

**KNOWLEDGE AND ATTITUDE STUDY ON COMPLIMENTARY FEEDS
FACTORS INFLUENCING AGE OF COMPLIMENTARY FEEDS AND EFFECT ON
GROWTH OF CHILD**Vijayalakshmi P¹, Venugopal S², R. B. Patil³, Veeresh⁴**HOW TO CITE THIS ARTICLE**

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ABSTRACT: AIMS AND OBJECTIVES: To assess the knowledge & attitude regarding complimentary feeds among mothers with children 6-24 months of age. To know various factors influencing age of complimentary feeds. Age of complimentary feeds started and its effect on growth of the child. **METHODS:** 500 mothers were interviewed with children 6-24 months of age attending OPD. Data was collected using a self-administered, semi-structured questionnaire with the mothers regarding knowledge, attitude of complimentary feeds and factors influencing age of complimentary feeds like, education, occupation, socio-economic status, religion and residence. The growth of child was assessed by recording weight and length, and classified according to WHO criterion by using WHO Anthro software. **RESULTS:** Knowledge and attitude were assessed in 500 mothers. The mean age of complimentary feeds was 8.24±2.79 months. 23% of mothers started complimentary feeds at 6 months of age. Illiterate mothers, low socio-economic group and rural mothers tend to wean late (p<0.001). Occupation and religion have no influence on complimentary feeds age (p>0.05). 34.1%, 34.5% and 23.8% of children were under weight, stunted and wasted respectively. There was significant association between delayed complimentary feeds and malnutrition of the child. **CONCLUSION:** Mothers knowledge regarding complimentary feeds time was inadequate and practices inappropriate, majority of them were not aware of current recommendations. Mean age of complimentary feeds was delayed due to improper information, false beliefs and attitudes, illiteracy, low socio-economic status and rural mothers, thus leading to malnutrition of the child. Hence, accurate information and education should be given to mothers and caregivers about timely complimentary feeds, complimentary feeds foods, preparation and practice to prevent malnutrition and improve the health status of the children.

KEYWORDS: Complimentary feeds; Attitude; Practices; Complementary feeding; Mothers knowledge; Malnutrition.

INTRODUCTION: The term complimentary feeds means "to accustom to". Complimentary feeds or complementary feeding is the introduction of semisolid or solid food in infant who is on liquid diet. When breast milk is no longer enough to meet the nutritional needs of the infant, complementary feeding or complimentary feeds should be started.¹ The transition from exclusive breast feeding to semisolid foods is a very vulnerable period because it is the time when malnutrition starts in many infants, contributing significantly to the high prevalence of malnutrition and infection in children under five years of age worldwide.²

Timely complimentary feeds are an important process in every child which has an impact on future health, growth and development of the child. Complimentary feeds also marks the beginning of the child developing some degree of independence. Complimentary feeds foods should be adequate in

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nutrition, appropriate in consistency, given in sufficient quantity and hygienic. According to the WHO guidelines complimentary feeds should be started at 6 months of age along with breast feeding up to 2 years or more.³

The decision when and how to start complimentary feeds is a complex issue among mothers and there are various factors influencing complimentary feeds. Understanding the decision making process, beliefs, knowledge, attitude and factors influencing complimentary feeds is an important step prior to designing an intervention strategy to affect change in behavior.

Poor breastfeeding and complimentary feeds coupled with high rates of infectious diseases are the principal proximate causes of malnutrition during the first two years of life.⁴ For this reason, it is essential to ensure that mothers and caregivers are provided with appropriate guidance regarding optimal feeding of infants and young children.

AIMS AND OBJECTIVES:

1. To assess the knowledge, attitude regarding complimentary feeds among mothers with children 6 months to 24 months of age.
2. To know the source of information and various factors influencing age of complimentary feeds like, education, occupation, socioeconomic status, religion, residence.
3. Age of complimentary feeds started and its effect on growth of the child.

METHODOLOGY:

Source of Data:

In this study, mothers were selected with children 6 to 24 months of age based on convenience attending for immunization or ill health. Mothers of selected children who were willing to participate in the study were interviewed for collecting data after informed consent.

Sample Size: 500 mothers with children 6 to 24 months of age.

Study Design: Prospective study.

METHOD OF COLLECTION OF DATA: Data was collected using a self-administered, predesigned semi-structured questionnaire with the mothers regarding demographic profile, knowledge, attitude and practices of complimentary feeds, source of information and factors influencing age of complimentary feeds like parity, education, occupation (Working or house wife), socio-economic status, religion and residence (Urban or rural), education. Modified Kuppaswamy classification was used to assess socio-economic status and was classified into five classes. Anthropometric parameters (Weight and length) were obtained from children. The growth of child was assessed by recording weight and length, and classified according to WHO criterion by using WHO Anthro software.⁵

Inclusion Criteria: Mothers with children of aged between 6 to 24 months.

Exclusion Criteria: Mothers with children of aged less than 6 months and more than 24 months. Top fed babies since birth due to various reasons.

Statistical Analysis: Unpaired t-test was used.

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RESULTS: 500 mothers of children between 6 to 24 months of age were interviewed.

Age of Complimentary feeds	No. of Mothers	Percentage %
< 4	0	0
4 -5	32	6.4
6 - 7	223	44.6
8 -9	129	25.8
10 - 12	106	21.2
13 - 18	5	1
19 -24	2	0.4
No idea	3	0.6
Mean age of complimentary feeds = 7.99 months with S.D = 2.48 and Range = 4 -20 months		
Table 1: Knowledge Regarding Complimentary feeds		

Mean age of knowledge regarding complimentary feeds is 7.99 months and 44.6% of mothers had the knowledge that complimentary feeds should be started by 6-7 months.

Attitude (reasons)	No. of Mothers	Percentage %
1	237	47.4
2	85	17
3	2	0.4
4	56	11
5	2	0.4
1 & 2	92	18.4
1 & 3	2	0.4
1 & 4	14	2.8
1 & 5	0	0
2 & 3	0	0
2 & 4	8	1.6
2 & 5	1	0.2
3 & 4	2	0.4
KEY :		
1. INSUFFICIENT MILK.	4. NOT ACCEPTING COMPLIMENTARY FEEDS FOODS.	
2. INCREASED REQUIRMENT.	5. OTHERS.	
3. SICK CHILD.		
Table 2: Attitude Towards Complimentary feeds		

Most of the mothers gave more than one reason for starting complimentary feeds. Some of the mothers believed that complimentary feeds should be started when the child is able to feed by himself, curd helps in diarrhea and dhal gruel in correcting dehydration. Honey to be given for proper growth and they consider biscuit as complimentary feeds food for better growth. The mothers are unaware of the problems related to delay in complimentary feeds.

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Age of complimentary Feeds (months)	Education		Occupation	
	Literate	Illiterate	Working	Housewife
< 4	1	0	0	1
4 -5	25	16	8	33
6 - 7	143	51	35	159
8 -9	63	50	20	93
10 - 12	34	69	29	74
13 - 24	1	16	4	13
Not started	9	22	6	25
Total	276	224	102	398
Mean	7.4	9.35	8.75	8.11
S. D.	1.95	3.31	3.16	2.68
z value	7.79		1.88	
p value	< 0.001		> 0.05	

Table 3: Association between Education, Occupation and Mean Age of Complimentary feeds

In literate mothers the mean age of complimentary feeds is 7.4 ± 1.95 months, and in illiterate mothers the mean age of complimentary feeds is 9.35 ± 3.31 months with $p < 0.001$, which is highly significant.

In comparing the occupation of the mothers, the mean age of complimentary feeds in a working mother is 8.75 ± 3.16 months, and in a house wife it is 8.11 ± 2.68 months, with $p > 0.05$.

Age of complimentary feeds (months)	Residence		Religion		
	Urban	Rural	Hindu	Muslim	Others
< 4	1	0	1	0	0
4 -5	20	21	35	4	2
6 - 7	118	76	160	31	3
8 -9	46	67	87	25	1
10 - 12	32	71	85	18	0
13 - 24	5	12	15	2	0
Not started	6	25	27	4	0
Total	228	272	410	84	6
Mean	7.64	8.78	8.25	8.33	
S.D.	2.56	2.88	2.86	2.49	
z value	4.68		0.26		
p value	< 0.001		> 0.05		

Table 4: Association between Residence, Religion and Mean Age of Complimentary feeds

In urban mothers, the mean age of complimentary feeds is 7.64 ± 2.56 months and in rural mothers; the mean age of complimentary feeds is 8.78 ± 2.88 months with $p \text{ value} < 0.001$, which is highly significant.

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In Hindu mothers, the mean age of complimentary feeds is 8.25 ± 2.86 months, and in Muslim mothers, the mean age of complimentary feeds is 8.33 ± 2.49 months with p value > 0.05 .

Age of Complimentary feeds (Months)	Class - I	Class - II	Class- III	Class - IV	Class - V
< 4	0	0	0	1	0
4 -5	0	9	24	7	1
6 - 7	8	32	91	63	0
8 -9	0	8	37	57	11
10 - 12	0	3	9	66	25
13 - 24	0	0	0	8	9
Not started	0	1	2	19	9
Total	8	53	163	221	55
Mean	6.37	6.71	6.89	8.91	12.04
S.D	0.52	1.74	1.54	2.61	3.45
t - value	0.72			8.81	
p value	> 0.05			< 0.001	

Table 5: Comparison of Age of Complimentary feeds Started and Socio-Economic Status

The mean age of complimentary feeds according to socio economic status in class I is 6.37 ± 0.52 months, class II is 6.71 ± 1.74 months, class III is 6.89 ± 1.54 months, class IV is 8.91 ± 2.61 months and in class V is 12.04 ± 3.45 months. The mean age of complimentary feeds in class I, II, III is compared with class IV and V, with p value < 0.001 , which is highly significant.

	No. of children's	Weight for Age	Length for Age	Weight for Length
		Underweight %	Stunted %	Wasted %
< 6	42	11.7	20.3	18.2
6	115	15.8	14.0	17.5
7 - 8	139	22.9	26.0	18.0
9 - 11	85	45.8	44.4	36.6
12 - 24	88	71.9	75.1	29.3
Not started	31	54.8	38.7	48.4
Total	500	34.1	34.5	23.8

Table 6: Relation between age of complimentary feeds and malnutrition

In children where complimentary feeds were started at 6 months of age, 15.8 % were under weight, 14.0 % stunted and 17.5 % wasted.

Complimentary feeds started after 12 months in children showed that 71.9%, 75.1% and 29.3% were under weight, stunted and wasted respectively.

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DISCUSSION: Knowledge & Attitude Regarding Complimentary Feeds: Knowledge & attitude of complimentary feeds were assessed in 500 mothers of children aged between 6 to 24 months of age.

The mean age of knowledge regarding complimentary feeds in this study is 7.99 months which is more than the recommended 6 months. Only 34.2 % of mothers had the knowledge that complimentary feeds should be started by 6 months, which is less than the study conducted in Delhi (46 %) by Anju Aggarwal et al.¹ Similar results were obtained by Frazair et al study.²

Anju Aggarwal et al study in Delhi also states that, delayed complimentary feeds practices are due to poor knowledge, customs and beliefs.¹ The most common reason for delayed complimentary feeds was child not accepting or vomiting complimentary feeds foods.

In Singh et al study, the mean age of complimentary feeds was 8.7 months in semi-arid rural areas of Rajasthan which is comparable to the present study,⁶ and 13.5 months in northern Bangladesh by Isherwood R J et al,⁷ which is much higher than the present study and current recommendation.

Association between Education, Occupation, Residence, Religion and Mean Age of Complimentary Feeds: In this study, rural mothers wean late than the urban mothers, which is statistically highly significant ($p < 0.001$). Similar results were found in Bhavesh et al study,⁸ which state that rural mothers practice improper and delayed complimentary feeds.

Illiterate mothers tend to wean late than the literate mothers, which is statistically highly significant ($p < 0.001$). Similar results were found in Singh et al study.⁶

Comparison of Age of Complimentary feeds Started and Socio-Economic Status: In our study, mothers belonging to socio-economic status class IV and V wean late, than the mothers of class I, II, III. Similar results were obtained in Monika et al study,⁹ where low socio-economic group mothers weaned late. There are sparse studies relating socio-economic status and age of complimentary feeds.

Comparison of Nutrition Status of Children in Various Places: In our study, 34.1% children are under weight, 34.5% children are stunted and 23.8% are wasted of the total children, this is comparable to Karnataka-(41.4%, 38.0 % and 17.9%) and Indian statistics-(45.9%, 38.4% and 19.4%) as per NFHS-3 data.^{10,4} In Medhi. G. K. et al study, 64.6%, 41.7% and 39.6% are under weight, stunted and wasted respectively, which is more than the present study due to improper feeding practices.¹¹

In the present study, around 70% of the children are malnourished when complimentary feeds was started beyond 12 months, while only around 15% of children are malnourished when complimentary feeds was started by 6 months. Hence, there is significant association between delayed complimentary feeds and malnutrition of the child. Similar relation between delayed complimentary feeds and malnutrition was obtained by Bhandari et al study³ & Khokhar et al study.¹²

CONCLUSION: Our study revealed that mother's knowledge regarding complimentary feeds time was inadequate and practices were inappropriate. Majority of them were not aware of the current recommendations. Correct information and guidelines about complimentary feeds is not reaching the target population. False beliefs, customs and attitude of the mother tend to wean the child late.

Mean age of complimentary feeds is delayed due to improper information and child not accepting complimentary feeds foods. Other factors influencing delayed complimentary feeds are

illiteracy, low socio-economic status and rural mothers. Occupation and religion of the mother has no influence on age of complimentary feeds.

There is significant association between delayed complimentary feeds and malnutrition of the child. Poor breastfeeding and inappropriate complimentary feeds practices are the principal proximate causes of malnutrition during the first two years of life.

Hence it is essential, that accurate information and education should be given to mothers and caregivers about appropriate timing of initiating complimentary feeds, complimentary feeds foods, preparation and practices to prevent malnutrition and improve the health status of the children.

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