

Original Research Article

Perception and practices regarding complimentary feeding among anganwadi workers in Punjab, India

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ABSTRACT

Background: Adequate and appropriate nutrition is the key to proper growth and development during the initial years of life. Appropriate complementary feeding depends on accurate information and skilled support from the family, community and health care system. Anganwadi is the focal point for delivering services to beneficiaries in every urban, rural, slum and tribal areas. Anganwadi workers (AWWs) provide health and nutrition education on various aspects of mother and child health. The objectives of the study were to assess perception and practices among Anganwadi workers regarding complimentary feeding.

Methods: This was a cross sectional study which was conducted in month of April - May 2014. A total number of 1800 workers were under training programme conducted in department of Community Medicine Government Medical College, Patiala. Purposive sampling was used and 218 anganwadi workers were randomly selected (8 anganwadi workers in each batch were randomly selected) and interviewed Data thus collected and entered in Microsoft excel and statically analysed by Epi Info 7.

Results: Only 65.60% anganwadi workers knew correctly about the complimentary feeding that is other food giving in addition to breast feeding. A large percent of anganwadi workers (43.58%) recommended liquid diets for children, nearly all 92.66% anganwadi workers taught mother that during illness feed should not be stopped. Only 43.58% taught mothers regarding consistency of feed to be given to baby.

Conclusions: The perceptions and practices of anganwadi workers regarding frequency, quality and quantity of complementary Feeding were not good.

Keywords: Complimentary feeding, Anganwadi workers, IYCF practices, Quantity

INTRODUCTION

Infant and young child feeding (IYCF) practices are the most important determinants of nutritional status of children.^{1,2} Adequate and appropriate nutrition is the key to proper growth and development during the initial years of life.³ It is estimated that exclusive breastfeeding prevents 13 percent of the estimated under-five deaths while appropriate complementary feeding prevents another 6 percent of under-five deaths.⁴ The Third

National Family Health Survey (NFHS-3) of India reported that overall 21.5% of children aged under three years were breastfed within one hour of birth, 48.3% of the children aged zero to five months were exclusively breastfed, and 53.8% of the children aged six to nine months received solid or semi-solid food and breast milk.⁵ Complementary feeding is defined as the process starting when breast milk alone is no longer sufficient to meet the nutritional requirements of infants, and therefore other foods and liquids are needed, along with breast

milk.^{6,7} Appropriately thick homogenous complementary foods made from locally available foods should be introduced at six completed months to all babies while continuing breastfeeding ad libitum. Consistency of foods should be appropriate to the developmental readiness of the child in munching, chewing and swallowing.^{6,8} Complementary feeding is required in appropriate quantity, quality and frequency to fulfil the recommendations adequately.⁹ Inappropriate practices such as poor breastfeeding, delayed introduction of complementary foods, low energy and nutrient density of foods offered, feeding in small amounts at meals, and food restrictions due to cultural beliefs are common which leads to high rates of infections, vulnerable to irreversible outcomes of stunting, poor cognitive development. Malnourished children have delayed milestones and impaired cognitive development.^{6,8,10-12} Appropriate complementary feeding depends on accurate information and skilled support from the family, community and health care system. Keeping improved infant and young child feeding high on the public health agenda is crucial.¹³ Anganwadi is the focal point for delivering of ICDS packages of services to beneficiaries in every urban, rural, slum and tribal areas.¹⁴⁻²¹ Anganwadi workers (AWWs) provide health and nutrition education on various aspects of mother and child health. Thus it is important that she has adequate scientific knowledge about complimentary feeding so that she can impart the correct knowledge to the mother beneficiaries.

Aims/objectives

- To assess perception and practices among anganwadi workers regarding complimentary feeding.

METHODS

This was a cross sectional study which was conducted in month of April-May 2014. A total number of 1800 workers were under training programme conducted in Department of Community Medicine Government Medical College, Patiala. Purposive sampling was used and 218 anganwadi workers were randomly selected (8 anganwadi workers in each batch were randomly selected) and interviewed. The purpose & nature of the study was explained to anganwadi workers for their participation. Anganwadi workers were interviewed in local language (Punjabi). Pre designed and pre tested questionnaire was used to collect information regarding their perceptions about breast feeding, complimentary feeding & practices that they follow at their anganwadi canters. Data thus collected and entered in Microsoft excel and statically analysed by Epi Info 7.

RESULTS

Mean age of anganwadi workers was 39 years (range 21-57). Mean years of experience of anganwadi workers was 11 years (range 1-30 years). All anganwadi workers had

received ICDS job. Only 65.60% anganwadi workers knew correctly about the complimentary feeding that is other food giving in addition to breast feeding (Figure no. 1). Almost all (97.71%) anganwadi workers agreed that breastfeeding should continue when complimentary feeding starts. Only 61.47% anganwadi workers mentioned Breast feeding should be continued up to age of 24 months. Around half 45.41% anganwadi workers did not know the energy need from complimentary food for 6 months infants with average breast milk and only 40.83% anganwadi workers mentioned 200kcal/day (Table 1). About 93.12% anganwadi Workers mentioned correct age of initiation of complimentary feeding but 37.61% anganwadi workers did not know that adding food too soon (before 6 months) may result in low nutrient diet. Although 55.96% anganwadi workers recommends food with semisolid consistency, a large percent of anganwadi workers (43.58%) also recommended liquid diets for children (Figure 2). About 68.81% anganwadi workers mentioned oil added to food makes it energy dense. Dark green leafy vegetables are rich source of iron and vitamins. About 87.61% anganwadi workers agreed that dark green & yellow vegetables should be given to children as complimentary feed. A majority of anganwadi workers recommended dalia (90.83), khichadi (86.24%), mashed potatoes (86.20%), mashed banana (84.4%), fresh fruits juice (80.73%), biscuits and milk (44.95%) dal water (82.11%), whole cooked dal (16.06%), cerelac (40.37%), lactogen (9.63%), rice(23.39%) as complementary food. More than half 61.93% anganwadi workers agreed that readymade preparations/canned foods should not be given to children as complementary food. Only 11.93% anganwadi workers were aware about the infant milk substitutes, feeding bottles and infant foods (Regulation of Production, Supply and Distribution) IMS Act. About 12.84% anganwadi workers mentioned that complimentary feed should be stopped during illness. When a child starts to eat complimentary foods, he/she needs time to get accustomed to the new taste and texture of the food. A child needs to learn the skills of eating. Only 67.89% anganwadi workers admitted 0.5katori (125 ml) quantity of complimentary food should be sufficient for 6-8 months healthy breastfeeding baby each time (Figure 3). Around half (50.92%) of anganwadi workers admitted that complimentary food should be given for three times/day. About 15.14% anganwadi workers did not know about the adequate amount of complementary foods to be given to 6-8 month old baby. About 74.31% anganwadi workers agreed that complimentary feeding should start with only 2-3 small spoonful of feed twice daily at 6 months of age. Almost all 96.33% anganwadi workers agreed that amount of complimentary feed should increase gradually. Regarding energy need from complimentary feeding with average breast milk, quantity and frequency for 6-8 month infant 45.41% anganwadi workers did not know about energy need from complimentary food. For a 15-18 months average breastfed baby the frequency and quantity should be increased. But only 65.14% anganwadi workers knew the

frequency of complimentary feed is 5 times/day. About 43.12% anganwadi workers mentioned that 250ml (1 katori) of complimentary food should be given to 18 month old child (fig. no. 4). In regards of supplementary feeding under ICDS 54.59% anganwadi workers had a correct knowledge about the amount of calories and only 8.72% AWW knew about the amount of proteins should

be given under ICDS for children of 6 months to 3 years i.e. 12-15 g/d, and 30.28% anganwadi workers did not know about amount of proteins should be given under ICDS. About 88.99% anganwadi workers had correct knowledge that supplementary nutrition to be given to children under integrated child development service scheme for 25 days/ month.

Table 1: Perception regarding complimentary feeding.

	Frequency	Percentage (%)
Breast feeding should be continued up to which age?		
6 months	48	22.02
12 months	20	9.17
18 months	16	7.34
24 months	134	61.47
What is energy need from complimentary food for 6 months infants with average breast milk?		
300 kcal/day	21	9.63
200 kcal/day	89	40.83
400 kcal/day	9	4.13
Not know	99	45.41
What is the quantity of complimentary food is given to 6 month healthy breastfeeding baby?		
1 katori (250 ml)	31	14.22
0.5katori (125 ml)	148	67.89
1.5 katori (375 ml)	6	2.75
Not know	33	15.14
What is the quantity of complimentary food should be given to 18 month old child?		
1.5 katori (375 ml)	46	21.10
1 katori (250 ml)	94	43.12
0.5 katori (125 ml)	36	16.51
Not know	42	19.27
An average healthy breastfed infant of 6-8 months age needs complimentary feed for how many times/day?		
2 times	35	16.06
3 times	111	50.92
5 times	63	28.90
Not know	9	4.13
An average healthy breastfed child of 15 months age needs complimentary feed for how many times/day?		
2 times	3	1.38
3 times	63	28.90
5 times	142	65.14
Not know	10	4.59
Are you aware about infant milk substitute (IMS) act?		
Yes	26	11.93
No	192	88.08
Do you know which type of feed can fill the energy gap?		
Yes	163	74.77
No	55	25.23
Do you think dark green and yellow vegetables should be given to children as complimentary food		
Yes	191	87.61
No	27	12.39
Do you think readymade preparations/canned food/ceralac should be given to children?		
Yes	83	38.07
No	135	61.93
Do you think complimentary food should be stopped during illness?		
Yes	28	12.84
No	190	87.16

Continued.

	Frequency	Percentage (%)
Do you think oil added to food makes it energy dense?		
Yes	150	68.81
No	68	31.19
Do you think weaning should start with only 2-3 small spoonful of food twice daily at 6 months of age?		
Yes	162	74.31
No	56	25.69
Do you think amount of complimentary food should increase gradually?		
Yes	210	96.33
No	8	3.67

Table 2: Practices of anganwadi workers.

	Frequency	Percentage (%)
What is the amount of protein should be given under ICDS for children 6-3 years?		
12-15g/d	19	8.72
20-25 g/d	100	45.87
18-20 g/d	33	15.14
Not know	66	30.28
For how many days supplementary nutrition to be given to children under integrated child development service scheme?		
25 d/m	194	88.99
30 d/m	7	3.21
15 d/m	5	2.29
Not know	12	5.50
Do you provide supplementary nutrition to children of <2 year of age?		
Yes	210	96.33
No	8	3.67
Children of which age group come daily to Anganwadi canter?		
6 months-1 year	5	2.29
2 year-3 year	14	6.42
>3 year	199	91.29
Where do you provide supplementary food to children <3 years?		
At anaganwadi centers	76	34.86
At home	142	65.14
In which form you provide food to children of 6-8 months?		
Solid	22	10.09
Semisolid	182	83.49
Not providing	14	6.42

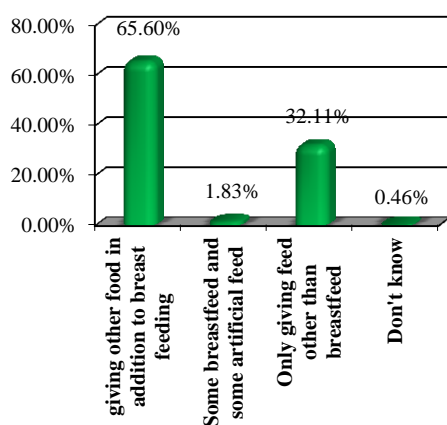


Figure 1: Perception regarding complimentary feeding.

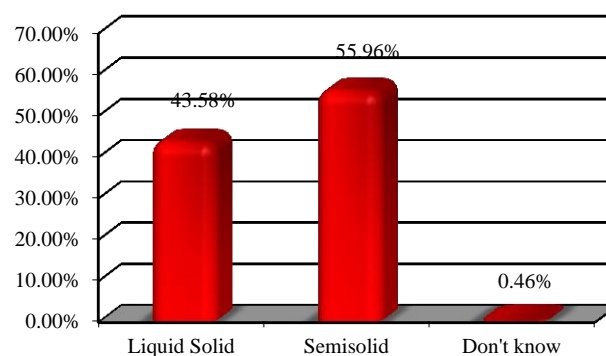


Figure 2: Perception regarding consistency of complimentary food for 6-12 months.

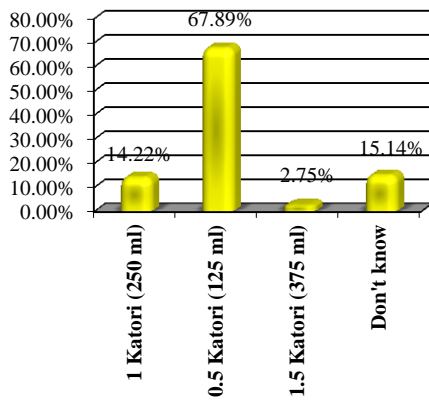


Figure 3: Perception regarding quantity of complimentary food for 6 months healthy breastfeeding baby each time.

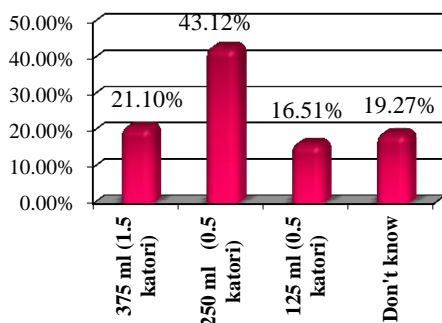


Figure 4: Perception regarding quantity of complimentary food for 18 months healthy breastfeeding baby each time.

Table 2 shows practices of anganwadi workers. Nearly all (91.29%) anganwadi workers mentioned that >3 years age group of children were come daily to their anganwadi center. Almost all 96.33% anganwadi workers provide supplementary nutrition to children of <3 year of age. More than half 65.14% anganwadi workers provide supplementary feed to children <3 years at home, as mothers were coming to collect the food. About 83.49% anganwadi workers provide feed to children of 6–8 months in semisolid form. Nearly all 92.66% anganwadi workers taught mother that during illness feed should not be stopped and 97.71% anganwadi workers advised mother to give small frequent meals to her child during illness. Only 43.58% taught mothers regarding consistency of feed to be given to baby.

DISCUSSION

Anganwadi worker is a key player with regard to promotion of IYCF practices as she has close and continuous contact with the community. By virtue of her position in the community, anganwadi worker has more chances to interact and to educate the mothers. For that the anganwadi worker should have basic knowledge of child care activities. But very less focus has been given to

assess the knowledge and awareness among anganwadi workers about complimentary feeding. In our study the knowledge of anganwadi workers with regard to key IYCF practices was not good. The major gap was with respect to the knowledge related to early initiation, quantity, quality, frequency of complimentary food. In the present study out of 218 anganwadi workers 93 (42.66%) were in the age group 31-40 years and 100 (45.87%) had experience more than 10 years, whereas study done by Baliga found that 43.4% anganwadi workers were in the age group of 31-40 years.¹⁸ In another study conducted by Joshi found 42% anganwadi workers had experience more than 10 years.¹⁹ Sondankar found 36.92% of anganwadi workers were in the age group of 30–39 years and 36.35% anganwadi workers had more than 10 years of experience.²⁰ The knowledge regarding timing of initiation of complimentary food was good in our study. Almost all 93.12% anganwadi workers mentioned correct age of initiation of complimentary food. But 37.61% did not know consequences of starting complimentary food before 6 months. In a study by Parikh et al reported that all anganwadi workers (100%) knew the correct age of complimentary food.¹⁵ The food given to child should be energy dense. dalia, khichadi, meshed potatoes, meshed banana, fresh fruits juice, biscuits and milk, whole cooked dal, rice are energy dense. But dal water, liquid diet should not given as complimentary food, does not give as much energy. In present study 55.96% anganwadi workers recommends food with semisolid consistency. This is nearly about NFHS 3 data about complimentary food i.e. 53.8% of the children aged six to nine months received semi-solid food and breast milk. In present study nearly half (43.58%) of anganwadi workers also recommended liquid diets for children. These practices in fact are one of the primary reasons which can be attributed to low energy and protein intake during complementary feeding. Less than half of AWWs taught mothers regarding consistency of feed to be given to baby as complimentary food. Parikh et al found 65% anganwadi workers recommended food with thick consistency while 47% recommended liquid diets for children.¹⁵ Similar findings were reported by Syed et al who conducted study among 123 women of selected villages and found 53.7% mothers given complementary food in semi-solid form.⁵ Most AWWs had no correct knowledge about the quality, quantity, energy need of complimentary feed. Only 54.59% anganwadi workers knew about the calories & 8.72% knew about the proteins provided under ICDS through the supplementary feeding at anganwadi center. In a study conducted by Dogra found none of anganwadi workers knew about amount of calories providing to children.²¹ There is a need to disseminate information regarding proper feeding practices such as adequate quantity, quality and frequency of complimentary feed along with average breastfeeding. Anganwadi workers should utilize every opportunity to educate mothers regarding correct feeding practices. The contact during Mamta Diwas should be used to educate mothers regarding the importance of IYCF practices. Visits for immunization and illness

provide additional opportunities for reinforcing the advice already given as well as for advising supplementation.

CONCLUSION

The perceptions and practices of anganwadi workers regarding frequency, quality, and quantity of Complementary Feeding were not good. It may not be helpful to the community to promote and enhance the key Complimentary Feeding practices to its optimal level. The anganwadi workers were aware of key IYCF practices, however the perceptions with regard to the rationale applicable to the appropriate recommended complimentary feeding practices being promoted was rather poor. This is noted to be a critical gap and needs to be addressed for equipping the ICDS frontline workers for effectively promoting successful adoptions of complimentary feeding practices by community. Behavior modification toward improving child feeding practices must pay greater attention. Complementary food bridges the energy, vitamin A and iron gaps which arise in breastfed infants at 6 month of age. Our study brings up the fact that complementary feeding practices are by and large inappropriate in our society which seem to be strongly associated with the lack of proper knowledge among mothers regarding complementary feeding and anganwadi workers can play a vital role to improve the IYCF practices by providing adequate knowledge to mothers.

Recommendations

Inappropriate complementary feeding is one of the major causes of malnutrition in young children in developing countries. Education about food recommended for young children is of great importance in the prevention of chronic malnutrition. Overall, perceptions for promoting of community based complementary feeding practices was not adequate amongst the ICDS frontline workers. Regular reinforcement of training with on-job capacity building, follow-ups with regards to complementary feeding rather than just IEC (Information education and communication) on key IYCF messages is recommended. This probably would accelerate prevention and reduction of under nutrition in community.

Limitation

This study may be helpful in creating an awareness of the advantages of exclusive breastfeeding and timely initiated complementary food which is made from locally available foods. Anganwadi workers should be empowered by basic, scientific information related to IYCF. In this study anganwadi workers were interviewed before the training. No information was collected after completion of training and there was no follow-up at their anganwadi centers. In such a process anganwadi workers might have missed out sharing some knowledge and perceptions they gained during the training. Also the

study was conducted among small number of anganwadi workers. Hence, the findings in this study cannot be generalized to cover the state or India as a whole.

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