

Knowledge Regarding Developmental Milestones of Infant among Mothers Attending a Selected Primary Health Care Centre of Sunsari, Nepal

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Abstract

Developmental milestone means various behavioral achievements in particular developmental stage. Mothers can identify the development milestone of infants by observations. Parental knowledge on developmental milestone is important for maximum developmental potential. The aim of this study was to find out the knowledge on developmental milestone of infant among mothers. A descriptive cross-sectional research design was adopted to conduct this study. The study was carried out in among 165 mothers by consecutive sampling technique. Data was collected by using structured interview schedule. Data was analysis descriptive and inferential statistical by using SPSS version16. Out of 165 respondents majority of them (76.9 %) had inadequate knowledge regarding developmental mild stone of infants. Majority (71.5%) had adequate knowledge on gross motor and regarding fine motor 63.6 % had inadequate knowledge. Furthermore, 59.4% respondents had inadequate knowledge in language domain and 59.4% respondents had inadequate knowledge in social domain. There is no statistically association between overall level of knowledge regarding developmental milestone of infant with age of mother ($p=0.619$), number of children ($p=0.729$), education (0.172), occupation ($p=0.2$), income status of family ($p=0.874$), and type of family ($p=0.264$). More than half of the respondents had inadequate level of knowledge regarding developmental milestone of infant.

Key Words: Knowledge, Developmental Milestone, Infant, Mothers, Primary Health Care Centre

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I. Introduction

Developmental milestones are a set of behaviors, skills, or abilities that are demonstrated by specified ages during infancy and early childhood in typical development. It is one of the behavioral achievements or abilities indicating particular developmental¹. At this age of life the physical changes and developmental as dramatically². Mothers can identify the development milestone of infants by observations. They may identify infants who might risk of developmental delay³. Global statistics shows that 600 million newborn are acquire a disability within their lifetime. Parents need to understand the growth and development of child progress, to identify delays or abnormalities. It is essential for the mothers to understand the baby's milestones or development patterns to recognize a possible developmental delay.

One in 6 children in the United States had a developmental disability, ranging from mild disabilities such as speech and language impairments to serious developmental disabilities, such as intellectual disabilities, cerebral palsy, and autism. If a child has a developmental delay, it is important to get help as soon as possible. Early identification and intervention can have a significant impact on a child's ability to learn new skills⁴. Autism is the most common of the Pervasive Developmental Disorders, affecting an estimated 1 in 88 births in the United States. It is growing at a startling rate of 10-17% per year (Autism care society Nepal). Prevalence of autism found in India as two million, US 1.5 million, China 1.1 million, UK 0.65 million, The Philippines half million, Thailand 0.18 million and Mexico about 0.15 million but lack of awareness on it. It is estimated that there are about 2, 50,000 - 3, 00,000 Person with Autism (PWAs) in Nepal. Among them about 60,000-90,000 PWAs are severely affected⁵.

Only (38%) Nepalese mothers identified the correct ages of developmental milestones⁶. In India found that one fourth (24.7 %) caregivers/parents had very good knowledge about the fine motor. More than fifty percent (56.3 %) caregivers/parents exhibited poor knowledge regarding developmental milestones on speech and language development⁷.

II. Method

The descriptive cross-sectional study design was adopted to find out the knowledge of mother on infant development task. This study was conducted in Chatara PHCC, Sunsari. Data was collected from September to October 2020; using by Non-probability purposive sampling technique from 165 mothers.

The Inclusion criterion was mothers having birth to one year child attending Chatara PHC of Sunsari district. Research proposal was approved from the research committee of Maharajgunj Nursing Campus and ethical approval was taken from Institutional Review Committee (IRC) of TU, IOM. Administrative approval for data collection was taken from Chatara PHC of Sunsari and written informed consent was taken from each mother. Confidentiality and dignity of respondent was maintained by giving right to reject or discontinue from the research study at any time. The data was collected by the researcher herself as per the PHC schedule time for out-patient department and at time convenient for the patient in a separate room maintaining the privacy. Respondents were interview by using Nepali version interview schedule. Data was analysis edited, coded and entered into SPSS version 16. Data was described in descriptive statistics (as frequency, percentage, mean score and standard deviation). Inferential statistical test was used as the nature of the data.

III. Result

The analysis and interpretation of the relevant data to answer specific questions of the study concerning “Knowledge Regarding Developmental Milestone of Infant among Mothers Attending a Selected PHC of a District”. All collected data were analyzed and interpreted on the basis of objectives of the study. The findings are analyzed and summarized using descriptive and inferential statistics and presented in tables as follows:

Table 1: Socio-demographic Characteristics of Respondents

Variables	Frequency	Percentage
n=165		
Age group (in years)		
<19	22	13.3
20-30	111	67.3
>30	32	19.4
Mean age 24.81 and SD±4.895		
No. of alive children		
1 child	97	58.8
2 children	58	34.5
3 children	8	4.8
4 children	3	1.8
Mean no of children 1.5 and SD±0.677		
Education of mother		
Can read and write	159	96.4
Can't read and write	6	3.6
Level of education		
Informal education	7	4.2
Basic level	74	44.8
Secondary level	72	43.6
University level	6	3.6
Occupation		
House wife	158	95.8
Service	3	1.8
Business	2	1.2
Agriculture	2	1.2
Type of family		
Nuclear	68	41.2
Joint	67	40.6
Extended	30	18.2
Heard about developmental milestone	165	100

Table 1 shows that majority (67.3%) were from age group 20-30 years. The mean age was 24.81±4.895. Regarding number of children majority of respondent had one child (58.8%). Likewise, in the education of respondents 96.4 % can read. Among them, majority (44.8%) had basic level of education. Regarding occupation of respondents 95.8% were house wife. Regarding respondent's income status of family, 41.2 % had enough for less than 12 months. Concerning with type of family, 65.5% of respondents belongs to joint family. All of them heard about developmental milestone of infant.

Table 2 Respondents' Knowledge regarding Developmental Milestone of Infant n=165

Variables*	Statements	No.	%
Gross motor	Lies during birth to one month	132	80
	Control his/her head	77	46.7
	Sit with support	87	52.7
	Sits without support	67	40.6
	Start to crawl	80	48.5
	Walk with support	56	33.9
Fine motor	Start to grasp a rattle and rings when place in hand	69	41.8
	Reach out an object and hold it with both hand	65	39.4
	Transfer objects one hand to another hand	59	35.8
	Holds objects with crude grasp from palm	70	42.4
	Hold small object between index finger and thumb	68	41.2
Language	Start to cooing	79	47.9
	Child laugh loud	67	40.6
	Speak mono-syllabus	47	28.5
	Start to recognize own name	49	29.7
	Speak bi-syllabus	68	41.2
Social	Say "NO" by shaking head	74	44.8
	Social smile	65	39.4
	Child recognize his/her mother	76	46.1
	Start to smile to self in mirror	49	29.7
	Child recognize strangers	64	38.8
	Child start to cry when mother leave for work	52	31.5
	Wave bye bye	62	37.6

*Multiple responses

Table 2 shows that, in gross motor majority (80%) answered the correct response about lying position of child during birth to one month of age. Regarding fine motor 42.2% respondent gave correct answer about age of child holds objects with crude grasp from palm Similarly, 40.9 % gave correct response about age of child cooing and only 28.5% respondents were known about age of child speaks mono-syllabus in language domain. Furthermore, 46.9% respondents know age of child recognize his/her mother and 29.7 respondents were known about age of child smile to self in mirror in social domain.

Table 3: Respondents' Overall Level of Knowledge on Developmental Milestone of Infant n=165

Variables	No.	%	Mean	SD
Gross motor				
Adequate (≥3)	118	71.5	50.4	±19.21
Inadequate (<3)	47	28.5		
Fine motor				
Adequate (≥3)	60	36.4	40.1	±23.32
Inadequate (<3)	105	63.6		
Language				
Adequate (≥3)	67	40.6	38.9	±18.78
Inadequate (<3)	98	59.4		
Social				
Adequate (≥3)	67	40.6	37.2	±20.71
Inadequate (<3)	98	59.4		

Table 3 depicts that majority (71.5%) had adequate knowledge on gross motor and means knowledge was 50.4±19.21. Regarding fine motor 63.6 % had inadequate knowledge and mean knowledge was 40.1±23.32. Furthermore, 59.4% respondents had inadequate knowledge in language. Similarly, 59.4% had inadequate knowledge in social domain.

Table 4: Respondents Level of Knowledge on Developmental Milestone of Infant

Variables	Number	Percentage	Mean	Standard deviation
Knowledge level				
Adequate (≥ 50 %)	38	23.1	41.7	11.73
Inadequate (<50 %)	127	76.9		

Table 4 shows that majority of the respondents (76.9 %) had inadequate knowledge on development mild stone and mean knowledge was 41.7 ± 11.73 .

Table 5: Associations between Knowledge regarding Developmental Milestone of Infant and Selected Variables

Variable	Level of knowledge				p- value
	Inadequate		Adequate		
	No.	%	No.	%	
n=165					
No. of alive Children					
≤2 Children	119	77.3	35	22.7	0.729
>2 Children	8	72.7	3	27.3	
Age of mother					
<25 years	66	78.6	18	21.4	0.619
≥25 years	61	75.3	20	24.7	
Education of mother					
Cannot read and write	6	100.0	0	0.0	0.172
Can read and write	121	76.1	38	23.9	
Occupation					
House wife	120	75.9	38	24.1	0.2
Service, Agriculture and Business	7	100	0	0.0	
Monthly income					
Enough for Less than 12 months	53	77.9	15	22.1	0.874
Enough for 12 months	52	77.6	15	22.4	
Enough for more than 12 months	73	73.3	8	26.7	
Type of family					
Nuclear	41	71.9	16	28.1	0.264
Joint	86	79.6	22	20.4	

Table 5 shows that there is no statistically significant association between overall level of knowledge regarding developmental milestone of infant with age of mother (p=0.619), number of alive children (p=0.729), education (0.172), occupation (p=0.2), income status of family (p=0.874), religion (p=0.195) and type of family (p=0.264).

IV. Discussion

Among the 165 study participants, the majority (76.9%) of mothers had inadequate knowledge regarding developmental milestone of infant. This result is inconsistent with study conducted by Borude in Pune city India⁸. The probable reason for this might be that study was done in urban setting and where the literacy rate is very high, thus mother were more aware of developmental milestone. The mean percentage of knowledge score was (50.4%) in gross motor followed by (40.1%) in fine motor development (38.9%) in language development and least (37.2%) in social development respectively. These findings were consistent with the study conducted by David et al. in Punjab, India⁹.

Among the knowledge questions that “at what age does the child says Baba Mama”, “social smile develops” and “age at which head holding” and “age of attaining pincer grasp” the correct answers percentage was in accordance with Sharma⁶. It had been found that there was no statistical significant association between age, education, type of family, mother occupation, and number of living children of mother with level of knowledge. This result is consistent with those mentioned in a study by Borude⁸.

The present study showed that there was a significant association between mothers age and her language and social developmental knowledge which is the same result reached by Lujain A et al. in Bagdad Iraq¹⁰.

It had been found that there was a significant association between mothers social development knowledge, number of alive children¹⁰ but no significant association between mothers gross motor, fine motor, language and social development knowledge with number of alive children, which was differ from study done in Bagdad, Iraq¹⁰. The current study showed that there was no significant association between mothers’ language and social development knowledge with occupation of mother. This result was consistent above study in Iraq¹⁰.

V. Conclusion

Finding revealed that more than half of the respondents had inadequate level of knowledge regarding developmental milestone of infant. There was no significant association between mother age, number of living children, occupation, education and types of family.

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