Knowledge of Mothers Toward Growth and Development of Their Under-5 Years Children in Western Rajasthan (India)

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Abstract

Background: The first five years of a child's life is a golden period for their growth and development, fostering their future learning skills and social and emotional abilities due to rapid gains in physical and cognitive growth and development. **Objectives:** The aim of this study was to examine the knowledge of mothers about the growth and development of under 5-years children in western Rajasthan. **Materials and Methods:** The present study was conducted with quantitative descriptive approach. The study was conducted at Prince Bijay Singh Memorial (PBM) Hospital, Bikaner, Rajasthan. The population of the current study comprised of 150 mothers, having at least an under-5 year's child. The subjects were selected by Non-probability convenient sampling technique for this study. Self-structured questionnaire on demographic profile and knowledge about growth and development were distributed among the mothers. **Results:** The study revealed that half of the mothers were belongs to 26–35 years of age group. The majority of mothers (42%) were having education up to primary level. In occupational status, the most of mothers (56.66%) were house wife. Furthermore, the majority of the mothers (65.33%) had average level of knowledge followed by 28.67% of them had good level of knowledge while only 6% had poor level of knowledge regarding growth and development of under-5 year children. Likewise there was a significant association between the knowledge scores of the mothers and age (*p*-value- 0.031), educational status (*p*-value- 0.0001) and occupation (*p*-value- 0.0001). Whereas, variables like as: family income, type of family and Number of children in family were not significantly associated the level of knowledge. **Conclusion:** Findings of this research study suggested that most of the mothers having average level of knowledge towards growth and development of under-5 year children. In addition, Knowledge of the mothers was partially associated with their selected demographic variables. Furthermore, sound knowledge of mothers is vital for growth and development of under-5 year children.

Keywords: Growth and development, knowledge, mothers, under-5 year children

Introduction

Malnutrition is responsible for more than half of all fatalities in children under the age of five. Malnutrition in children may be avoided by regularly evaluating their growth and development and doing growth promotion activities, sometimes known as growth monitoring and promotion (GMP).[1] Malnutrition in children is a worldwide public health problem that stunts development and has negative health repercussions. Malnutrition is connected to nearly half of all fatalities in children under the age of five, since it raises the risk of mortality from common diseases, increases the number of episodes and intensity of such infections, and prolongs recovery. In 2019, there were 144 million stunted children under the age of five in the globe, 47 million wasted children, 14.3 million of them were severely wasted, and 38.3 million overweight children.[2-4] In a developing country like India, the high prevalence of under-nutrition, iodine deficiency, iron deficiency, and inadequate cognitive stimulation are important risk factors for sub-optimal development. Yet, health care providers at the primary level are mostly unaware of the importance of the timely acquisition of developmental milestones by children under their care.[5] More than 3.5 million children under five deceased

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each year in Asia due to the underlying cause of under nutrition, and millions more are permanently disabled by the physical and mental effects of a poor dietary intake in the earliest months of life.[6] The developmental status of the children as assessed by the Indian council of medical research (ICMR) developmental screening scale: 10.6% children were found to be developmentally delayed in one or more domains.[5] Mothers must be familiar with development charts since they are directly responsible for their children's health, and it adds to a higher acceptance of accountability for child care.[7] A study highlighted that majority of mothers (53%) had average knowledge score regarding growth and development of infants.[8] Therefore, the researchers planned to conduct the present study to assess the knowledge of mother regarding growth and development of under-5-year child.

Objectives of the study

1. **Primary objective:** To assess the levels of knowledge of mother regarding growth and development of under-5 year child.
2. **Secondary objective:** Association between selected demographic variables of the mothers and their levels of knowledge.

Materials and Methods

A quantitative research approach was considered appropriate for the present study.Descriptive research design was used to evaluate the knowledge of mothers regarding growth and development of under-5 years children in PBM Hospital, Bikaner, Rajasthan. The study was conducted among 150 mothers attending Pediatric unit, PBM Hospital, Bikaner (Raj.). The mothers were selected by non-probability convenient sampling technique who fulfill the inclusion and exclusion criteria.

Inclusion criteria

1. Mothers who were present in Pediatric unit, PBM hospital, Bikaner (Rajathan)
2. Mother who was willing to participate in the study.
3. Mothers who were having at least a under-5 year child.
4. Mothers who can read or respond either in Hindi or English.

Exclusion criteria

1. Mothers who were not available during the period of data collection.
2. Mothers who was not willing to participate in the study.

In present study, the tool consists of two sections: section A: Socio demographic Performa and section B: Structured knowledge questionnaire regarding growth and development of under-5 children. The structured knowledge questionnaire consists of 25 items from all the aspects of growth and development of under-5 year children.The range of knowledge score was 0–25. The levels of knowledge were categorized in 3 sections. The obtained score from 0–8 and 9–17 were considered as poor knowledge and average knowledge respectively. The knowledge score from 18 to 25 was categorized as good knowledge.

Ethical consideration

Ethical clearance was obtained from the research committee of Government College of Nursing, SP Medical College and Associated group hospitals, Bikaner (Rajasthan). Pilot study permission was taken from Chief Medical officer, Satellite district hospital, Bikaner. Main study Permission was taken from the Medical superintendent, PBM hospital, Bikane (Letter no. GCON/SPMC/BKN E. Permission/2020/1533, dated: 29.10.2020). Informed written consent was taken from the mothers. Anonymity and confidentiality of the information were maintained while carrying out the study.

Plan for data analysis

The data obtained was tabulated and analyzed in terms of the objectives of the study by using descriptive and inferential statistics. Frequency and percentage distribution were used to describe the socio-demographic data and levels of knowledge. Mean, Median and standard deviation were used to assess the levels of knowledge. Chi-square test was used to determine the association between levels of knowledge and selected socio-demographic variables.

Data collection procedure

Formal permission to conduct study was obtained from the concerned authorities of PBM Hospital, Bikaner. The investigator introduced self to the subjects and explained the purpose of the study. The data collection was done from 5th December 2020 to 3rd January 2021 in Pediatric PBM Hospital, Bikaner. The data was collected from 150 mothers. The subjects were selected by using non probability convenient sampling technique. Written consent was obtained from the mothers. Structured knowledge questionnaire was administered to mothers to assess the knowledge of mothers by interview method on one to one basis. Each mother took about 15 to 20 minutes to answers the questions. Thus the knowledge regarding growth and development of under 5 year children among 150 mothers was assessed.

Results

[Table 1] communicated the frequency and percentage distribution of socio demographic variables of the mothers. The majority of mother (50) belongs to 26–35 year age group i.e., 33.33% whereas only 21(14%)

Table 1: Frequency and percentage distribution of socio-demographic variables of mothers of under-5 years child. *n* = 150

S. No.	Socio-Demographic variables	Frequency	Percentage
1	Age of themother		
	a)Less than 25 Years	41	27.33
	b)25-35 Years	50	33.33
	c)36-45 Years	38	25.33
	d)More than 45 Years	21	14
2	Educational status of themother		
	a)No Formal Education	27	18
	b)PrimaryEducation	42	28
	c)Secondary Education	30	20
	d)Higher Secondary	33	22
	e)Graduate and Above	18	12
3	Occupation of the mother		
	a)House wife	85	56.67
	b)Self employed	33	22
	c)Private employeed)	24	16
	Government employee	8	5.33
4	Monthly income of the family		
	a)Less than Rs 5,000	24	16
	b)Rs.5,000 - Rs 10,000	36	24
	c)Rs10,001 - Rs 20,000	54	36
	d)More than Rs 20,000	36	24
5	Type of the family		
	a)Nuclear family	47	31.33
	b)Joint family	102	68
	c)Single parent	1	0.67
6	Number of children in the family		
	a)One child	78	52
	b)Two children	34	22.67
	c)Three and more	38	25.33

of them were above 45 year. According to educational status of mothers, the most of them 42(28%) had studied up to primary whereas18(12%) of them had done graduation, 27(18%) mothers had no formal education. On discussion with occupational status of the mother, majority of the mothers 85(56.66%) were house wife where as only 08(5.33%) were a government employees. Towards monthly income of the family, most of them reported their family income between Rs 10001 – 20000 i.e., 54(36%) but only 24(16%) of them reported that their income is less than Rs 5000.Related to type of family, it shows that majority of the mothers 102(68%) belongs to joint family and 47(31.33%) of them belongs to nuclear family and only 01(0.67%) of them were single parent.On considering in the family, most of the mothers 78(52%) said that they have one child in their family and 34(22.67%) of them said that they have two child whereas the remaining 38(25.33%) of them said that they have more than three child in the family.Furthermore, [Table 2] highlighted that themajority of the mothers 98 (65.33%) had average level of knowledge followed by 43 (28.67%) of them had good level of knowledge where as only 09 (6%) of them had poor level of knowledge regarding growth and development of under-5 year children [Figure 1].

Table 2: Frequency and percentage distribution of levels of knowledge regarding selected aspects of growth and development of under-5 years child among mothers. *n* = 150

S.No.	Levels of knowledge	Frequency (f)	Percentage
1	Poor (0-8)	9	6%
2	Average (9-17)	98	65.33%
3	Good (18-25)	43	28.67%

Additionally, [Table 3] communicated the association between selected demographic variables of the mothers and levels of knowledge. The findings highlighted that age (*p*-value- 0.031), educational status(*p*-value- 0.0001) and occupation of mothers (*p*-value- 0.0001) were significantly associated with levels of the knowledge of the mothers. While other variables like family income (*p*-value- 0.061), type of family (*p*-value- 0.130) and no. of children in the family (*p*-value- 0.488) were found to be statistically not significant at 0.05 level. The findings indicated that the knowledge scores of the mothers were dependent up on the age, educational status and occupation. Whereas, the factors like as family income, type of family and no. of children in family were not significantly associated with levels of knowledge of the mothers.

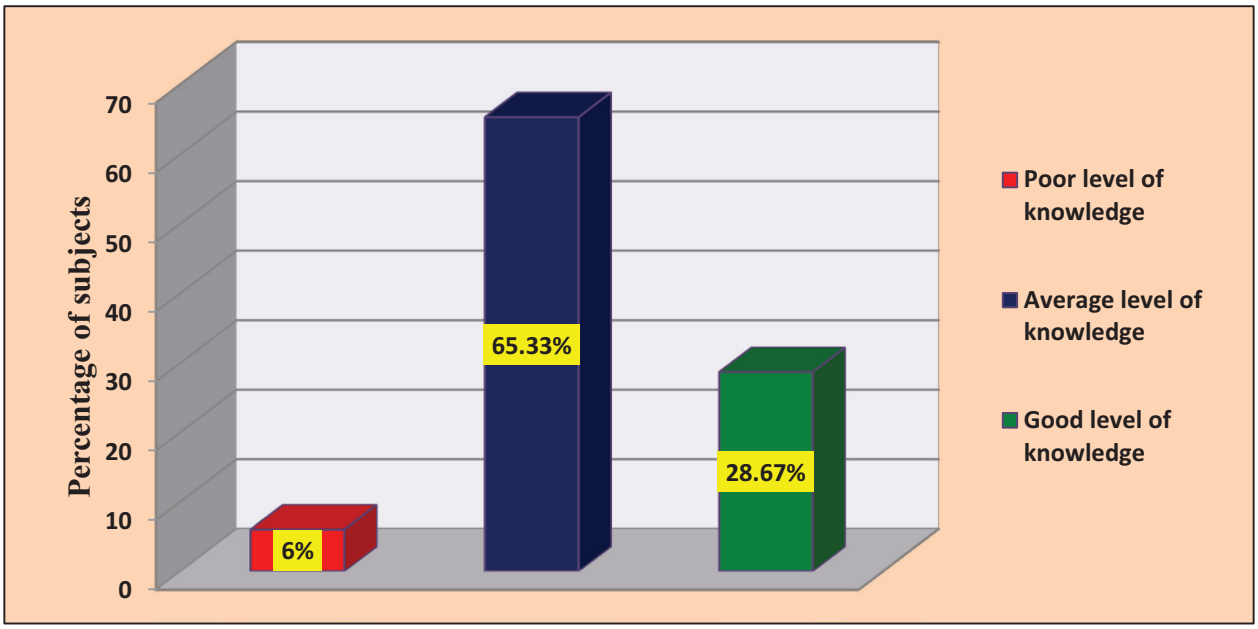

Figure 1: Percentage distribution of mother's levels of knowledge

Table 3: Association between the levels of knowledge with selected socio-demographic variables of mothers. *n* = 150

S.No.	Socio-demographic variables	Level of knowledge			Total	df	Calculated χ^2 value	Tabulated χ^2 value	*p-value*
		Poor	Average	Good					
1	**Age of the mother**								
	< 25 Years	2	24	15	41	6	13.899	12.56	0.031
	25-35 Years	0	35	15	50				
	36-45 Years	3	22	13	38				
	> 45 Years	4	15	2	21				
2	**Educational status of the mother**								
	No Formal Education	7	17	3	27	8	60.257	15.51	0.0001
	Primary Education	0	34	8	42				
	Secondary Education	1	24	5	30				
	Higher Secondary	0	15	18	33				
	Graduate and Above	1	6	11	18				
3	**Occupation of the mother**								
	House wife	6	63	16	85	6	24.465	12.56	0.0004
	Self employed	2	22	9	33				
	Private employee	1	10	13	24				
	Government employee	0	1	7	8				
4	**Monthly income of the family**								
	Less than Rs 5,000	4	15	5	24	6	12.047	12.56	0.061
	Rs.5,000 - Rs 10,000	2	25	9	36				
	Rs10,001 - Rs 20,000	1	39	15	54				
	More than Rs 20,000	2	17	16	36				
5	**Type of the family**								
	Nuclear family	4	23	20	47	4	7.113	9.49	0.130
	Joint family	5	72	25	102				
	Single parent	0	1	0	1				
6	**Number of children in the family**								
	One child	7	51	22	78	4	3.429	9.49	0.4887
	Two children	0	22	11	34				
	Three or more	2	23	12	38				

Discussion

The present study was conducted with aim to assess the knowledge of mothers towards selected aspects of growth and development of under-5 year children. The mostly mothers (65.33%) have average level of knowledge followed by 28.67% of them have good level of knowledge while only 6% of them had poor level of knowledge. A study by Devi Shikha highlighted that majority of mothers (53%) had average knowledge score regarding growth and development of infants.[8] Lavangare SR and Ravichandran conducted a study to evaluate Knowledge and Practice of Growth Chart among Mothers attending Well-Baby Clinic at Urban Health Training Centre, Mumbai, Maharashtra. The study highlighted that only 40 (24.8%) mothers had good knowledge regarding growth charts.[9] This finding was in consistent with our research findings. Another study by Daulat KC and Keithellakpam M stated that 86% mothers are having good knowledge towards play needs during hospitalization.[10] In contrast to present findings, Karuppannan A *et al.* highlighted that about 50% of mothers correctly estimated the child developmental milestones where 27% of mothers underestimate.[11] Furthermore, Chetan SP (2018) communicated that majority of the mothers 41% had satisfactory knowledge level (41 mothers), inadequate knowledge about 36% (36 mothers) and 23% (23 mothers) were had adequate knowledge towards nutrition.[6] This finding was in contrast with our findings. In another study, Sangra S. and Nowreen N conducted a cross-sectional community-based study among 300 mothers with under-five children. The findings revealed that the majority of mothers had fair to good Knowledge, attitude and practice (KAP) regarding nutrition of under-five children and prevention of malnutrition.[12] Furthermore, Reiher A and Mohammadnezhad M. highlighted that about (71%) of the mothers did not know about the nutritional suppliants.[13]

Additionally the present study also communicated that age (*p*-value- 0.031), educational status(*p*-value- 0.0001) and occupation of mothers (*p*-value- 0.0001) were significantly associated with levels of the knowledge of the mothers. The present study also explored that variables like family income (*p*-value- 0.061), type of family (*p*-value- 0.130) and no. of children in the family (*p*-value- 0.488) were not statistically associated with levels of knowledge of the mothers. A study by Kaur Ramandeep revealed that the mothers' knowledge was statistically significant at $P < 0.05$ with demographic variables such as mother's age, qualification, occupation, number of children, type of family, family monthly income, source of information and health facilities.[14] These findings were supported the present study findings. In our research context, Chetan SP (2018) communicated that age, educational status of mother, occupation of mother, religion, type of family, total number of under fives in the family, monthly income of the family, and place of residence were significantly associated with levels of the knowledge of mother.[6] Another study by Daulat KC and Keithellakpam M (2020) highlighted that demographic variables i.e. Age, income, no. of children, source of information and duration of hospitalization were significantly associated with the knowledge of mothers of under-five regarding play need.[10] The present study explored that levels of knowledge have limited association with demographic characteristics of the mothers.

Conclusion

The present study was concluded that the majority of mothers (65.33%) have average level of knowledge followed by 28.67% of them have good level of knowledge while only 6% of them had poor level of knowledge. The knowledge scores of the mothers was dependent up on the age, educational status and occupation. While it is independent on the factors like as: Family income, type of family and no. of children in family. Sound knowledge of the mothers towards growth and development is vital for the community. It will be effective in maintaining the proper growth and development of children which may decline the morbidity and mortality among children.

Significance of the study

The present study emphasizes on the levels of knowledge of mothers towards selected aspects of growth and development of under-5 year children. Current study highlighted that majority of the mothers were having average level of knowledge. It is crucial for the mothers to enhance their knowledge towards growth and development of under-5 year children.The decline of differentiation competence in children must be recognized and acknowledged. Because it is impacted by a variety of elements, treatments will need to be broad and comprehensive.

Limitations

The present study was conducted at single centre in western Rajasthan, India.The study was carried out on a population without randomization. The knowledge of mothers was evaluated in terms of growth and development of under-5 year children.

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Competing interest

None.

Contributor's statement

Ravindra Kumar, Narendra Kaushik, Jaishree Vaishnav, Vishal Krishnan and Shatrughan Pareek designed and crafted the article. Shatrughan Pareek contributed in

preparing and designing the manuscript. He would act as the corresponding author of the manuscript.

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