



RESEARCH ARTICLE

KNOWLEDGE REGARDING DEVELOPMENTAL MILESTONES AMONG MOTHER OF UNDER FIVE YEAR CHILDREN ATTENDING PEDIATRIC OUT PATIENT IN S H MEDICAL CENTRE HOSPITAL KOTTAYAM

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ABSTRACT

The present study was undertaken to assess the Knowledge regarding developmental milestones among mothers of under five year children attending pediatric outpatient department in SH Medical Centre Hospital, Kottayam. The study was conducted among 60 mothers of under five year children in SH Medical Centre Hospital, Kottayam. Descriptive survey design was used for the study, subjects were selected using stratified random sampling technique. The tools used for study were socio personal data and structured questionnaire to assess the knowledge regarding developmental milestones among mothers of under five year children. The data collected from 26/07/2023 to 28/07/2023 were analyzed using descriptive and inferential statistics. The results revealed that 63.3 % mothers of under five children have average knowledge and 35% had poor knowledge and 1.7% had good knowledge. A statistically significant association was found between knowledge regarding developmental milestones among mothers of under five year children with educational status. No statistically significant association was found between knowledge with age of mothers, number of children, occupation.

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INTRODUCTION

"Mother is the name of god in the lips and hearts of little children." -William M Thackeray

Developmental milestones are stages of a child's growth that assist parents, teachers and health care providers in tracking a child's development. The development is made possible by dynamic relationship between the individual and his environment. The child increases motor skills from his uncertain first steps to a high proficiency in skilled at adolescence from physiology instability to stability, from his first bubbling in infancy to manipulation of language in abstract, thinking; From confusion of self with inanimate objects to a clear realization of himself as a person. From the immature child to the man or woman whose is able to reproduce.¹ Development is achieved through the process of growth, maturation and learning.

Krogman defines maturation as aging² and Bladmin defines maturation as increasing competence and adaptability³. The biological processes involved are termed growth and differentiation. Physical development is the growth and development of both of the brain and body in infancy and early childhood.⁴ In infant (from birth to one year) the length of newborn is 45 -50 cm .It increases approximately 2-2.5 cm per month weight doubles by 6 month and triples by one year. Head circumference increase at a rate of 1.5 cm per month during first 6 month, chest circumference it is about 31-33 cm. The baby has well developed sucking, rooting, swallowing and extrusion reflex in infancy⁵. In toddlers (1-3 years), height increase at a rate of 3 inches per year for next 7 years Weight increase 4-6 pounce per year. Full set of twenty temporary teeth arises and visual acuity is 20/40⁶. In preschoolers (3-6 age), height is about 95cm.weight is approximately 15-21 kg. Vocabulary increase from 800-2100 words at 3 years and at 5 years starts walking erect with swings

arms. Rapid skeletal development occurs, physical growth is slowed and they become tall and thin without gaining much weight⁷. Motor development depends on maturation of muscular skeletal and nervous system. Motor development is of two types: gross motor and fine motor. Gross motor development leads to acquisition of increasing mobility and independent movements. Fine motor development leads to acquisition of motor dexterity. In infancy, child lies in flexed position with hands clenched, turn head in supine position, head lags when baby is pulled up from supine to sitting position (gross motor) and grasp reflex is strong (fine motor). In toddlers, gross motor development are child stands without help in 15 month, walks upstairs in 18 month, walks on heel to toe in 24 month. Through fine motor development, child scribbles and hold objects in 15 month, can eat with spoon and play with food in 18 month, drink with glass and pick up objects in 24 month. As the child grows, he can feed himself and throw objects overhead in 30 months. In preschoolers, by attaining gross motor development child hops on one foot and undress self in 3 years, walks backward heel to toe in 5 years. Fine motor developments are attained and starts toileting alone in 3 years, coping pictures in 4 years, and they can handle simple tools in 5 years. In sensory development the child gradually learns the process of associating meaning with a perceived stimulus. Most active senses at birth are sense of taste and smell. In newborn blinking reflex and staring at surrounding is present. Baby notices bright objects, tills head. As ages increases sensory perceptions of child also develops.

Language development refers to increasing quantity, range and complexity of speech over a period of time. In infancy child begins to Coo, laugh and squeal and shows pleasure in making sounds. Toddlers speaks 2-6 words in 15 month, vocabulary of 300 words and enjoys story in 24 month. They can speak sentence of 4-5 words and know at least five body parts by 30 month. Preschoolers may have a vocabulary of 800 – 1000 words by 3 years), tells exaggerated stories and nursery rhymes by 4 year. They uses much commands and words by 5 years. Cognitive development is an important aspect in thought process, problem solving and decision making. It impacts factors like attention, memory and thinking. A child's brain development happening at rapid rate through stimulating environment, age appropriate books, sowing of visual and number puzzles.⁸ Social development involves children's ability to interact with others and regulate their own behavior. In infancy child smiles to mother or caregiver, laughs louder, differentiate strangers from family members, shows dislike and pleases with caregivers. In toddlers, child is egocentric, imitates parents or adult roles and enjoys play. In preschoolers, separates from mother's, response fear and emotions, sibling rivalry, associative play and sharing of toys.⁹ Developmental delays are one of the commonly affected problems in developmental stage. So the primary focus is mainly based on awareness regarding developmental milestones among mother's of under five year children. Adequate knowledge of mother's helps in early detection and prevention of developmental delays. Globally, 240 million children have developmental disabilities based on parent reported functional difficulties compared to 290 million children using statistical modeling techniques.¹⁰ Marabatta R (2022) conducted a study on awareness regarding developmental milestones of under three year children among mothers at a teaching hospital, Chitwan, Nepal. Study revealed only 25% of respondents had adequate level of awareness and 75% had inadequate level of awareness.¹¹

Anjalatchi (2019) conducted a study to assess effectiveness of informational booklet regarding the knowledge on developmental milestones of infants among primi-para mothers at Pudicherry. Among 30 mothers the pretest showed 36.7% had less adequate knowledge, 63.3% of mothers had moderately adequate knowledge and 20% of mothers have adequate knowledge. In post test, 15% of mothers had less adequate knowledge, 33.3% have moderately adequate knowledge, 66.7% had adequate knowledge.¹² In Kerala, study was carried out in 2009 on early detection of developmental delay among children below six years in Thiruvananthapuram district, Kerala. Findings revealed 43.1% were normal, 49.89% had developmental delay, 24.98% had speech and language delay and 22.95% had multiple disabilities.¹³ Darson J and Shehri N (2020) conducted a cross sectional study regarding milestones of children among 358 mothers in Saudi Arabia. Result showed large majority of women (84.6%) scored poorly in terms of knowledge regarding milestones of under five children¹⁴

Need and significance of the study: The children of today are the citizens of tomorrow. Developmental milestones are markers of a child's development from infancy on into childhood. They are used to help to determine if a child is undergoing typical development verses if a child had delayed in the process of aging development. A study (2016) conducted a community based cross sectional study of growth and development of under five children in an urbanized village of South Delhi. Study was carried out in 520 children in Delhi. The findings showed that ,10.6% of children less than five year old were found to be developmentally delayed. Maximum number of children (10.1%) was found to have a delay in the domain of hearing, language and cognitive development¹⁵. A cross sectional study (2021) was carried out on assessing knowledge of Saudi mother's with regard to parenting and child developmental milestones. The study was conducted in 400 Saudi mothers with children upto 6 years of age, shows that majority of mothers 42.2% were between 28 and 35 years of age. Knowledge about parenting scored on the average 53.3, health and safety scored 63.4%, general principles 55.9% and developmental milestones 51.8% and concluded that mother's have limited overall knowledge of child rearing and developmental milestones of their children¹⁶. Another study (2022) was conducted on knowledge of mothers regarding developmental milestones of infants in Ludhiana Punjab. The study was conducted on 100 mothers of neonates visiting pediatric out patient department and gynecological unit. The study revealed that 60% had an average level of knowledge, 22% of mothers had poor level of knowledge and 18% of mothers had a good level of knowledge.¹⁷ The literature reviewed by the investigators revealed that majority of the mothers have inadequate knowledge regarding the developmental milestones of under five children in India and abroad. Very few studies have been conducted in Kerala. The researchers could not come such across studies especially in Kottayam district. Hence the investigators felt the need of undertaking this study.

Section A: Prevalence of delay in developmental milestone under five year children: Anupama and Diwash (2022) conducted a study regarding developmental delay and its associated factors among children under five year children in urban slums of Nepal. They conducted study among 165 children under five year children. Notably more than half of the children (56.4%) had delayed development across two or

more domains of gross motor, fine motor, language or speech and social development.¹⁸ A study (2021), was conducted on developmental delay among children under two year of age in slums of Burdwan municipality, West Bengal. The study was conducted among 240 objects by simple sampling method. Result showed prevalence of developmental delay was 6.6% and proportion was more among male infants. They concluded that developmental delay is considerably high in the study area.¹⁹ A study (2020), was conducted to assess parental knowledge of children's developmental milestones in Riyadh, Saudi Arabia. They recruited 1471 parents aged greater than or equal to eighteen years with atleast one child under 4 year and to participate in an online survey which was sent to participants through short message services. The result shows most respondents showed a poor level of knowledge (80%) in all of four domains like physical development, cognitive development, social and emotional development.²⁰

Section B: Knowledge regarding developmental milestones among mothers of under five year children: Akkineni S (2020), conducted a cross sectional outpatient based study to assess knowledge about child development in caregivers attending the outpatient department Hyderabad, India. A convenient sample of 110 caregivers interviewed, majority were 84.6% of mothers. Study revealed among 84%, on an average only 36% were answered correctly ($p=0.046$).²¹ Ravichandhran S and Prabhadevi (2020), conducted a cross sectional study on knowledge and practice of growth chart among mothers attending Well Baby Clinic at urban health training centre Mumbai. The study conducted among 161 mothers of children aged between 2 and 3 years. The study showed that only 40 mothers had good knowledge regarding growth chart and 60 mothers had average knowledge.²² Karuppannal A (2020), conducted a descriptive cross sectional study to assess the knowledge on child's development milestone and parenting skill among mothers in Kanchipuram, Tamil Nadu. The result showed 51% among 154 mothers estimated child development, where as 49% were lacking knowledge.²³

Statement of the study: A study to assess the knowledge regarding developmental milestones among mothers of under five year children attending pediatric out patient department of SH Medical center hospital, Kottayam.

Objectives of the study

- To assess the knowledge regarding the developmental milestones among mothers of under five children.
- To find out association between knowledge regarding developmental milestones among mothers of under five children with selected socio-demographic variables.
- To prepare an information booklet regarding developmental milestones.

Hypothesis

H1: There will be a significant association between knowledge regarding developmental milestones among mothers of under five children and their selected socio-demographic variables

Operational definition

Developmental milestones

The children undergo changes in skill development during predictable time period called developmental milestones. The developmental milestones of child includes physical development, motor development, sensory development, cognitive development, language development and social development.

Awareness regarding developmental milestones: It refers to the knowledge regarding developmental changes and developmental delay which is assessed with the help of a questionnaire.

Socio personal variables: It includes age of the mother, educational status, occupation, number of under five year children, in SH Medical center pediatric out patient department.

MATERIALS AND METHODS

Research approach: Quantitative research approach.

Research design: Descriptive research design.

Population: The targeted population of the present study includes mothers of under five year children attending pediatric outpatient department of SH Medical Centre Hospital, Kottayam.

Sample: 60 mothers of under five year children in the pediatric outpatient department of SH Medical Centre Hospital, Kottayam.

Sampling technique: Purposive sampling.

RESULTS

The results of the study were discussed under the following headings:

Frequency distribution and percentage of mothers with respect to knowledge regarding developmental milestones of under five children.

- Socio-personal data of mothers of under five children attending pediatric outpatient department
- Association between Knowledge regarding developmental milestones among mothers of under five children attending pediatric out patient department and selected variables.

Socio personal data of mothers of under five children attending pediatric outpatient department of SH Medical centre Kottayam

- In the present study majority of the mothers of under five children (58.4%) belongs to the age group of 26-30 years, 35% belongs to above 30 years of age and 6.6% belongs to <25 years of age.
- Majority of the mothers (76.65) had one child under five years of age and 23.4% mothers had two children under five years

- Majority of the mothers (55%) belongs to the others group of occupation 30% belongs to medical field and 15% belongs to non medical field.
- Majority of the mothers (58.4%) are post graduates, 26.6% belongs to degree and 15% belongs to school level of education

Knowledge regrading developmental milestones among mothers of under five children: The study revealed that 35% mothers had poor knowledge, 63.3% had average knowledge and only 1.7% mothers had good knowledge regrading developmental milestones of under five children. The mean knowledge score was 0.61 (score range: 0-25) with standard deviation is 3.26

Association between knowledge regrading developmental milestones among mothers of under five children and selected variables: Chi-square was used to find out the association knowledge regrading developmental milestones among mothers of under five children and socio-personal variables which includes age of mother, number of under five children, occupation, education. The study revealed that there was a statistically significant association between knowledge regrading developmental milestones among mothers of under five children with education of mothers.

No statistically significant association was found between age of mother, number of under five children, occupation. The present study was focused on the knowledge regrading developmental milestones among mothers of under five children attending pediatric outpatient department of SH Medical centre, Kottayam.

In the present study it was found that 35% mothers had poor knowledge, 63.3% had average knowledge and only 1.7% mothers had good knowledge regrading developmental milestones of under five children. The mean knowledge score was 0.61 (score range: 0-25) with standard deviation is 3.26. In the present study no statistically significant association was found between age of mother.

Sociopersonal data	Frequency	percentage	
Age in years	≤25 years	4	6.6%
	26-30 years	35	58.4%
	>30 years	21	35%
Number of under five children	One	46	76.6%
	Two	14	23.4%
Education	School level	9	15%
	Degree	16	26.6%
	Postgraduate	35	58.4%
Occupation	Medical	18	30%
	Non Medical	9	15%
	Others	33	55%

Frequency distribution and percentage of mothers with respect to knowledge regarding developmental milestones of under five children

Knowledge level	frequency	percentage
Poor (0-8)	21	35%
Average (9-17)	38	63.3%
Good (18-25)	1	1.7%

Table depicts that majority (63.3%) mothers have average knowledge regarding the developmental milestones of under five children.

Mean and standard deviation of knowledge regarding developmental milestones among mothers of under five children

Knowledge score range	Mean	Standard deviation
0-25	10.61	3.26

Association of the level of knowledge regarding developmental milestones among mothers of under five children with the selected socio personal variables

Socio personal data	Poor f	Average f	Good f	df	X ²	
Age in Years	≤ 25 Years	1	2	0	4	1.807
	26-30 Years	10	23	1		
	>30 years	10	13	0		
Number of under five children	one	18	27	1	2	1.93
	two	3	11	0		
Occupation	medical	6	11	1	4	2.26
	Non medical	4	5	0		
	others	11	22	0		
Education	School level	5	4	0	4	20.16***
	Degree	11	4	1		
	Post graduate	5	30	0		
*** Significant at 0.01 level						

Mean and standard deviation of knowledge regarding developmental milestones among mothers of under five children.

Association of the level of knowledge regarding developmental milestones among mothers of under five children with the selected socio personal variables: This section deals with the association of the level of knowledge regarding developmental milestones among mothers of under five children. The data in table 9 shows that there is no significant association between knowledge regarding the developmental milestones among mothers of under five children with age in years, number of under 5 children and occupation, and the null hypotheses is accepted. And in education that the obtained chi-square value was statistically significant at 0.01 level. Hence, it can be interpreted that there is significant association between knowledge regarding the developmental milestones among mothers of under five children with education and the null hypotheses is rejected.

CONCLUSION

The following conclusions were drawn on the basis of the study findings. The study findings showed that In the present study it was found that 35% mothers had poor knowledge, 63.3% had average knowledge and only 1.7% mothers had good knowledge regrading developmental milestones of under five children. The study revealed that there was a statistically significant association between knowledge regrading developmental milestones among mothers of under five children with education of mothers. No statistically significant association was found between age of mother, number of under five children, occupation. Study findings show light to the need for planning teaching programme and a mass campaign for increasing knowledge regrading developmental milestones among mothers of under five children.

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