

Research article

A study to assess the knowledge regarding supplementary food among mothers of infants at selected slums, Navi Mumbai

Jayashree Salvi*, Aswathy Aby, Shalini Abraham

Dr. D. Y. Patil college of Nursing, Mumbai, Maharashtra, India

Abstract

Aim: To assess the knowledge regarding meaning of supplementary food among mothers of infants; regarding importance of supplementary food among mothers of infants; regarding principles of supplementary food among mothers of infants, and regarding cost effectiveness of the home preparation of supplementary food among mothers of infants. **Materials and Methods:** The study will be conducted at selected urban slums of Navi Mumbai among mothers of infants. The urban slums are shiravone, belapur, nerul phase I& II. 300 Mothers of infants were included in the study. **Results:** In the present study, we observed that out of 292 subjects who were mothers of infants at urban area, maximum 52% of mothers were in the age group of 25-29 and 31% and 14% are in the age group of 20-24 and 30-34 respectively. Among education of mothers of infants at urban area, 38.4% of the mothers were completed her secondary school education, 15% of mothers were illiterate, 28.4% and 18.2% were completed her primary school and higher secondary respectively. Out of 292 subjects, 44 % families had 5000-10000 income per month, 31.8% families have 10000-15000 income per month, less than 5000 income only in 11.6% families and only 9.6 % of families have more the 15000 income per month. Most of the families are nuclear families 55.1% and 32.2% families were joint families. Out of 292 samples only 183 (62.7%) of father were private employee and only 34 (11.6%) were on government employee, 53 (18.2%) were business man. But in case of mother, most of the mothers 120 (41.1%) were at home, 39 (13.4%) were on service, 110 (37.7%) were house maid and 21 (7.2%) of mother were doing business. Out of 292 subjects, 242 (82.9%) of women belongs to Hindu background, 132 women (45.9%) of women were having two children 133 women (45.5%) women were two infants. 99 women (33.9%) of women have not maintained any space between children at least 6 months. 200 women (68.5 %) of women belong to Non- Vegetarian group and 72(24.7%) were vegetarian, 15 (5.1%) and 4 (1.4%) women were ovo vegetarian and comes under in other category of food pattern respectively. Our study found that Age factor was not significant with the knowledge of mothers regarding supplementary food; however, educational qualification, family income, family type, father's occupation, religion were significant associated with the knowledge of mothers regarding supplementary food. **Conclusion:** The findings of the study showed that there was a difference between knowledge of mothers regarding supplementary foods.

Key words: Food material, infants, supplementary food.

*Corresponding author: Mrs. Jayashree Salvi, Dr. Dy. Patil college of Nursing, Mumbai, Maharashtra, India. Email jrsalvi1976@yahoo.com

1. Introduction

The dietary management of moderate acute malnutrition

in children should normally be based on the optimal use of locally available nutrient-dense foods. It is estimated that moderate acute malnutrition affects around 40 million children contributing to increased morbidity and mortality, impaired intellectual development, suboptimal adult work capacity and even increased risk of disease in adulthood [1]. In situations of food shortage, or where some nutrients are not sufficiently available through

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local foods, specially formulated supplementary foods are usually required to supplement the regular diet. Currently, there are no evidence-informed recommendations for the composition of supplementary foods specially designed for the management of children with moderate acute malnutrition [2]. WHO recognizes the need for more research on the composition, acceptability and use of supplementary foods for the management of moderate acute malnutrition to further validate the efficacy and effectiveness of the proposed composition [1].

UNICEF reports the problem of malnourishment in infants starts mainly after the completion of six months [3]. A supervisor with the state government's Integrated Child Development Services. "We advise early initiation of breast-feeding and exclusive breast-feeding for the first six months of the baby's life. Thereafter, we ask mothers to start on supplementary feeding. This is when nutrition problems develop and we notice a drastic reduction in the weight of the child." Under nutrition is a major underlying cause of child morbidity and mortality in low-income settings [4]. The WHO Child Growth Standards show how children should grow if they are given an optimum start in life. They are used for monitoring the well-being of children and for detecting children or populations that are not growing properly. Interventions aimed at preventing or treating growth faltering by optimizing and supporting the nutritional well-being of children include community-based supplementary feeding. This is the provision of extra food to children or families beyond the normal ration of their home diets, and can take place in the home, feeding centres, health-care centres and schools.

India is home to more than a third of the world's undernourished children.[5] In 1999, the National Family Health Survey [NFHS II] found that 47 percent of all children under age three were under weight [6]. Data from NFHS-3 [2006] shows only a very small decline, with under-nutrition level remaining around 45 percent for children below three [7]. Despite vast improvements in the country's economy, under nutrition remains a challenge in India reveals the importance of supplementary food.

Objectives:

1. To assess the knowledge regarding meaning of supplementary food among mothers of infants
2. To assess the knowledge regarding importance of supplementary food among mothers of infants
3. To assess the knowledge regarding principles of supplementary food among mothers of infants
4. To assess the knowledge regarding cost effectiveness of the home preparation of supplementary food among mothers of infants

2. Methodology

Research approach:

Descriptive Design, Explorative in nature. It will describe the knowledge of mothers regarding supplementary food like cow's milk, soft cooked rice, Rice Kanji, dhal and vegetable soup (thin), suji, fruit juice and explore the importance and cost effectiveness of preparation of supplementary food at home through semi-structured interview schedule using questionnaire to mothers of infants

Setting of the study:

The study will be conducted at selected urban slums of Navi Mumbai among mothers of infants. The urban slums are shiravone, belapur, nerul phase I& II.

Sample size: 300 mothers of infants

Sampling technique: Non- Probability purposive sampling.

Inclusion criteria:

- Mothers who are having infants.
- Mothers who are willing to participate.
- Mother's who understand Marathi, Hindi and English.

Exclusion criteria:

Mothers

- Who are not having infants.
- Who are not at the time of data collection.
- Who does not understand Marathi and Hindi and English.
- Who are Illiterate

Tools and methods of data collection:

- A Semi structured interview schedule.
- A house to house survey will be conducted to assess the knowledge regarding the supplementary food among mothers of infants.
- The data thus collected will be subjected to statistical analysis using SPSS version 14 Software package. Data will be expressed as percentages using graphs, and tables.

Sampling technique:

- Non- Probability purposive sampling
- The mothers of infants will be chosen to be the part of the sample with the view to assess the knowledge regarding supplementary food among mothers of infants from suburban slum of Shiraone village and shivaji nagar, Nerul Navi Mumbai.

Expected outcome measures:

Mother states:

1. Meaning of supplementary food.
2. Importance of supplementary food
3. Principles while providing supplementary food
4. Cost effectiveness of the home preparation of supplementary food.

3. Result

Analysis is the process of organizing and synthesizing data in such a way that research questions can be answered and hypotheses is tested. Interpreting the findings is the most challenging and least structured step in the research study which requires the investigator to be creative. Hence in order to interpret the data, the data was analyzed based on the objectives of the study using descriptive and inferential statistics.

This analysis and interpretation of data collected from 292 samples who were mothers of infants at urban area. The data was processed and analyzed on the basis of the objectives formulated for the purpose of the study.

Analysis of the study is organized in the following manner:

Section 1:-Distribution of samples based on socio - demographic characteristics.

Distribution of sample based on Socio-demographic characteristic such as Age, Education, Religion, Number of children, Birth order of child, Spacing between the children and food pattern by using frequency and percentage and is presented in tables and figures.

Out of 292 samples who were mothers of infants at urban area maximum 52% of mothers are in the age group of 25-29 and 31% and 14% are in the age group of 20-24 and 30-34 respectively shown in table 1.

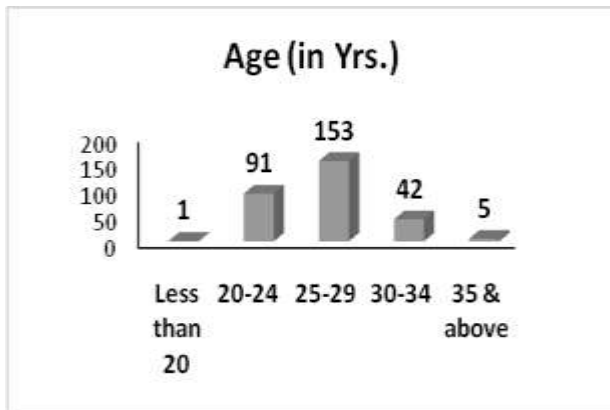


Fig no 1: Age group

Table no 1 : Distribution on basis of Age group

Age (in yrs)	Frequency	Percent
Less than 20	1	.3
20-24	91	31.2
25-29	153	52.4
30-34	42	14.4
35 & above	5	1.7
Total	292	100.0

When we were calculated the education of mothers of infants at urban area, 38.4% of the mothers were completed her secondary school education, 15% of mothers were illiterate, 28.4% and 18.2% were completed her primary school and higher secondary respectively shown in table no.2. Out of 292 samples, 44 % families have 5000-10000 income per month, 31.8% families have 10000-15000 income per month, less than 5000 income only in 11.6% families and only 9.6 % of families have more the 15000 income per month shown in table no 3. Most of the families are nuclear families 55.1% and 32.2% families are joint families shown in table 4.

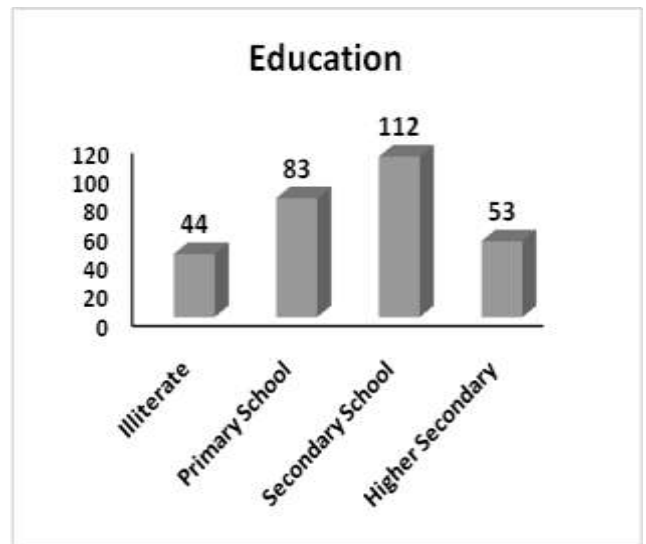


Fig no 2: Education

Table no 2: Distribution on the basis of Education

Education	Frequency	Percent
Illiterate	44	15.1
Primary School	83	28.4
Secondary School	112	38.4
Higher Secondary	53	18.2
Total	292	100.0

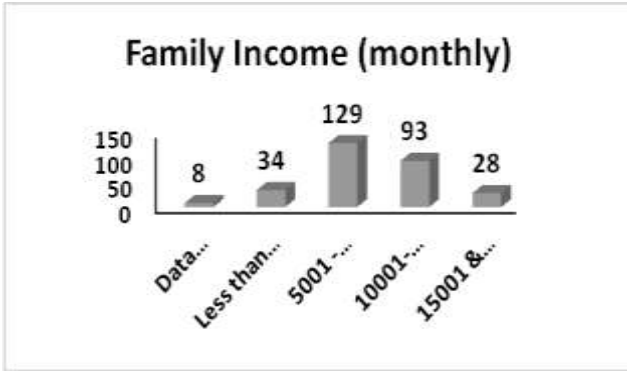


Fig no 3: Family income

Table no 3: Distribution on the basis of family income

Family Income (per month)	Frequency	Percent
Data Missing	8	2.7
Less than 5000	34	11.6
5001 - 10000	129	44.2
10001-15000	93	31.8
15001 & above	28	9.6
Total	292	100.0

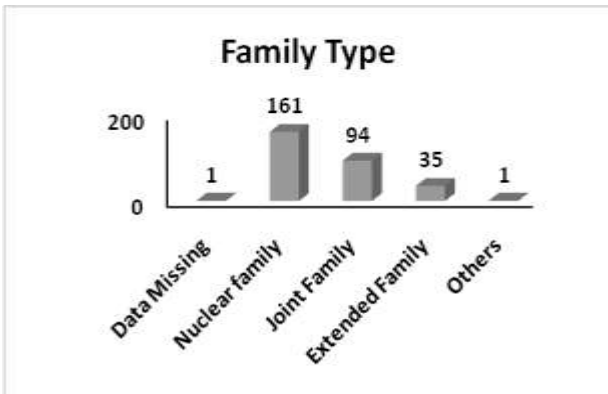


Fig no 4: Family type

Table no 4: Distribution on the basis of family type

Family Type	Frequency	Percent
Data Missing	1	.3
Nuclear family	161	55.1
Joint Family	94	32.2
Extended Family	35	12.0
Others	1	.3
Total	292	100.0

We also analyzed father and mother occupation of infants, out of 292 samples only 183 (62.7%) of father are private employee and only 34 (11.6%) were on government employee, 53 (18.2%) were business man. But in case of mother, most of the mothers 120 (41.1%) were at home, 39 (13.4%) were on service, 110 (37.7%)

were house maid and 21 (7.2%) of mother were doing business.

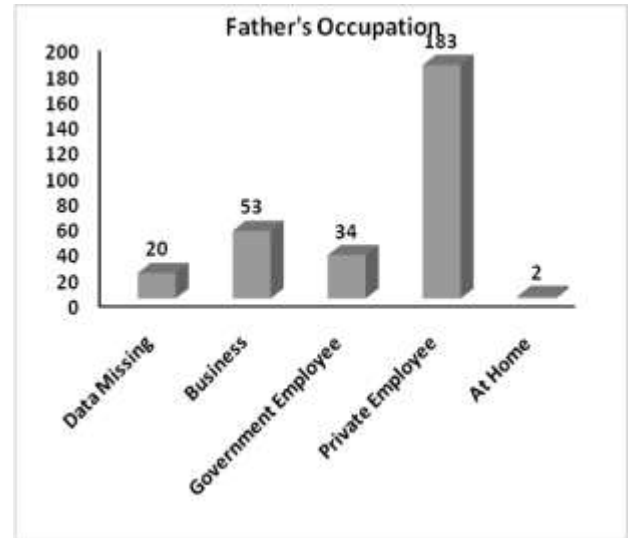


Fig no 5: Father's occupation

Table no 5: Distribution on the basis of father's occupation

Father's Occupation	Frequency	Percent
Data Missing	20	6.8
Business	53	18.2
Government Employee	34	11.6
Private Employee	183	62.7
At Home	2	.7
Total	292	100.0



Fig no 6: Mother's occupation

Table no 6: Distribution on the basis of mother's occupation

Mother's occupation	Frequency	Percent
Data missing	2	.7
Business	21	7.2
House maid	110	37.7
Service	39	13.4
At home	120	41.1
Total	292	100.0

Table no 7: Distribution on the basis of religion, number of children, birth order, and space between children

Religion		
Hindu	242	82.9
Muslim	31	10.6
Christian	10	3.4
Others	9	3.1
Number of children		
Data missing	1	3
One	114	39
Two	134	45.9
Three	33	11.3
Four & above	10	3.4
Birth order		
Data missing	1	0.3
First	118	40.4
Second	133	45.5
Third	30	10.3
4 & above	10	3.4
Space between children		
0	99	33.9
6month -1year	19	6.5
Less than 2 year	93	31.8
Less than 3year	46	15.8
More than 3 year	35	12

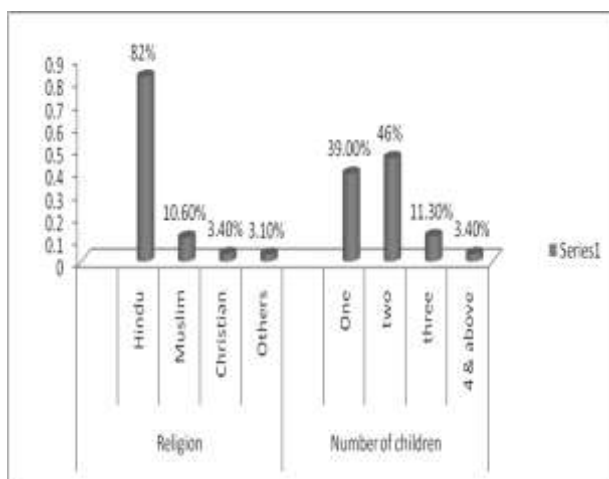


Fig no 7: Out of 292 sample, 242 (82.9%) of women belongs to hindu background, 132 women (45.9%) of women are having two children.

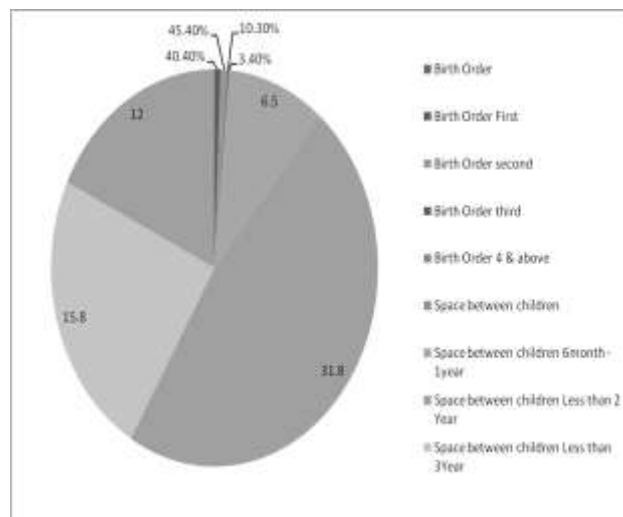


Fig no 8: Out of 292 women, 133 women (45.5%) women were two infants. 99women (33.9%) of women have not maintained any space between children at least 6 months.

Table no 8: Distribution of food pattern

Food Pattern	Frequency	Percentage
Data Missing	1	0.3
Vegetarian	72	24.7
Non Vegetarian	200	68.5
Ovo Vegetarian	15	5.1
Other	4	1.4
Total	292	100

Out of 292 women, 200 women (68.5 %) of women belong to Non- Vegetarian group and 72(24.7%) were vegetarian, 15 (5.1%) and 4 (1.4%) women were ovo vegetarian and comes under in other category of food pattern respectively (table 8).

Section 2: Analysis of knowledge regarding supplementary food among mothers of infants – association of knowledge and demographic data.

Table no 9:

	Mothers knowledge score (out of 17)				Total	P-value
	Less than 8		Greater or Equal to 8			
Age:	No.	(%)	No.	(%)		
20-24	15	16.70	75	83.30	90	0.11
25-29	27	17.80	125	82.20	152	
30-34	8	19.00	34	81.00	42	
35 & above	3	60.00	2	40.00	5	

Age factor is not significant with the knowledge of mothers regarding supplementary food (table 9) and Educational qualification were significant with the knowledge of mothers regarding supplementary food (table 10)

Table no 10 :

Educational Qualification						
Illiterate	11	26.20	31	73.80	42	0.003
Primary school	24	28.90	59	71.10	83	
Secondary school	13	11.70	98	88.30	111	
Higher Secondary	5	9.40	48	90.60	53	

Family Income, Family type were significant with the knowledge of mother (table 10, 11)

Table no 11:

Family Type						
Nuclear	17	10.60	143	89.40	160	0.001
Joint	23	24.70	70	75.30	93	
Extended	12	34.30	23	65.70	35	

Table no 12:

Father's Occupation						
Government employees	11	32.40	23	67.60	34	0.004
Private sector	24	13.20	158	86.80	182	
Business	16	30.80	36	69.20	52	

Interpretation: Father's Occupation is significant with the knowledge of mothers regarding supplementary and Mother's Occupation is significant with the knowledge regarding supplementary food (table 12, 13)

Table no 13

Mothers Occupation						
Business	6	28.60	15	71.40	21	0.07
Housemaid	25	23.10	83	76.90	108	
Service	6	15.40	33	84.60	39	
At Home	14	11.70	106	88.30	120	

Table no 14

Religion						
Hindu	38	15.80	202	84.20	240	0.003
Muslim	8	25.80	23	74.20	31	
Christian	6	60.00	4	40.00	10	
Others	1	11.10	8	88.90	9	

Religion is significant with the knowledge of mothers regarding supplementary food

Table no 15

Number of Child						
One	19	16.70	95	83.30	114	0.84
Two	26	19.70	106	80.30	132	
Three	6	18.20	27	81.80	33	
4 & above	1	10.00	9	90.00	10	

Number of children for women is not significant with the knowledge of mothers regarding supplementary food: Birth order of the child is not significant with the knowledge of mothers regarding supplementary food Space between children is not significant with the knowledge of mothers regarding supplementary food (Table 15, 16, 17)

Table no 16:

Birth Order						
First	24	20.30	94	79.70	118	0.79
Second	22	16.80	109	83.20	131	
Third	4	13.30	26	86.70	30	
Fourth & above	2	20.00	8	80.00	10	

Table no 17

Space between 2 Children						
Only one child	13	13.30	85	86.70	98	0.27
6 Months - 1 Year	2	10.50	17	89.50	19	
1-2 Years	21	23.10	70	76.90	91	
2-3 Years	11	23.90	35	76.10	46	
3 years & above	5	14.30	30	85.70	35	

Table no 18

Food Type						
Vegetarian	14	19.40	58	80.60	72	0.31
Non-vegetarian	33	16.70	165	83.30	198	
Ovo vegetarian	5	33.30	10	66.70	15	
Total	53	18.30	237	81.70	290	

Interpretation: Food type is not significant with the knowledge of mothers regarding supplementary food.

4. Discussion

The present study was aimed to assess the knowledge importance, principles, meaning, and cost-effectiveness of home preparation of supplementary food among mothers of infants.

In the present study, we observed that out of 292 subjects who were mothers of infants at urban area,

maximum 52% of mothers were in the age group of 25-29 and 31% and 14% are in the age group of 20-24 and 30-34 respectively. Among education of mothers of infants at urban area, 38.4% of the mothers were completed her secondary school education, 15% of mothers were illiterate, 28.4% and 18.2% were completed her primary school and higher secondary respectively. Out of 292 subjects, 44 % families had 5000-10000 income per month, 31.8% families have 10000-15000 income per month, less than 5000 income only in 11.6% families and only 9.6 % of families have more the 15000 income per month. Most of the families are nuclear families 55.1% and 32.2% families were joint families.

Out of 292 samples only 183 (62.7%) of father were private employee and only 34 (11.6%) were on government employee, 53 (18.2%) were business man. But in case of mother, most of the mothers 120 (41.1%) were at home, 39 (13.4%) were on service, 110 (37.7%) were house maid and 21 (7.2%) of mother were doing business.

Out of 292 subjects, 242 (82.9%) of women belongs to Hindu background, 132 women (45.9%) of women were having two children 133 women (45.5%) women were two infants. 99 women (33.9%) of women have not maintained any space between children at least 6 months.

200 women (68.5 %) of women belong to Non-Vegetarian group and 72(24.7%) were vegetarian, 15 (5.1%) and 4 (1.4%) women were ovo vegetarian and comes under in other category of food pattern respectively.

Our study found that Age factor was not significant with the knowledge of mothers regarding supplementary food; however, educational qualification, family income, family type, father's occupation, religion were significant associated with the knowledge of mothers regarding supplementary food.

Katti et al conducted a study to assess the knowledge about weaning and its importance. Study was conducted on 48 subjects from Karad. Using Purposive sampling technique with randomly al location of groups, it was observed that Overall Mean knowledge regarding weaning among the subjects was (23%) had good knowledge, (17%) had average.

The overall Mean knowledge regarding weaning food and its practices are having average knowledge. It was evident that maximum number of subjects had good knowledge regarding weaning. Calculated χ^2 values showed there is association between the socio-demographic variables of subjects and level of

knowledge regarding weaning diet at $p=0.05$ level of significance [8].

Berisha et al assessed knowledge, attitudes and practices regarding complementary feeding among mothers with children between 6-24 months at the national level. The sample of 492 mothers with children between 6-24 months, with a confidence level of 95%, the acceptable margin of 5%, the expected prevalence of 50% knowledge and effect of 1.3, were interviewed from all regions, in all Kosovo.

Data were analyzed using SPSS version 17.0 and presented using descriptive and inferential statistics such as Chi-square with significance level set at 5%. Overall, 88.4% of respondents had good knowledge of complementary feeding, while only 38.4% of mothers had good practices regarding time for starting complementary feeding. They found association between maternal knowledge and level of education for complementary feeding [9].

Conclusions: The findings of the study showed that there was a difference between knowledge of mothers regarding supplementary foods. In relation to association most of the demographic data like Educational qualification, Occupation of both mother and father, religion and type of family (nuclear family) is found to be significant in improving the knowledge regarding supplementary food who participated in the study

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