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Research Paper

A study to assess the effectiveness of information booklet on knowledge and attitude regarding weaning food among mothers in selected community area of Buldhana, Maharashtra, India

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ABSTRACT

Background: Malnutrition is a serious public health problem that causes child morbidity and mortality; India is ranked at 94th position in the list of 107 countries and has more than 33 lakh malnourished children in the country. The highest mortality observed is due to malnutrition and infection in children 0-4 years of age, with an estimated 21% of total deaths occurring in the 0-1 year age group. Weaning is a potent developmental event and is the transition period that occurs when breast milk alone is no longer enough after 6 months, leading to the introduction of complementary feeding.
Objective: To determine the knowledge and attitude of mothers regarding weaning practices.
Methods: An interventional study, with an evaluative design approach, was carried out on 60 mothers in Yelagon village of Buldhana district, Maharashtra in the months of August and September 2023 by purposive sampling technique. A 25 item pre and post test in the form of questionnaire was used to determine the knowledge of weaning, while a 10 statement questionnaire was used to determine the attitude. After collection of pre test data an information brochure about weaning was given to the participants.
Results: At pre test, the proportion of mothers with poor knowledge score was 33.33%, average knowledge score was 65% while only 1.67% had good knowledge score with the mean knowledge score being 9.76 SD 2.95. The mean knowledge score showed an increase after the post test (19.06, SD 2.05).
Conclusion: There was a significant gap in knowledge about weaning before the intervention for mothers. An information booklet was distributed and considerable changes were seen in post-test knowledge as well as attitudes towards weaning practices, indicating that structured education interventions can be effective in this population.

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1. INTRODUCTION

Malnutrition is a vital public health issues and it is need to address to prevent child morbidity and mortality. [1], [2]. Malnutrition can lead to around 45% of deaths among under 5 children [3]. Globally it is reported that 462 million are underweight and in South Asia countries Afghanistan, India, Bangladesh, Indonesia, Pakistan, and Yemen rate of prevalence 27.4%. [4], [5]

To fight against malnutrition issues and reduce incidence of malnutrition among children below 6yrs and adolescent girls in India, government had started ICDS (Integrated Child Development Scheme) and midday meals program, but during COVID-19 pandemic period due to long period of lockdown sttus many school were closed for almost for the year these has created severe impact on children nutrition those who were from poor socioeconomic condition and below poverty line.

As per Global Hunger Index (GHI, 2020), India ranked 94th out of the 107 countries, in many state of India like Maharashtra, Bihar and Gujarat over 33 lakh children are malnourished. [6] From past few decades, India has constantly taking efforts to reduce incidences of malnutrition hence successful in some extend. Breast feeding provides all nutrients in complete and ideal manner for the infant in the beginning of life that is up to 6 months. After 6months breast-milk alone is not sufficient so, every child need complementary feeding for expected growth and development. Appropriate nutrition in this age is essential as rapid development often occur at this age. To ensure healthy future citizen we must focus on fulfilling nutritional requirement of children. Children between 0-4yeas age has reported highest death rate due to malnutrition and infection The process of weaning, or the transition from exclusive breastfeeding to incorporating complementary foods, is a crucial milestone in the growth and development of infants. The World Health Organization (WHO) recommends weaning should be started at the Six months of age along with breast feeding. The success of weaning practices heavily relies on mothers' knowledge andattitudes towards this phase. Understanding the knowledge and attitudes of mothers towards weaning is essential for designing effective interventions and providing appropriate support and guidance. Appropriate weaning practices are essential for optimal growth and development and the establishment of long-term healthy eating habits. Several factors influence the weaning process, including cultural beliefs, maternal knowledge, attitudes, and practices.

2. METHODOLOGY

Interventional study was conducted at Yelgaon, Buldhana, Maharashtra, India amongst 60 mothers having children (6month to 2years by purposive sampling method during the period of August 2023 to September 2023. After taking necessary permission, institutional ethical committee approval was obtained for the study. Self-administered questionnaires in Marathi were devised to collect data. Knowledge on weaning was assessed through 25 questions which are based on knowledge about Definition of weaning, Importance of weaning, age for the child for introducing, Qualities of weaning food, premature weaning effect and tips while preparing and attitude scale with 10 statements. Questions were with 4 options. Every correct response was given 1 score. And 0marks given for wrong response. Scoring mechanism was given for easy understanding of knowledge of mothers. mother who will get 17-25 points, they are considered of having adequate knowledge, knowledge level less than 50% (0-8) consider as inadequate knowledge, 50-75% (9-16) moderate knowledge. To assess the attitude 5-point Likert scale was used

which was involved 10statements with 5 columns such as strongly agree (SA), agree (A), not agree (NA). Disagree (DA), strongly disagree (SDA). The scores were categorized as highly favorable: 76-100% (38-50) moderate favourable: 50-75% (24-37), Unfavourable: less than 50% (10-23). Those mothers not willing to give consent was excluded from study. Before data collection, all participants were aware about objectives of the study and confidentiality of their personal data to be maintained by researchers. After data collections, data was entered in MS Excel and results were analyzed using percentage,proportions and paired t-test. Observed difference was considered to be statistically significant If p-value was equal or less than 0.0. Demographic data such as age, education, type of family etc., was presented with the help of frequency, percentage, mean, standard deviation. Knowledge related to question and statement for attitude etc., was be presented with the help of frequency, percentile, paired't' test table and association with knowledge and attitude with demographic variable calculated by Chi-Square test.

3. RESULTS AND DISCUSSION

Table 1. Frequency & Percentage Distribution of the Mothers in Selected Community Area of Buldana

Sr. No.	Variable	Groups	Frequency	%
1	Age	18-22	17	28.33
		23-27	28	46.67
		28-32	13	21.67
		More than 32	2	3.33
2	Gender	Male	0	0.00
		Female	60	100.00
3	Religion	Hindu	39	65.00
		Christian	0	0.00
		Muslim	0	0.00
		Buddhist	21	35.00
4	Type of family	Nuclear	29	48.33
		Joint	31	51.67
5	Education	Illiterate	1	1.67
		Primary	25	41.67
		Secondary	26	43.33
		Graduate	8	13.33
6	Occupation	Housewife	45	75.00
		Private Sector	9	15.00
		Government Sector	4	6.67
7	Monthly income	Others	2	3.33
		Rs 5000 - 10000	32	53.33
		Rs 10000 - 20000	20	33.33
		Rs 20000 - 50000	7	11.67
		Above Rs 50000	1	1.67
8	Number of children present in family	1	29	48.33
		2	23	38.33
		3	8	13.33
9	Any physical or mental disabilities present in child	More than Three	0	0.00
		Yes	1	1.67
		No	59	98.33
10	which type of food practices followed by family	Vegetarian	16	26.67
		Non-Vegetarian	2	3.33
		Mixed	42	70.00

Table 1 shown the demographic characteristic of the study , in which majority of mothers were in the age group of 23 to 27 years, out of 60 participants 39(65%) were from Hindu religio,31(51.67%) had belonged to joint family. total, 26 (43.33%) had secondary education. out of total 45(75%) were housewife

32(53.33%) had monthly income of 5000-10000, 29(48.33%) had only one child, 98.33% didn't had any physical of mental disability and 42(70%)followed mixed (vegetarian and nonvegeterian) pattern of food.

Table 2. Difference between Pretest and Post Test Knowledge

Variable	Groups	Score	Pre Test		Post Test	
			Frequency	Percentage	Frequency	Percentage
KNOWLEDGE	Poor	0-8	20	33.33	0	0.00
	Average	9-16.	39	65.00	3	5.00
	Good	17-25	1	1.67	57	95.00
KNOWLEDGE	Minimum		3		14	
	Maximum		17		24	
	Average (SD)		9.76 (2.95)		19.06 (2.05)	

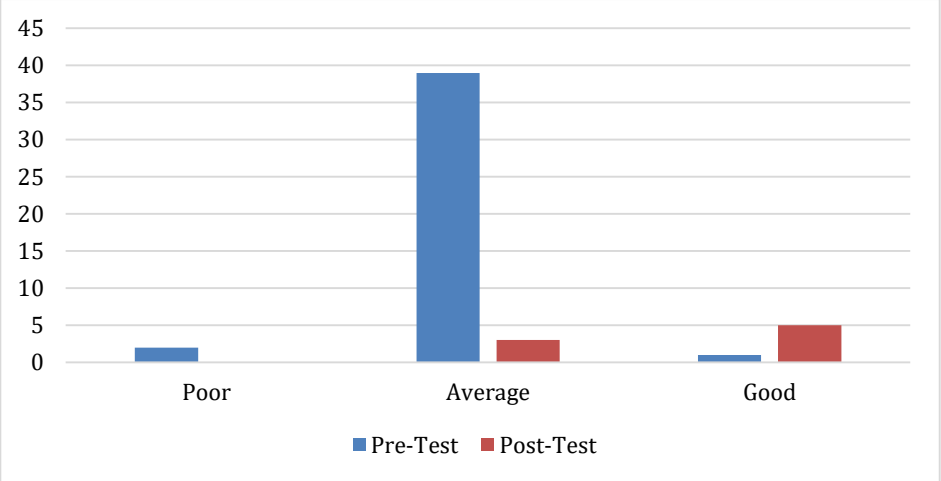


Figure 1. Difference between Pretest and Post Test Knowledge

It was seen from Table 2 and Figure 1that in pretest 33.33% of them had poor knowledge, 65% had average knowledge and 1.67% of them had good knowledge. Average knowledge score at the time of pretest was 9.76with standard deviation of 2.95. The minimum score of knowledge was 3 with maximum score of 17. In the posttest, none of them had poor knowledge, 5% had average knowledge and 95% of them had good knowledge. Average knowledge posttest score was 19.06 with standard deviation of 2.05. The minimum score of knowledge was 14 with maximum score of 24.

Table 3. Difference between Pretest and Post Test Attitude

Variable	Groups	Score	Pre Test		Post Test	
			Frequency	Percentage	Frequency	Percentage
Attitude	Unfavorable	10-23.	23	38.33	0	0.00
	Moderate favorable	24-37	36	60.00	41	68.33
	Highly favorable	38-50	1	1.67	19	31.67
Attitude	Minimum		14		28	
	Maximum		40		46	
	Average (SD)		25.96 (5.58)		36.58 (4.84)	

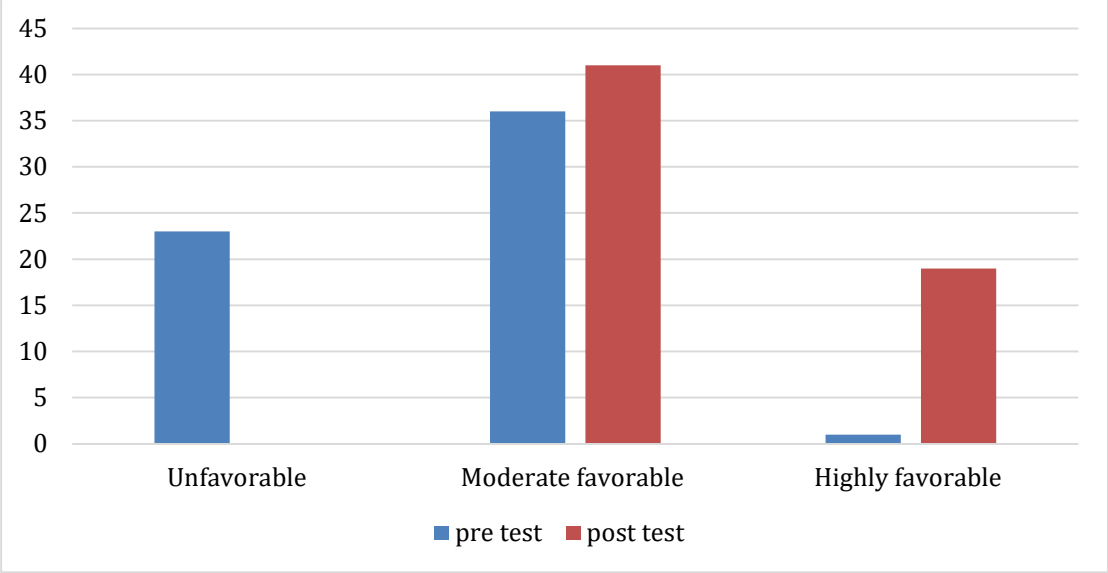


Figure 2. Difference between Pretest and Post Test Attitude

Table 3 and Figure 2 shows that out of total in pretest 1.67% of them had highly favorable, 60% had moderate favorable attitude and 38.33% of them had unfavorable attitude. Average attitude score at the time of pretest was 25.96 with standard deviation of 5.58. The minimum score of attitude was 14 and maximum score of 40. In posttest 31.67% of them had highly favorable, 68.33% had moderate favorable attitude and no one of them had unfavorable attitude. Average attitude score at the time of posttest was 36.58 with standard deviation of 4.84. The minimum score of attitudes was 28 with maximum score of 46.

Table 4. Comparison of the Pre and Posttest Knowledge (Paired T Test)

Group	Frequency	Mean	S.D.	T value	P value
Pre Test	60	9.76	2.95	18.97	0.000
Post Test	60	10.06	2.05		

Table 4 shows that the pretest average score was 9.76 with standard deviation of 2.95. The posttest average score was 10.06 with standard deviation of 2.05. The test statistics value of the paired t test was 18.97 with p value 0.00. The p value less than 0.05 that means there is significant difference in pre and posttest knowledge.

Table 5. Comparison of the Pre and Posttest Attitude (Paired T Test)

Group	Frequency	Mean	S.D.	T value	P value
Pre Test	60	25.96	5.58	10.31	0.000
Post Test	60	36.58	4.84		

Table 5 shows that the pretest average score was 26.96 with standard deviation of 5.58. The posttest average score was 36.58 with standard deviation of 4.84. The test statistics value of the paired t test was 10.31 with p value 0.00. The p value less than 0.05 that means there is significant difference in pre and posttest attitude.

Table 6. Association of Knowledge with Demographic Variables

Variable	Groups	Knowledge		Chi Square	D.F.	P Value	Significance
		Below MD	Above MD				
Occupation	Housewife	33	12	9.31	3	0.025	Significant

	Private Sector	4	5				
	Government Sector	1	3				
	Others	0	2				
Monthly income	Rs 5000 - 10000	26	6	11.32	3	0.010	Significant

Table 7. Association of Attitude with Demographic Variables

Religion	Hindu	25	14	8.86	1	0.003	Significant
	Christian	0	0				
	Muslim	0	0				
	Buddhist	5	16				
Type of family	Nuclear	9	20	8.07	1	0.004	Significant

Table 6 & Table 7 shown that association between demographic variable and knowledge and attitude was calculated with chi-square. There is significant association found in knowledge with occupation and monthly income. The significant association found between religion, types of family and attitude.

One study was conducted by [7] in 2022 among 315 Mothers, he had assessed knowledge and practices regarding weaning, this study result shown that overall knowledge of mothers was 50.5% and practices was 48.3, that is good. Knowledge and practices of weaning with age of and total number of children were having significant association. [8] Contradictory finding seen in present study Out of 60 mothers 33.33% of them had poor knowledge, 65% had average knowledge and only 1.67% of them had good knowledge. There is significant association found in knowledge with occupation and monthly income. (p values= 0.025 and 0.010) The significant association found between religion, types of family and attitude.(p values=0.003 and0.004) Similar study was conducted by [9]. In the pediatric outpatient clinic, to find the awareness of the weaning practices and the determinants affecting the weaning practices, this study finding was out of total 304 respondent 64(21%) were unaware about regarding weaning, 41.1% admitted that they will stop weaning during illness. In present study 33.33% of them had poor knowledge regarding weaning and 65% had average knowledge and only 1.67% of them had good knowledge. Similar study was conducted by [10].

This study result shown that pre-test and post test mean knowledge score of mothers of infants was 42.96 (SD-and 56.45 (SD-2.48). [9] In present study average knowledge score regarding weaning at the time of pretest was 9.76with standard deviation of 2.95. In posttest average knowledge score at the time of posttest was 19.06 with standard deviation of 2.05. Similar study was done by [11] in 2022 among mothers of infants, this study finding revealed that only 15% of mothers were having adequate knowledge majority means 70% of mothers were having average knowledge. More than 50% had favorable attitude, and only 6% were having unfavorable attitude. The mean knowledge and attitude score was 19 and 53.73 with 4.1008 standard deviation of knowledge and 15.598 attitude SD of mothers. [10] In present study 33.33% of mothers had poor knowledge, 65% had average knowledge and only 1.67% of them had good knowledge. Average pretest knowledge score 9.76with standard deviation of 2.95. The minimum score of knowledge was 3 with maximum score of 17.In the posttest, none of them had poor knowledge, 5% had average knowledge and 95% of them had good knowledge. Average post knowledge score was 19.06 with standard deviation of 2.05. The minimum score of knowledge was 14 with maximum score of 24. In Pretest 1.67% of them had highly favorable, 60% had moderate favorable attitude and 38.33% of them had unfavorable attitude. Average p r e t e s t attitude score was 25.96 with SD of 5.58. The minimum score of attitude was 14 and maximum score of 40. In post test 31.67% of them had highly favorable, 68.33% had moderate favorable attitude and no one of them had unfavorable attitude. Average posttest attitude score was 36.58 with SD of 4.84. The minimum attitude score was 28 with maximum score of 46

4. CONCLUSION

For future healthy and smart India, we need to concentrate on fulfilling nutritional needs of children and encourage mothers to initiate weaning at six months along with breast feeding as per WHO recommendation which will help to minimized incidences of malnourishment in children. There is significant level of improvement that has seen in pretest and post test knowledge level of mother, also information booklet was effective to change the attitude of mothers from unfavorable to moderate favorable.

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Author Contributions Statement

Name of Author	C	M	So	Va	Fo	I	R	D	O	E	Vi	Su	P	Fu
Prof. Rohini Bhaguji Pawar	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
Anurag Sarkate	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
Vrushali Dongardive	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓

C : **C**onceptualization
M : **M**ethodology
So : **So**ftware
Va : **Va**lidation
Fo : **Fo**rmal analysis
I : **I**nvestigation
R : **R**esources
D : **D**ata Curation
O : Writing - **O**riginal Draft
E : Writing - Review & **E**diting
Vi : **Vi**sualization
Su : **Su**pervision
P : **P**roject administration
Fu : **Fu**nding acquisition

Conflict of Interest Statement

The authors declare that there are no conflicts of interest regarding the publication of this paper.

Informed Consent

All participants were informed about the purpose of the study and their voluntary consent was obtained prior to data collection.

Ethical Approval

Not Applicable.

Data Availability

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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