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RESEARCH ARTICLE

KNOWLEDGE AND PRACTICES OF COMPLEMENTARY FEEDING AMONG PRIMARY CAREGIVERS  
OF CHILDREN AGE 6 TO 24 MONTHS

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ABSTRACT

**Background of study:** Adequate nutrition during infancy and early childhood is critical to the development of children's full human potential. Poor infant and young child feeding practices coupled with high rates of infectious diseases are the proximate causes of malnutrition during the first two years of life. Ensuring optimal complementary feeding practices for young children living in developing countries is a global public health priority.

**Objective:** to assess the knowledge and practices of complementary feeding among primary caregivers of children aged 6-24 months in a selected area of Ludhiana city, Punjab.

**Methodology:** Descriptive research design was used in the study. 100 primary caregivers were selected by convenience sampling technique. Structured questionnaire was used to assess the knowledge and checklist to assess the practices of complementary feeding.

**Results:** 75% primary caregivers had average knowledge and 79% had satisfactory practices regarding complementary feeding. Education of father of the child and no. of siblings of the child had impact on knowledge while age of the child had impact on level of practices of complementary feeding among primary caregivers of children aged 6-24 months.

**Conclusion:** Primary caregivers of children age 6-24 months had average level of knowledge and satisfactory practices regarding complementary feeding

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INTRODUCTION

The rise in malnutrition in children during the first two years of life is indicative of poor infant feeding practices. Appropriate feeding is crucial for the healthy growth and development of an infant. (Katara et al., 2010) Malnutrition has been responsible, directly or indirectly, for 60% of all deaths among children fewer than five years of age annually. Over 2/3 of these deaths are associated with inappropriate feeding practices. (Aggarwal Anju et al., 2008) The status of breastfeeding and complementary feeding practices is very dismal in India. The initiation of breastfeeding within one hour of birth was only 24.5%. The NFHS -3 also reported exclusive breastfeeding up to the age of six month to be only 46.4%. Introduction of complementary feeding along with continued breastfeeding in 6-9 month age is only 55.8% (NRHM) 96.36% mothers had correct knowledge about first food of newborn. 52.73% mothers had correct knowledge about "age of weaning" and 87.27% about "weaning foods". In case of 14.54% children, breast feeding was initiated within one hour of birth. 26.96% children were exclusively breast fed for at least up to 6 months of age. Age of initiation of weaning was

more than 6 months in 70.59% children. (Chatterjee and Saha 2008) 43.5% of the mothers initiated breastfeeding within one hour of birth and 60.5% were practicing exclusive breastfeeding at 5months. Almost 40% of the mothers started complementary feeding before the recommended age of 6 months and 22.5 % delayed introduction of complementary feeding beyond the recommended age. 41.7% of the mothers reported giving complementary foods 3 times a day, 47.3% fed only 1 to 2 times per day and 7% fed 4 to 5 times per day. (Subba et al., 2007) Data from the census reveal that IMR in India is 48 deaths/1000 live births (2011) and IMR in Punjab is 30 deaths/1000 live births (2011) young child feeding practices recommended by the WHO and the Indian Government, including the timely introduction of solid food, are not being followed by a majority of mothers in India. There is an urgent need to focus on improving the complementary feeding practices and in turn the nutritional status of infants and children on India. (Malhotra, 2012)

MATERIALS AND METHODS

Descriptive research design was used to carry out the study. 100 Primary caregivers of children age 6 to 24 months were selected by Convenience sampling technique from the field

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practice area of Urban Health Training Center located at Adarsh Nagar in Ludhiana city, Punjab. Primary caregivers who were not willing to participate in the study, not available at the time of data collection, primary caregivers of children with known anomalies were excluded from the study. Verbal consent was obtained from subjects. Validity of the tool was done by expert opinion. Tool for data collection consist of following parts:

### Part I: Socio-demographic Profile

This part contains 13 items for obtaining personal information i.e. age of the primary caregiver, gender, education & occupation, education & occupation of father of the child, religion, dietary pattern and socio-economic status, age and gender of the child and no. of the sibling of the child.

### Part II: Structured questionnaire to assess knowledge of primary caregivers regarding complementary feeding

This part consists of 25 questions of knowledge to assess various aspects complementary feeding. Each correct answer scored as "1" and each wrong answer scored as "0".

Maximum knowledge score=25

Minimum knowledge score=0

### Part III: Checklist to assess complementary feeding practices

Checklist to assess practices regarding complementary feeding was divided into three sections according to age of the children because consistency and frequency of complementary feeding is different in different age groups (according to W.H.O.)

**Section a:** checklist to assess complementary feeding among primary caregivers of children aged 6-7 months.

**Section b:** checklist to assess complementary feeding practices among primary caregivers of children aged 8-11 months.

**Section c:** checklist to assess complementary feeding practices among primary caregivers of children aged 12-24 months.

Each checklist consist of 22 items related to practices of primary caregivers regarding complementary feeding items were rated as "Yes" & "No" and scored as 1 & 0 respectively i.e. for yes=1 & no=0

Maximum practice score: 22

Minimum practice score=0

Pilot study was conducted on second week of December 2014 on 10 primary caregivers of children aged 6-24 months to ensure the reliability of the tool and feasibility of the study. Reliability of the tool was calculated by split half method and found to be 0.89 for knowledge and 0.86 for practices.

### Procedure

The data collection was carried out from 1 January to 31 January 2014. Convenience sampling technique was used to select subjects. The investigator visited the selected houses. The researchers introduced herself to the subject(s) and then

explained about the purpose of gathering information, importance and the nature of the study. The informed consent from the primary caregivers of children aged 6 to 24 months about the confidentiality of the information obtained, the structured questionnaire was given to the subject(s) in the selected house and was asked to provide the relevant information to assess the level of knowledge and checklist to assess practices regarding complementary feeding.

### Results of the study

**Table 1. Distribution of the primary caregiver of children age 6 to 24 months as per their personal profile**

Variables	N=100 %age
Age (in years)	
21-30	77
31-40	13
41- 50	07
51- 60	03
Gender	
Male	00
Female	100
Relation of primary caregiver with child	
Mother	90
Grandmother	10
Education of primary caregiver	
Illiterate	26
Elementary	25
Secondary	39
Graduate & above	10
Occupation of primary caregiver	
Non-working	92
Working	08
Education of father of child	
Illiterate	18
Elementary	20
Secondary	51
Graduate & above	11
Occupation of father of father of child	
Service	17
Labor	69
Own business	14
Religion	
Hindu	68
Sikh	31
Christian	01
Dietary pattern	
Vegetarian	44
Non-vegetarian	56
Socio-economic status(SES)*	
Upper middle class II	01
Lower middle class III	21
Upper lower class IV	30
Lower class V	48

\*SES according to modified Kuppaswamy's scale of socioeconomic status of family (2012)

Table 2 depicts that more than half 53% children were 12-24 months old and 53% were females and 44% children had no sibling.

Fig. 1 depicts that 75% primary caregivers had average knowledge regarding complementary feeding followed by 23% had good knowledge and only 02% subjects who had poor knowledge regarding complementary feeding, respectively.

**Table 2. Distribution of children age 6 to 24 months as per their personal profile**

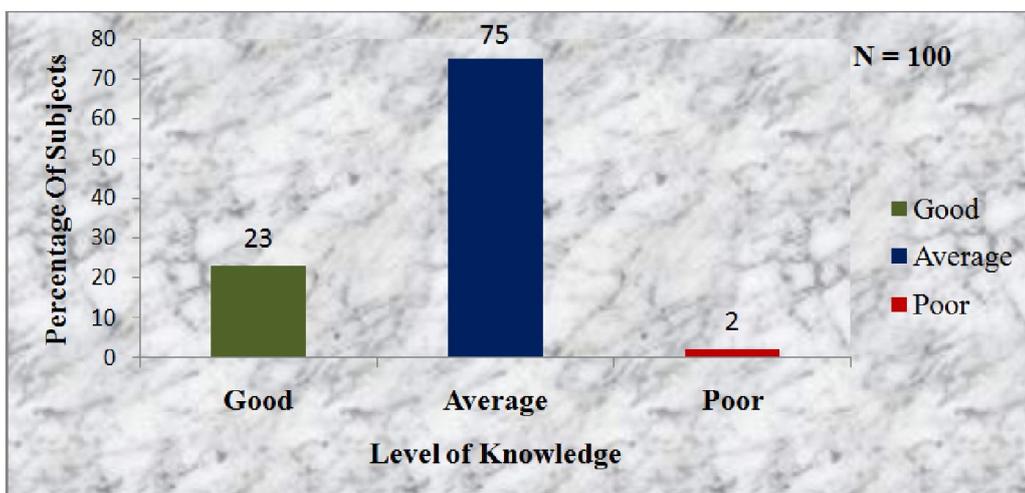
N=100	
Variables	%age
Age (in months)	
6-7	12
8-11	35
12-24	53
Gender	
Male	47
Female	53
Number of siblings	
None	44
1	31
2	21
≥3	04

found to be +0.151 which was tested & to be found statistically non-significant at (p=0.133)

Table 3 depicts that there was significant impact of education of father and age of the child on knowledge and practices of complementary feeding among primary caregivers of children age 6-24 months respectively. But the remaining variables found to be statistically non-significant.

**DISCUSSION**

The findings of the present study revealed that 75% primary caregivers had average knowledge regarding complementary feeding followed by only 2.0% subjects, who had poor knowledge regarding complementary feeding.



**Figure 1. Distribution of primary caregivers of children age 6 to 24 months as per level of knowledge regarding complementary feeding**



**Figure 2. Distribution of primary caregivers of children age 6 to 24 months as per level of practices regarding complementary feeding**

Fig. 2 depicts that 79% primary caregivers of children age 6-24 months had satisfactory practices regarding complementary feeding followed by 21% had unsatisfactory practices. However, the correlation between knowledge and practice was

Chatterjee and Saha (2008) revealed that, 52.73% mothers had correct knowledge about "age of weaning" and 87.27% about "weaning foods". Study conducted by Aggarwal *et al.* (2008) revealed that 32(16%) children were not started on

**Table 3. Association of knowledge and practices of complementary feeding among primary caregivers of children age 6-24 months with selected socio-demographic characteristics**

Variables	n	Knowledge score Mean ± SD	F/t, p value	Practice score Mean ± SD	F/t, p value
N=100					
Education of father					
Illiterate	18	14.38 ± 3.61	3.71	13.05 ± 1.35	0.957
Elementary	20	15.10 ± 2.04		12.05 ± 1.08	
Secondary	51	14.00 ± 2.71	0.014*	14.00 ± 0.54	0.416 <sup>NS</sup>
Graduate & above	11	16.90 ± 2.07		13.09 ± 1.25	
Age of the child (in months)					
6-7	12	13.75 ± 2.86	0.788	8.08 ± 6.28	11.37
8-11	35	14.51 ± 2.60		14.00 ± 2.93	
12-24	53	14.87 ± 2.98	0.458 <sup>NS</sup>	14.09 ± 4.11	.001*

Maximum knowledge score=25

Minimum knowledge score=0

Maximum practice score=22

Minimum practice score=0

\*Significant

NS: Non-significant

complementary feeding and only 32(17.5%) children received complementary feeding. The findings of the present study concluded that 79% primary caregivers of children aged 6-24 months had satisfactory practices regarding complementary feeding followed by 21% had unsatisfactory practices. Study conducted by Rao *et al.* (2011) depicted that 77.5% mothers had started complementary feeding at the recommended time of six months and only 32% of mothers were giving an adequate quantity of complementary feeds. Present study revealed the significant association of knowledge and practice of complementary feeding with father's education and age of the children respectively.

Findings were supported by Chauhan *et al.* (2007) findings reported that 30.9% infants were not receiving complementary foods. 21.9% mothers initiated complementary feeding at the right age. This was significantly associated with the literacy status of the mothers ( $p < 0.05$ ).

### Conclusion

Majority of primary caregivers had average knowledge regarding complementary feeding and had satisfactory practices. Higher was the educational status of the father more was the knowledge score.

### Limitation

Sample size was less, the study did not attempt to directly observe the practices. Researcher had to rely on primary care giver's information, recall period might have introduced recall biases in relation to questionnaires relating to breast feeding and initiation of complementary feeding as the age of the children ranged up to 24 months.

### Conflict of interest

There are no conflicts to be reported for any of the listed authors.

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