and development of infants. **Methodology:** A descriptive research design was adopted for this study. 100 Sample was collected by using a non-probability convenience sampling technique. The data was collected using a self-developed structured knowledge questionnaire. The data was analyzed using descriptive (frequency, percentage) and inferential (Chi-square test) statistics. **Result:** Among 100 mothers, 77(77%) had average knowledge regarding the growth and development of infants. The mean knowledge was 14.75, with 3.810 as the standard deviation. Statistically, a significant association was found between the type of family and knowledge of the mother regarding the growth and development of infants, with X^2 values of 5.115 and 0.05 levels of significance. A significant association (X^2 = 4.328) was found between knowledge of the mother and sources of health information regarding the growth and development of infants at a 0.05 level of significance. **Conclusion:** The study findings showed that most mothers had average knowledge regarding the growth and development of infants. There was a significant association between the type of family

and sources of health information regarding the growth and development of infants $p<0.05$ level of significance.

KEYWORDS: Knowledge, growth and development, Infant, Mother.

INTRODUCTION

Human development encompasses a continuous journey marked by significant physical, behavioral, cognitive, and emotional transformations throughout one's life. These profound changes unfold during the initial stages of life, progressing from infancy to childhood, childhood to adolescence, and ultimately from youth to adulthood.[1] Infancy spans from birth to the first year of life.[3] During this stage, significant characteristics include physical growth, the development of motor skills, vocal progress, and cognitive and social advancements.[2]

"Maternal cognitive processes are critical in parenting and child development. Over the last two decades, researchers have shown an increasing interest in studying maternal cognition because it provides an invaluable framework for understanding parental behaviors and the complexities of child development."[3]

More than 200 million children under five are not reaching their full developmental potential in developing countries. Besides biological factors, a young child's family environment determines cognitive and socioemotional development. Early identification and timely intervention can substantially enhance the functional capacity of at-risk populations.[4]

One of the most crucial aspects of maternal cognition is maternal knowledge, which is one of the many dimensions, including maternal belief judgment, ideas, values, expectations, and understanding. Maternal knowledge refers to a parent's comprehension of caring techniques, developmental milestones, and processes that affect a child's growth.[5]

Today, developmental delay in infants is high and is mainly due to lack of early detection and intervention that can be provided. Family members, especially mothers, have an essential role in the preventive aspect and, thus, the health promotion of their children. Nurses are positioned to identify mothers' knowledge of these challenging problems.

MATERIAL AND METHODS

- **Research design:** descriptive research design.

- **Sample Size:** 100.
- **Sample technique:** Using a non-probability convenience sampling technique.
- **Sampling size:** Sample size estimated using the formula n= $\mathbf{Z^2\ \alpha pq/d^2}$

Z=Co-efficient of confidence (1.96)

α= level of confidence (95%)

p=Percentage of incidence of average knowledge (76%)

q=1-p (24%)

d=difference between estimated value and actual value in the population (10%)

- **Sample selection criteria**

➢ **Inclusion criteria**

1. Mothers who are having an infant.
2. Mothers who can read and write Malayalam.

➢ **Exclusion criteria**

1. Mothers whose children have other physical or developmental delays.
2. Mothers who are in the medical profession.

- **Data Collection instrument**

Structured knowledge questionnaire for mothers regarding the growth and development of infants. It comprises six parts: Social Development, Fine motor development, gross motor development, language development, and biological development.

Scoring and interpretation: The maximum score for knowledge regarding growth and development was 33, and the interpretation is as follows.

- 22-33-good knowledge,
- 12-22-average knowledge
- 0-11 poor knowledge.

Both descriptive (frequency, percentage) and inferential (Chi-square test) statistics were used to analyze the data.

- **Validation and reliability:** The tools were validated by a team of 6(six) experts, including pediatric and nursing departments. The content validity index obtained was 0.85, and the reliability was calculated by the split-half method (Spearman-Brown Coefficient) and found to be 0.85.

- **Ethical consideration:** Ethical permission was obtained from Amrita College of Nursing and AIMS research committee and the Administrative Medical Officer Amrita Community Health Training Center. Informed consent was obtained before data collection. confidentiality was ensured.

RESULTS

It was found that among 100 mothers of infants, 61% belonged to the age of 26-35 years, 57% of mothers of infants were educated up to the secondary level, and the majority, 90%, were homemakers.

(N= 100)

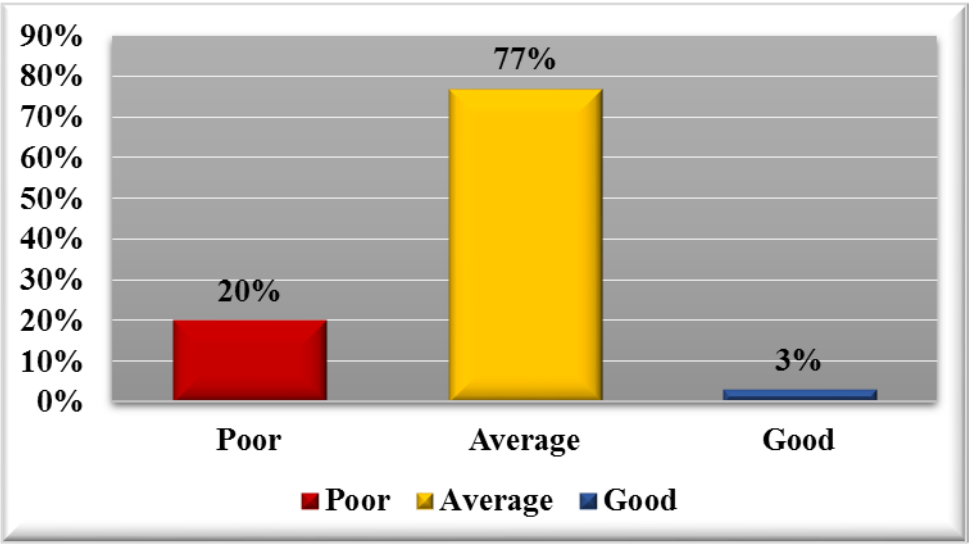

Fig1: Distribution of subjects based on knowledge regarding the growth and development of infants.

Fig 1 showed that the majority of the subjects, 77%, had average knowledge regarding the growth and development of infants.

Table 1: Mean and standard deviation of the knowledge score.

(N= 100)

Dimension	Maximum score	Mean	Standard deviation	Range
Overall knowledge Regarding growth and development	26	14.75	3.810	7-26

Table 1 shows that the mean score of knowledge regarding the growth and development of infants is 14.75 with 3.810 as the standard deviation. The score ranged from 7-26.

Table 2: Mean and standard deviation based on knowledge of individual items on the knowledge questionnaire.

Dimension	Maximum score	Mean	Standard deviation
Social Development	6	2.07	1.174
Fine motor development	8	3.94	1.420
Gross motor development	6	2.60	1.491
Language development	6	3.99	1.382
Biological development	3	1.31	0.734
Nutrition	3	0.84	0.907

The data presented in Table 2 shows that mean score on knowledge of social development of infants was 2.07, with 1.174 as the standard deviation. The score ranged from 0-6. The mean score on knowledge of fine motor development of infants was 3.94, with 1.420 as the standard deviation. The score ranged from 1-8. On the other hand, the score of gross motor development ranged from 0-6, and the mean score of infants was 2.60, with 1.491 as the standard deviation. The mean score on knowledge of language development of infants was 3.99, with 1.382 as the standard deviation. The score ranged from 1 to 6. The mean score on knowledge of the biological development of infants was 1.31, with 0.734 as the standard deviation. The score ranged from 0-3. The score ranged from 0 to 3. The mean score on knowledge of nutrition of infants was 0.84, with 0.907 as the standard deviation. The score ranged from 0 to 3.

DISCUSSION

The present study found that among 100 mothers of infants (61%) aged 26-35 years, 43% were educated up to the secondary level, and the majority (90%) were homemakers.

The present study's findings are supported by Devi S. in Ludhiana, Punjab, which assessed mothers' knowledge about infant growth and development in selected hospitals. Using non-probability purposive sampling with 100 infants showed that 53% had a below-average knowledge score, 23% were below average, 22% were good, and 2% had excellent knowledge. These results emphasized the importance of providing mothers with knowledge on growth and development to prevent delays and enable early diagnosis and treatment for their infants.[6]

A study conducted by Upadhyay SK, Saran A, Agarwal NK, Singh MP on growth and behavior development in rural infants about malnutrition and environment in Varanasi 2000. A group of 224 children from a rural cohort of 625 children in ten villages was assessed for

morbidity, physical growth, and behavior development. Children with grade II and III malnutrition exhibited impaired development in multiple behavior domains, including motor skills, adaptive abilities, language proficiency, personal growth, and social interactions. In addition to malnutrition, various environmental factors played a significant role in shaping infant development. These factors included maternal engagement in teaching, encouragement, and maintaining visual contact with the child, parental education levels, caste, and birth order.[7]

Another study was conducted by Silva KA, Vieria LM, Moura SD, and Ribas RC on primiparous mothers' knowledge about child development in 2005. This study aimed to assess the ability of parenting and child development in 109 primiparous mothers in Brazil whose children were between 1 and 12 months old. The research found a significant correlation between mothers' educational attainment and occupation and their understanding of parenting and child development. The study revealed that mothers had more knowledge about parenting (beliefs, strategies, and practices of the parents) when compared with other types of knowledge. The study concluded that mothers' socioeconomic level is essential to understanding the child's development.[8]

A similar study was conducted to assess the effectiveness of an instruction Module on infant growth and development among mothers of infants by Jasmine J, 2018. The study found that most mothers (53%) had an average knowledge score concerning infant growth and development. On average, the highest knowledge percentage was observed in the introduction section (66%), while the lowest was in social development (31%). Age, education, and income were identified as significant factors related to the knowledge of postnatal mothers, while no other variables showed a significant correlation. These findings underscore the importance of providing mothers with information on infant growth and development to prevent delays and facilitate early diagnosis and treatment.[9]

In 2013, a comparative study conducted by Nguyen H. T., Eriksson B., Petzold M., Bondjers G., Tran KT, et al. examined factors influencing the physical growth of children during their first two years of life in both rural and urban areas of Vietnam. The study involved a total of 14,466 children. The findings indicated that children in urban areas exhibited faster growth than those in rural areas. A statistically significant relationship existed between growth and the mother's education level and household resources. The study also highlighted a positive association between growth and early development (in the first hour of life). To promote and

sustain optimal conditions for child growth, it is crucial to enhance maternal education and household resources, especially in rural areas. The study's third objective involved creating an information booklet for mothers on infant growth and development.[10]

The infant is a dynamic, ever-changing being who undergoes an orderly and predictable neurodevelopmental and physical growth sequence. The mother of an infant is confronted with numerous parenting challenges.[11, 12]

A descriptive study by Borgai S aimed to assess mothers' knowledge regarding infant growth and development among those attending Pediatric OPD in selected hospitals in Bangalore. The study included 50 mothers attending the pediatric OPD. The results revealed that most mothers (75%) had an average level of knowledge, while 20% had poor knowledge regarding infant growth and development. Notably, the study found a statistically significant association between a mother's knowledge level and her understanding of infant growth and development.[13,14]

CONCLUSION

The study result showed that most of the mothers had average knowledge regarding the growth and development of infants. It can be concluded that it is essential to be aware of the growth and development of infants, particularly among mothers, to identify the development early. Hence, it is recognized that there is a need for a particular educational program. Further study can be conducted in a large sample to observe the actual practice of mothers monitoring growth and development.

ACKNOWLEDGMENT

We acknowledged the contribution of all the participants, who contributed massively during this research.

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