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Shrada Pradhan

Sikkim Manipal College of
Nursing, Sikkim Manipal
University, Gangtok, Sikkim,
India

Moirangthem Thoibi Devi

Professor, Sikkim Manipal
College of Nursing, Sikkim
Manipal University, Gangtok,
Sikkim, India

Ranjita Devi

Professor, Sikkim Manipal
College of Nursing, Sikkim
Manipal University, Gangtok,
Sikkim, India

Corresponding Author:

Shrada Pradhan

Sikkim Manipal College of
Nursing, Sikkim Manipal
University, Gangtok, Sikkim,
India

Effectiveness of self-instructional module on knowledge and attitude regarding complementary feeding among mothers of infants at Gangtok, East Sikkim

Shrada Pradhan, Moirangthem Thoibi Devi and Ranjita Devi

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Abstract

Background: Complementary feeding is a process that begins when breast milk alone is no longer sufficient to meet the nutritional needs of the baby and, as a result, other foods are needed in addition to breast milk. The aim of this study was to assess the pre- and post- test knowledge and attitudes of the infant's mother and to determine the effectiveness of the self-instructional module for knowledge and attitudes and to determine the relationships between pre-test knowledge with their selected demographic variables.

Methods: This is a Quantitative Pre-experimental, One-group pre-test post-test design research with the sample size of 152 mothers of infants from aged 4-6 months who were selected using non-probability purposive sampling from Gangtok, East Sikkim. Data was collected through demographic proforma, Semi-structured knowledge questionnaire and 5-point Likert scale for which validity and reliability was established and self-instructional module on complementary feeding was provided to mothers of infants.

Result: In Pre-test 96(63.2% poor knowledge, 54(35.5%) average knowledge and only 2(1.3%) had good knowledge where as in post-test majority 133(87.5%) had good knowledge, 19(12.5%) had average knowledge and in Pre-test level of attitude majority 136(89.5%) had positive attitude and 16(10.5%) had negative attitude and in post-test 152(100%) had positive attitude towards complementary feeding and for finding the effectiveness of self-instructional module on knowledge and attitude mean post-test score of mothers were greater than the table value which was found statistically highly significant at $p < 0.05$ level and also there was significant association between demographic variables such as educational qualification and monthly income of mothers at $p < 0.05$ level of significance.

Conclusion: The study findings showed that Self-instructional module was effective in improving the knowledge and attitude regarding complementary feeding among mothers. Various teaching programmes can also be conducted for the mothers regarding complementary feeding to increase their knowledge at both hospital and community settings.

Keywords: Self-instructional module, knowledge, attitude, complementary feeding

Introduction

“Malnutrition can be as common in poverty as in wealth, one for the lack of food, the other for the lack of knowledge of food”.

TK Naliaka

Background of the Study

An infant is the term that is used to refer the very young off-spring of humans. This is applied to all children between the age group of 1 to 12 months. According to World Health Organization (WHO) report of 2020, globally 144 million children were stunted under the age of 5 years, 47 million wasted, 38 million overweight ^[1]. According to NFHS-5 Sikkim, under-five mortality rate is 11.2% and out of which 22.3% were stunted, 13.7% wasted, 6.6% severely wasted, 13.1% under-weight and 9.6% were overweight ^[2]. American Academy of Paediatrics (AAP) recommends that infants should be fed only with breast milk for the first 6 months after birth and after 6 months, the AAP recommends there should be a combination of solid foods and breast milk until the infant is at least 1 year old ^[3].

Inadequate complementary feeding which lack in quality and quantity can impair growth of a child. The transition from exclusive breast feeding to family foods is referred as complementary feeding [4]. Whenever mothers have inadequate knowledge about appropriate foods and its prevalent feeding practices so, these are often greater determinants of malnutrition than the lack of food. Therefore, having good knowledge and attitude on complementary feeding among mothers of under-five children will help in preventing the consequences of under-nutrition which will thereby enable children to receive appropriate nutrition [5]. Complementary feeding is a type of interventions which alone were estimated to prevent almost one-fifth of under-five children mortality in developing countries. The child has increased nutritional needs to support rapid growth and development [6]. Weaning can be a dangerous time for babies. Babies who are malnourished can also additionally worsen at some stage in the weaning length and might end up malnourished for the first-time at some stage in weaning. Reason where children of weaning age stop growing well is poor feeding and illness. Which shows up on the growth chart as poor weight gain or, in more serious cases, as weight loss. So, an important social determinant of health for children is identified as Education status of the mother [7]. According to WHO report mothers not having adequate awareness of nutritional need of the infant, may not know how to prepare complementary foods. Complementary feeding it often varies across societies, but it is always determined by the mother's knowledge and attitude related to the feeding [8]. A cross-sectional study which was conducted by Bimpong KA, *et al.* includes 200 children aged 6-23 months and their mothers/care givers recruited during child welfare clinics during child welfare clinics of two health facilities in Ghana their study revealed that Mother's knowledge levels regarding infant and young child feeding recommendations had notable deficiencies although they generally had a positive towards child feeding recommendations. Therefore, study recommended Nutrition education should emphasize on improving mother's nutrition knowledge regarding infant and young child feeding recommendations and supporting mothers to overcome barriers for feeding their children with adequate diets [9].

Materials and Methods

Quantitative approach with Pre-experimental One-group pre-test-post-test research design was used to assess knowledge and attitude of infant's mothers towards Complementary feeding. The study was conducted in Gangtok, East Sikkim in 2022. Non-probability sampling technique was used to select sample. 152 Primi-mothers having infant of 4-6 years of age from Gangtok, East Sikkim were willing to participate and were present during the time of data collection. Whereas mothers participating in reliability, pretesting and pilot study were excluded. The data was collected through self-administered technique. Self-structured knowledge questionnaire and 5-point Likert Scale were used to assess the infant's mother's knowledge and Attitude towards complementary feeding for which validity and reliability was established.

Tool I consists of two sections, Section A consists of Demographic proforma to collect the background information in relation to age, religion, education, occupation of the mother, monthly income, child age in months, type of family, pervious source of information on weaning. Section B consists of self-structured Knowledge Questionnaire to identify the mother's knowledge on complementary feeding consisting of Concepts on complementary-feeding, Types of complementary feed, Method of home preparation of complementary food, Techniques of feeding, Problem associated with complementary feeding. Tool II consist of 5-point Likert Scale on complementary feeding consists of 10 statements. The questionnaires and attitude scale were administered to 16 mothers after obtaining informed consent from the mothers to establish the reliability of the tool. Reliability of the tool was tested by Intra-rater reliability test, Test-Retest method, and Cronbach's Alpha formula for the Demographic proforma, Semi-structured Knowledge Questionnaire and it was found to be $r=1$, $r=0.9$ and for the attitude rating scale it was found to be $r=0.72$.

Results and Discussion

Section I: Findings related to frequency and percentage distribution of demographic variables.

Table 1: Distribution of demographic variables of mothers of infants

SL No	Demographic Variables	Frequency	Percentage
Age in years			
1.	< 20 years	6	3.9
2.	21-25 years	42	27.6
3.	26-30 years	83	54.6
4.	> 30 years	21	13.9
Religion			
1.	Hinduism	93	61.2
2.	Buddhism	37	24.3
3.	Christianity	15	9.9
4.	Others	7	4.6
Educational Qualification			
1.	Primary	35	23
2.	Secondary	71	46.7
3.	Graduate	43	28.3
4.	No formal education	3	2
Occupation			
1.	Homemaker	83	54.6
2.	Govt. Employee	33	21.7
3.	Private Employee	24	15.8

4.	Business	12	7.9
Monthly income			
1.	< 10,000	79	52
2.	10,000-20,000	45	29.6
3.	21,000-30,000	22	14.5
4.	> 31,000	6	3.9
Child's age in month			
1.	< 1 month	0	0
2.	1-2 months	0	0
3.	3-4 months	92	60.5
4.	5-6 months	60	39.5
Type of family			
1.	Nuclear family	67	44.1
2.	Joint family	74	48.7
3.	Extended family	11	7.2
Previous knowledge			
1.	Yes	134	88.2
2.	No	18	11.8
Source of information			
1.	Family	78	58.2
2.	Mass media	36	26.8
3.	Health	20	15

Section II: Knowledge regarding complementary feeding among mothers of infants

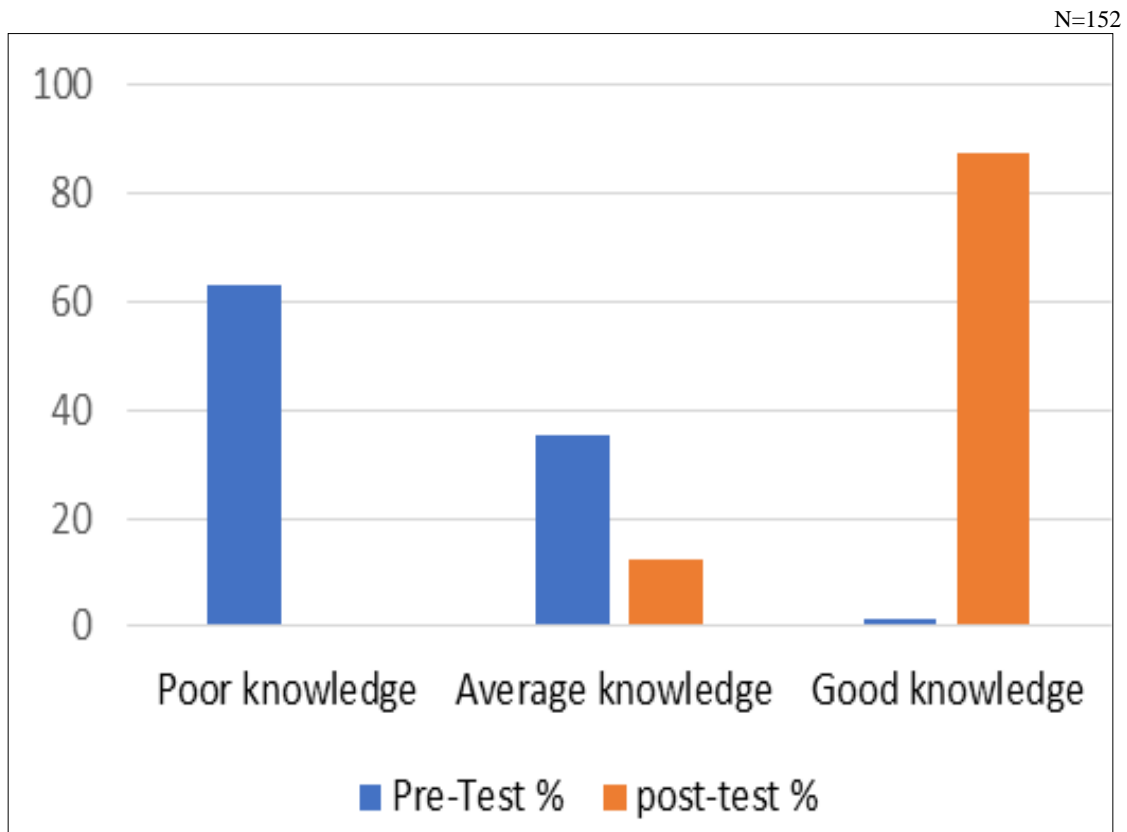


Fig 1: Assessment of Pre-test and Post-test level of knowledge regarding Complementary feeding among mothers of infants

Table 2: Descriptive statistics showing minimum score, maximum score, score range, mean, median, mode, and standard deviation of area wise pre-test knowledge regarding complementary feeding among mothers of infants

N=152

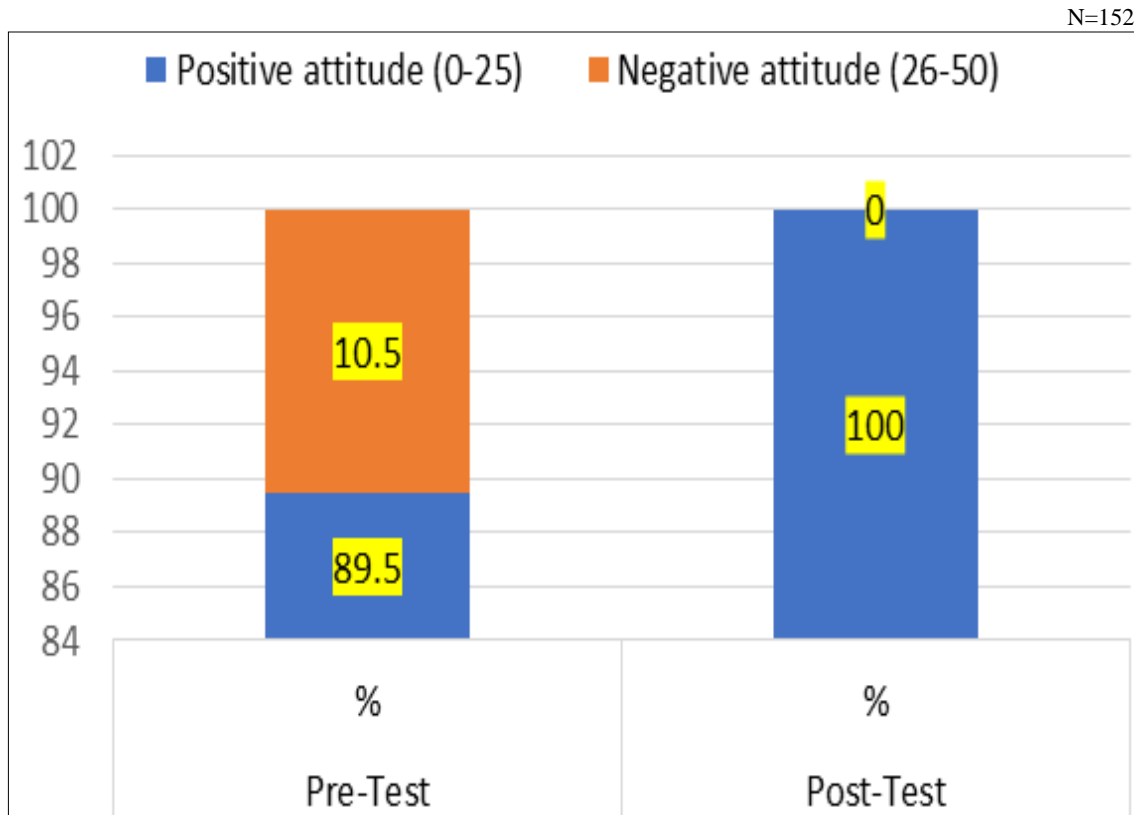
Pre-Test Knowledge	Score Range	Median	Mode	Mean	SD	Mean %
Concepts of complementary feeding	7	2	1	2.34	1.664	29.25
Types of complementary foods	6	2	2	2.24	1.336	37.33
Direction of home preparation of foods	3	1	0	1.04	0.962	34.66
Techniques of complementary food	6	3	2	2.79	1.417	31.0
Problems associated with complementary feeding	3	1	1	1.00	0.755	25.0

Table 3: Descriptive statistics showing minimum score, maximum score, score range, mean, median, mode, and standard deviation of area wise post-test knowledge regarding complementary feeding among mothers of infants

Post-Test Knowledge	Score Range	Median	Mode	Mean	SD	Mean %
Concepts of Complementary Feeding	6	7	8	6.72	1.343	84.0
Types of Complementary Foods	5	5	6	4.93	1.205	82.16
Direction of home preparation of foods	3	3	3	2.61	0.681	87.0
Techniques of complementary food	6	7.50	9	7.21	1.682	80.11
Problems associated with complementary feeding	2	2	3	2.32	0.733	58.0

N=152

Section III: Description of the Attitude of the mothers of infants



N=152

Fig 2: Pre-test and post-test level of attitude regarding Complementary feeding among mothers of infants

Table 4: Descriptive statistics showing minimum score, maximum score, score range, mean, median, mode, and standard deviation of pre-test and post-test level of attitude regarding complementary feeding among mothers of infants

Attitude	Pre-Test	Post-Test
Minimum score	18	30
Maximum score	49	50
Score range	31	20
Median	35	47
Mode	41	48
Mean	34.72	45.16
SD	7.444	4.210
Mean %	69.44 %	90.32 %

N=152

Section IV: Description of Effectiveness of self-instructional module on knowledge regarding Complementary feeding among mothers of infants

Table 5: Effectiveness of self-instructional module on knowledge regarding complementary feeding among mothers of infants

Level of Knowledge	Mean	SD	Mean D	t-value	DF	p-value
Pre-test	9.62	4.116	14.92	29.22	151	0.001 *
Post-test	24.54	3.875				

N=152

*p<0.05 level of significance

Table 6: Effectiveness of self-instructional module on attitude regarding complementary feeding among mothers of infants

Level of Attitude	Mean	SD	Mean D	t-value	DF	p-value
Pre-test	34.72	7.444	10.44	17.77	151	0.001*
Post-test	45.16	4.210				

N=152

*p<0.05 level of significance

Section V: Description of the Association between Pre-test knowledge regarding complementary feeding among mothers of infants with their selected demographic variables

Table 7: Association between pre-test knowledge regarding complementary feeding among mothers of infants with their selected demographic variables

N-152

Demographic Variables	Pre-Test Knowledge		χ^2 Values	DF	p-value	
	< Median	> Median				
Age in years						
1.	< 20 years	4	2	2.713	3	0.438 ^{NS}
2.	21-25 years	27	15			
3.	26-30 years	42	41			
4.	> 30 years	13	8			
Religion						
1.	Hinduism	55	38	6.465	3	0.091 ^{NS}
2.	Buddhism	22	15			
3.	Christianity	4	11			
4.	Others	5	2			
Educational qualification						
1.	Primary	30	5	19.05	3	0.002*
2.	Secondary	38	33			
3.	Graduate	16	27			
4.	No formal education	2	1			
Occupation						
1.	Homemaker	50	33	2.762	3	0.430 ^{NS}
2.	Govt. Employee	16	17			
3.	Private employee	15	9			
4.	Business	5	7			
Monthly income						
1.	< 10,000	49	30	6.374	3	0.095 ^{NS}
2.	10,000-20,000	22	23			
3.	21,000-30,000	14	8			
4.	> 31,000	1	5			
Child's age in month						
1.	< 1 month	--	--	0.472	1	0.492 ^{NS}
2.	1-2 months	--	--			
3.	3-4 months	50	42			
4.	5-6 months	36	24			
Type of family						
1.	Nuclear family	36	31	3.115	2	0.211 ^{NS}
2.	Joint family	41	33			
3.	Extended family	9	2			
Previous knowledge						
1.	Yes	75	59	0.171	1	0.679 ^{NS}
2.	No	11	7			
Source of information						
1.	Family	53	25	11.30	3	0.010*
2.	Mass media	15	21			
3.	Health personnel	7	13			
4.	No information	11	7			

*p-value < 0.05 level of significance
NS-Non-Significant

The findings in the table depicts the association between pre-test knowledge regarding Complementary feeding among mothers of infants with their demographic variables which was tested by using chi-square test. Result revealed that educational qualification and source of information of mothers of infants was found significant association at $p < 0.05$ level with pre-test knowledge regarding Complementary feeding. Other demographic variables such age, religion, occupation, monthly income, child's age in moths, type of family and previous knowledge was not found any significant association with pre-test knowledge regarding Complementary feeding among mothers of infants.

Discussion related to assessment of knowledge among mothers of infants regarding complementary feeding.

The findings of the study show that, among 152 mothers of infant's majority 96(63.2%) had poor knowledge,

54(35.5%) had average knowledge and only 2(1.3%) good knowledge regarding complementary feeding (Table 2).

This finding of the study was found consistent with the findings of the study conducted by Musalli Ali A-G, Eisa Y G, 2021 which showed that the total number of samples included was 385 mothers. Good satisfactory knowledge rate was 135(35.1%) Knowledge mostly sought from other mothers 102(26.5%), followed by reliance on their own experience was 82(21.3%) [7].

Discussion related to assessment of attitude among mothers of infants regarding complementary feeding.

The study finding reveals that majority 136(89.5%) had positive attitude and 16(10.5%) had negative attitude regarding complementary feeding (Table 6).

In consistent to the present findings, the study conducted by Bimpong KA, Cheyuo EK-E, Abdul-Mumin A, Ayanore MA, Kubuga CK, Mogre V, 2019 it showed the mothers'

attitudes towards infant and young child feeding recommendations. The study result showed that 94% ($n = 188$) had positive attitude towards recommended infant and young child feeding recommendations^[9].

Discussion related to effectiveness of self-instructional module regarding complementary feeding.

The finding of the study showed that the mean pre-test knowledge score was 9.62 ± 4.116 and in post-test was 24.54 ± 3.875 with mean difference of 14.92 and (t -value 29.22, $DF=151$, $P=0.001$) was found statistically highly significant at $p < 0.05$. Findings indicates that self-instructional module was effective in improving the knowledge and attitude regarding Complementary feeding among mothers of infants.

The finding of the study was found consistent with the study conducted by, Sheeliya White N, 2019 at university of Bisha, KSA to evaluate the effectiveness of the educational module on weaning which showed that the rate of poor awareness was decreased from 12% to 0% after reading educational module. Attitude on weaning also become 80% positive after educational module. There was significant increase in the average of knowledge score from 10.15 to 15.13. There was a significant difference in knowledge and attitude before and after training^[10].

Discussion related to association between pre-test knowledge on complementary feeding with their selected demographic variables

The Findings of the present study showed that there was an association of pre-test knowledge with their selected demographic variables such as educational qualification of mothers ($\chi^2 = 19.05$, $DF = 3$) and source of information on complementary feeding ($\chi^2 = 11.30$, $DF = 3$) which was statistically significant association at $p < 0.05$ level.

The findings of the study are consistent with the study conducted by Mary Minolin T, Shanmugi J and Subash, 2020 result showed there was a significant association between the demographic variables such as education ($c2=0.9954$), occupation ($c2=0.947$), income ($c2=0.4809$), type of family ($c2=0.9633$) and previous information ($c2=0.784$) about weaning and the pre-test knowledge scores at 0.05 level of significance.

Conclusion

The present study attempts to find out the effectiveness of self-instructional module on knowledge and attitude regarding complementary feeding. Based on the findings of the study that mothers of infant's have poor knowledge and positive attitude towards complementary feeding but the negative attitude were also noted. Therefore, providing proper education is required. The findings from the study can help the mothers to improve their knowledge and attitude regarding complementary feeding which will help to improve the health of the infants. Self-instructional module aims to encourage the mothers to adapt to proper method of complementary feeding and to improve attitude towards complementary feeding. A comparative study can be done to assess the knowledge and attitude between urban and rural settings and a comparative study can be done to assess the knowledge and attitude between primigravida and multigravida mothers. An effective mass media campaign may be used to increase awareness about complementary feedings among mothers of infants. So, the finding state

thatself-instructional module was effective in improving the knowledge and attitude regarding Complementary feeding among mothers of infants.

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Ethical clearance

Ethical permission was sought from the Institutional Review Committee of Sikkim Manipal University. Written consent was obtained from the respondent prior to data collection.

Source of funding: Self

Conflicts of interest: None Declared

Conflict of Interest

Not available

Financial Support

Not available

References

1. WHO, guiding principles for complementary feeding of the breast feed child, pan American health organization, division of health promotion and protection food and nutrition program; c2001.
2. National family health survey-5, state fact sheet. Ministry of Health and Family Welfare; c2019-20.
3. Sheeliya White N. Study to evaluate effectiveness of the educational module on weaning among mothers. 2019 Apr;9:4.
4. Wolde T, *et al.* Assessment of knowledge, attitude and practice of lactating mothers on complementary feeding in Jimma Arjo town, western Ethiopia. 2015;36:2224-6088.
5. Folukeadenikeolatana, *et al.* complementary feeding practices, knowledge and diet di - Yahoo India Search Results [Internet]. Yahoo.com. [Cited 2022 Jun 14]. Available from: 2017;6(1):46-59. <https://in.search.yahoo.com/search?fr=mcafee&type=E210IN826G0&p=8.+Foluke+adenike+olatana+et+al.+c+complementary+feeding+practices%2C+knowledge+and+diet+di>
6. Neme K, Olika E. Knowledge and practices of complementary feeding among mothers/caregivers of children age 6 to 23 months in Horo woreda, Horo Gudura, Wollega Zone, Oromia Region, Ethiopia. Journal Biomed Res Rev. 2017;1(1)01-10.
7. Musalli Ali AG, Eisa YG. Knowledge, Attitude, and Practice of Weaning among Mothers in Najran Region, Saudi Arabia, 2021, Journal of Nutrition and Metabolism; c2022. p. 10.
8. Ismael SM, Elena G, Vilara G, Porro G, María Alicia C, Martín Cd. Knowledge and attitudes towards baby-led-weaning by health professionals and parents: A cross-sectional study. 2022 May;32:564-572.
9. Bimpong KA, Cheyuo EKE, Abdul-Mumin A, Ayanore MA, Kubuga CK, Mogre V. Mothers' knowledge and attitudes regarding child feeding recommendations, complementary feeding practices and determinants of

- adequate diet. *BMC Nutr* [Internet]. 2020;6(1):67. Available from: <http://dx.doi.org/10.1186/s40795-020-00393-0>
10. Park K. Textbook of preventive and social medicine, 21st Ed. Jabalpur: Banarsidas Bhanot; c2011.
 11. Mary Minolin T, Shanmugi J, Subash. Effectiveness of self-instructional module on knowledge of lactating mothers regarding weaning at selected village Erayamangalam. *Int. Journal Obstetric & Gynae. Nursing*. 2020;2(2):69-72.

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