

SHORT ARTICLE**Counselling skills of Accredited Social Health Activists for promotion of optimal Infant and Young Child Feeding practices****Sahiba Kohli¹, Ravinder Chadha²**¹MSc, PhD Scholar, Department of Food and Nutrition, Lady Irwin College, University of Delhi, India; ²PhD, Associate Professor, Department of Food and Nutrition, Lady Irwin College, University of Delhi, India

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Abstract

Background: Accredited Social Health Activists (ASHAs) play an important role in communicating messages related to infant and young child feeding (IYCF) practices. Adequate knowledge and counselling skills are crucial for effective behavior change among mothers. **Objective:** To assess counselling skills of ASHAs for promotion of optimal IYCF practices among mothers of young children. **Material & Methods:** ASHAs (n=190) were selected randomly from 21 primary health centres in Delhi. Their knowledge and counselling skills for promotion of optimal IYCF practices were assessed using a questionnaire and simulated counselling sessions based on WHO IYCF counselling course (2006) and IYCF guidelines by WHO (2009), GOI (2006) and IAP (2016). **Results:** Mean scores of ASHAs on optimal IYCF knowledge and counselling skills were $65.2 \pm 11.8\%$ (n=190) and $41.8 \pm 9.4\%$ (n=182) respectively. Less than half (45%) of the appropriate key messages were correctly communicated by ASHAs during the simulated counselling sessions. Majority of ASHAs (>75%) used helpful non-verbal communication, simple language and tried solving problems while counselling. Inability to empathise with caregivers, praising good practices and assessing their understanding were the communication skills which most ASHAs (>95%) lacked. **Conclusion:** There is need to focus on improving their counselling skills for effective promotion of optimal IYCF practices.

Keywords

Complementary Feeding; Breastfeeding; Counseling; Health Communication; Health Knowledge, Attitudes, Practice; Village Health Worker

Introduction

Facilitating behaviour change among caregivers by effective counselling can address the problem of inappropriate Infant and Young Child Feeding (IYCF) practices (1). Accredited Social Health Activists (ASHAs), India's key community health workers (CHWs) (2), can effectively influence and appropriately guide mothers on optimal IYCF practices if they are well-equipped with adequate knowledge and counselling skills. World Breastfeeding Trends Initiative India (2018) shows that IYCF promotion skills and capacity of health workers has declined with drop in scores from seven out of ten in 2015

to five out of ten in 2018 due to lack of skilled capacity reflecting inadequate skill based training on IYCF practices (3).

Aims & Objectives

To assess counselling skills of ASHAs for promotion of optimal IYCF practices among mothers of young children.

Material & Methods

Study Population, Area and Sampling Procedure: A cross-sectional study was conducted among ASHAs working in North and South districts of Delhi between January to September 2018. Fifty percent (21 out of total 42) of the

primary health centres (PHCs) were randomly selected and probability proportional to size (PPS) sampling technique was used to select 202 ASHAs from these PHCs. For sample size computation, anticipated prevalence of optimal IYCF counselling skills of ASHAs was set as 50% to obtain maximum sample size. Out of those selected, 190 provided written consent to participate, however eight ASHAs dropped out during counselling skills assessment.

Tools and Techniques: A valid (content validity index (CVI) - 0.94) and reliable (intra-rater correlation coefficient (ICC) - 0.768) self-administered knowledge questionnaire (maximum score 46) in Hindi, included 32 questions on breastfeeding, complementary feeding and malnutrition screening. Simulated counselling sessions were conducted in PHCs for counselling skills assessment of ASHAs (two situations each) using a pre-designed checklist (developed on six context specific situations). The checklist, comprising IYCF related key and additional messages to be delivered and communication skills to be used, was reliable with ICC of 0.814. Content of the tools was based IYCF Counselling: An Integrated Course by WHO (4) and IYCF guidelines by WHO (5), Government of India (6) and Indian Academy of Pediatrics (7).

During the simulated counselling session, each ASHA interacted with mother (no time limit) during which her skill in: a) delivering appropriate key messages, and b) communicating the messages effectively were assessed. The assessor observed and assessed each counselling session individually and provided a score according to the criteria in checklist. The assessor obtained training on Infant and Young Child Feeding Counselling (an integrated course on breastfeeding, lactation management, complementary feeding, infant feeding & HIV and growth monitoring counselling) by Breastfeeding Promotion Network of India and International Baby Food Action Network (IBFAN) Asia supported by WHO-SEARO.

Counselling skill assessment was conducted in PHC during the ante-natal care and immunization days. In order to conduct the session, a mother (of infant below 2 years) was identified (by ASHA or assessor) preferably with a situation identical to the assessment situation. The activity was commenced by describing the situation to mother and ASHA. The assessor ensured that they were at ease and asked them to imagine this to be a one-on-one home visit counselling session. The assessor tried to conduct assessment in a comfortable room or space in the PHC (wherever possible) where the participants could sit on chairs and face each other. The observation checklist was used while scoring and an audio recording of the session was also obtained in order to recheck the scoring done on the spot.

Ethical Approval: Ethical approval was obtained from Institutional Ethics Committee, Lady Irwin College, University of Delhi.

Data Analysis: Descriptive statistics were obtained for demographic variables, IYCF knowledge and counselling skills. Paired t-test was used to compare knowledge and counselling skills scores, breastfeeding and complementary feeding knowledge scores.

Results

A total of 190 ASHAs, aged 39 ± 6.5 years, were assessed in 21 selected PHCs. Most ASHAs (80%) had completed at least class tenth while the remaining were educated up to class eighth or below. More than half (56%) had worked for six to ten years as ASHA (mean 5.9 ± 2.9 years). All had received induction as well as modular and refresher trainings which included topics like breastfeeding, complementary feeding, care during diarrhoea, mother's diet during pregnancy and lactation, malnutrition and skills of an ASHA including participatory leadership, communication, decision making, negotiation and coordination skills.

IYCF Knowledge of ASHAs: The mean knowledge score of ASHAs regarding optimal IYCF practices was 30.0 ± 5.4 (out of 46) i.e. $65.2 \pm 11.8\%$ ([Table 1](#)). Knowledge scores were significantly higher for optimal breastfeeding than complementary feeding practices ($t=13.617$, $p=0.000$). However, sixty percent of the ASHAs had a total score less than 70%. Refer to [Table 2](#) for details on knowledge of ASHAs on important aspects of optimal IYCF practices and malnutrition.

IYCF Counselling Skills of ASHAs: Skills of ASHAs were evaluated on the basis of key messages imparted and communication skills used while counselling mothers during two simulated counselling sessions. The mean percent scores for key messages communicated and communication skills used were $31.7 \pm 14.6\%$ and $51.9 \pm 10.1\%$ respectively ([Table 1](#)). The mean percent composite score for simulated counselling sessions was $41.8 \pm 9.4\%$. Their mean knowledge score obtained from self-administered knowledge questionnaire was significantly higher (almost double) ($t=26.778$, $p=0.000$) than the mean score of appropriate key messages communicated during simulated counselling sessions. This indicates a gap in application of existing IYCF knowledge by ASHAs for delivery of appropriate messages to mothers during counselling sessions.

Key Messages

Nearly half (45%) of the total key messages delivered by all the ASHAs were observed to be correct, however half out of these (48.6%) were incomplete. It was a matter of concern that nearly 5% of the key messages delivered by them were incorrect and the remaining 50% were not communicated at all ([Table 3](#)). Further, around 45% (83 ASHAs) delivered at least one incorrect key message during two simulated situation counselling sessions.

During breastfeeding counselling (situation 1), more than half correctly advised mothers on breastfeeding initiation within one hour of birth (78.3%), avoidance of pre-lacteal feeding (60%) and exclusive breastfeeding till six months of age (53.4%), however less than one-third correctly counselled them on breastfeeding position and attachment (28.3%) or explained the meaning of exclusive breastfeeding (21.7%). For simulated situation 4 (where mother was unable to feed colostrum to her first child), nearly all (98.3%) counselled on benefits of colostrum feeding, but less than one-third (23%) advised on practicing early initiation of breastfeeding for the second child.

During counselling on complementary feeding practices, nearly two-thirds promoted introduction of complementary feeding on completion of six months (63.3%) and advised on the type and consistency of feeds (68.4%), yet one-fourth (27%) incorrectly promoted feeding dal or rice water and use of commercial infant cereals. More than half advised mothers on the frequency and amount of complementary feed to be given to their infants (53.3% situation 3, 54.9% situation 6), but nearly one-fifth (16.7% situation 3, 19.4% situation 6) communicated the message incorrectly. More than two-thirds of the ASHAs did not emphasize on dietary diversity (68.3%) or energy density (73.3%) of feed.

Communication Skills

ASHAs were assessed on use of 13 communication skills during simulated counselling sessions (4). Majority used helpful non-verbal communication (99.2%), gestures and responses that showed interest (98.9%), simple language (84.6%) and tried to solve problems of mothers (77.2%). Nearly two-thirds accepted the thoughts and feelings of mothers (69.2%) without agreeing or disagreeing with them and also encouraged their participation while providing suggestions (68.4%). Nevertheless, ASHAs used close ended questions (48%) and did not reflecting back (73%). Empathy was lacking among nearly all (97%). Further, more than one-third (37%) used judging words. Most (>95%) did not praise the mother for any good behaviour or assess her understanding after providing information.

Discussion

Inspite of the focus and dependence on CHWs for motivating community members to avail health services and communicating health messages as their key responsibilities, there is limited evidence from India and other developing countries on counselling skills of CHWs. The present study highlights the need for regular knowledge and counselling skills assessment of ASHAs as they are an inevitable part of the health system and are responsible for influencing the community members. ASHAs demonstrated correct knowledge about a number

of optimal IYCF practices ([Table 2](#)), however, critical gaps were observed in knowledge on certain aspects as well as communication of messages during counselling. ASHAs had better knowledge about optimal breastfeeding than complementary feeding practices ($p=0.000$). Similar results were reported in other studies from developing countries highlighting better knowledge on breastfeeding than complementary feeding practices among CHWs (8-9). This indicates need for a more focussed training on optimal complementary feeding practices among ASHAs. Important aspects on which more than half of the ASHAs demonstrated correct knowledge included early initiation of breastfeeding, exclusive breastfeeding from birth to completion of 6 months, colostrum feeding, avoidance of pre-lacteal feeding, breastfeeding attachment and position, expressed breast feeding, avoidance of bottle feeding, mother's diet during lactation, importance of home cooked complementary feeds, thick and dropping consistency of complementary feeds, energy dense foods for improving energy content of feed, dietary diversity, introducing family foods and feeding during diarrhoea or illness. However, despite having correct knowledge on these aspects fewer ASHAs communicated these messages completely. Another study conducted on CHWs in Gujarat showed similar results where they were aware of optimal IYCF practices but were not able to efficiently recommend during the counselling sessions (8). A study conducted on ASHAs from Delhi also observed that they had good knowledge but poor practices (10).

The quality of interaction between ASHAs and mothers is of great importance as it can impact mothers' IYCF practices and thereby the child's nutritional status. Knowledge and knowledge-sharing effectiveness of health extension workers have shown to affect maternal knowledge of optimal IYCF and their child's nutritional status (11). Findings from the current study observed gaps in delivery of appropriate messages and use of important communication skills during counselling sessions. ASHAs were not using skills that could help in building confidence of the mothers like praising them for correct behaviours. Further, three-fourths of the ASHAs were commanding instead of giving suggestions. Similar findings were observed in another study where CHWs from Gujarat exhibited poor listening skills, were unable to empathise or provide need-based advice during counselling (8).

Messages delivered by ASHAs during counselling sessions were limited as fewer key messages were communicated missing out on nearly half of the important messages. Further, at least one incorrect message was delivered by almost half of the ASHAs including incorrect type, quantity and frequency of complementary food to be fed to the infant. They demonstrated limited use of effective communication skills and inability to deliver all relevant need-based messages. The study reiterates findings of

certain other studies (8-11) in which a gap was observed in use of existing knowledge by CHWs while communicating messages to caregivers thereby suggesting the need to enhance their capacity in counselling with focus on communication skills. Skill based training of ASHAs on-job/ on-site along with supervisory support are effective strategies that can be used to enhance their skills and thereby improve performance during home visits (12-13).

Conclusion

Though majority of the ASHAs used helpful non-verbal communication and tried solving mothers' problems, they lacked crucial counselling skills required for convincing mothers and facilitating adoption of optimal infant feeding behaviours. Further, a huge disparity existed between ASHAs' IYCF knowledge and delivery of appropriate messages during counselling sessions.

Recommendation

There is a need to address gaps in IYCF knowledge of ASHAs, particularly regarding complementary feeding practices and skill based training with emphasis on communication skills to strengthen their ability to provide appropriate need-based counselling.

Limitation of the study

The study was conducted in two purposively selected districts of Delhi, so study participants cannot be considered to be truly representative of all the ASHAs working in Delhi state.

Relevance of the study

The study provides evidence to focus on strengthening training of ASHAs with respect to counselling skills for effective IYCF promotion.

Authors Contribution

SK: literature search, data acquisition, guarantor. SK & RC: conceptualization, design, definition of intellectual content, data analysis, statistical analysis, manuscript preparation, editing and review.

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Tables

TABLE 1 KNOWLEDGE (N=190) AND COUNSELLING SKILLS (N=182) SCORES OF ASHAs ON PROMOTION OF OPTIMAL IYCF PRACTICES*

Scores	Maximum Score	Mean obtained (%)	Score	Distribution of ASHAs according to percent scores obtained n (%)				
				≤50	51-60	61-70	71-80	>80
Knowledge (n=190)								
Breastfeeding	22	16.6 ± 2.8 (75.4 ± 12.9)	9 (4.7)	17 (8.9)	28 (14.7)	64 (33.7)	72 (37.9)	

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<i>Complementary Feeding</i>	15	9.0 ± 2.6 (59.8 ± 17.4)	63 (33.2)	33 (17.4)	42 (22.1)	31 (16.3)	21 (11.1)
<i>Screening of Malnutrition</i>	9	4.4 ± 1.6 (49.3 ± 17.7)	93 (48.9)	49 (25.8)	30 (15.8)	15 (7.9)	3 (1.6)
Overall Knowledge	46	30.0 ± 5.4 (65.2 ± 11.8)	24 (12.6)	38 (20.0)	53 (27.9)	57 (30.0)	18 (9.5)
Counselling Skills (n=182)							
<i>Key Messages</i>	100	31.7 ± 14.6 (31.7 ± 14.6)	166 (91.2)	8 (4.4)	5 (2.7)	3 (1.6)	0 (0)
<i>Communication Skills[†]</i>	26	13.5 ± 2.6 (51.9 ± 10.1)	81 (44.5)	64 (35.2)	31 (17.0)	6 (3.3)	0 (0)
Composite Counselling Skills	100	41.8 ± 9.4 (41.8 ± 9.4)	146 (80.2)	33 (18.1)	2 (1.1)	1 (0.5)	0 (0)

Statistically significant difference in means was observed between: knowledge scores of breastfeeding and complementary feeding ($t=13.617$, $p=0.000$), breastfeeding and screening of malnutrition ($t=17.881$, $p=0.000$), complementary feeding and screening of malnutrition ($t=7.009$, $p=0.006$); overall knowledge score and key messages score obtained during simulated counselling sessions ($t=26.778$, $p=0.000$).

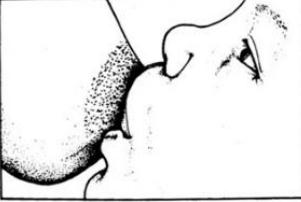
Scoring pattern for counselling skills assessment: key messages – correct and complete (two marks), correct but incomplete (one mark), message not given (zero mark), incorrect (minus one mark); and communication skills – skill executed (one mark) and skill not executed (zero mark).

*Optimal IYCF practices include early initiation of breastfeeding within one hour of birth and exclusive breastfeeding for first six months (180 days) of life with no pre-lacteal feeding (any fluid except breast milk or food like honey, ghee, animal or powdered milk, tea, water or glucose water). These should be followed by introduction of nutritionally-adequate and safe semi-solid (preferably homemade) complementary food at six months of age (having age appropriate consistency, frequency, energy and nutrient density) along with continued breastfeeding up to two years of age and beyond (5,6,7).

†Communication skills include using helpful non-verbal communication, asking open questions, using responses and gestures that show interest, reflecting back what mother/ caregiver says, empathizing, avoiding use of judging words, accepting what caregiver thinks and feels, recognizing and praising what a mother/ caregiver and child are doing right, giving relevant information and assessing understanding, using simple language, giving suggestions not commands, encouraging mothers to participate, listening to mother's problems and trying to solve them (4).

TABLE 2 KNOWLEDGE REGARDING OPTIMAL IYCF PRACTICES AND MALNUTRITION AMONG ASHAs (N=190)

Indicators	ASHAs who gave correct response n (%)
Feeding colostrum immediately at birth	185 (97.4)
Timing for early breastfeeding initiation	
- Normal Delivery – immediately within 1 hour	167 (87.9)
- Caesarean section Delivery – immediately preferably within 1 hour, as soon as possible	137 (72.1)
Meaning of exclusive breastfeeding	
- Only mother's milk and when required ORS, drops or syrups consisting of vitamins, minerals supplements or medicines (correct response) [‡]	64 (33.7)
- Only mother's milk (partially correct response)	75 (39.5)
Duration of exclusive breastfeeding from birth to completion of 6 months	124 (65.3)
Breastfeeding position & attachment	
- Mouth open and lower lip towards outside	166 (87.4)
- Areola part completely inside the infant's mouth	124 (65.3)
- Chin touching the breast	135 (71.0)
- Milk production depends on suckling on breast by the infant	139 (73.2)
Expressed breastmilk can be fed by cup to infants of working mothers	159 (83.7)
Mother's milk is superior to formula milk	183 (96.3)
Lactating mothers do not need to drink excessive amount of milk to produce enough milk	134 (70.5)
Adequate milk is produced for the infant during the initial 3-4 days of birth	92 (48.4)
Exclusively breastfed infants under 6 months of age do not require water during summers	176 (92.6)
Breastfeeding should be continued during diarrhoea	189 (99.5)
Breastfeeding should be continued after immunization even if child had fever	138 (72.6)
Cup feeding is better than bottle feeding	172 (90.5)
Breastfeeding should be continued during mother's illness	127 (66.8)

Pre-lacteal feeding is harmful for the infant	187 (98.4)
Expressed breastmilk can be stored at room temperature for 8 hours	58 (30.5)
Breastfeeding position and attachment (selecting correct image, Images adapted from WHO 2006 (4))	
	128 (67.4)
Correct Attachment	
	
Incorrect Attachment	
	145 (76.3)
Incorrect Position	
	
Correct Position	
Timing for introduction of complementary feeds (at 6 months/ on completion of 6 months)	60 (31.6)
Thick and dropping consistency of complementary feed	153 (80.5)
Family foods can be fed to infant with some modifications	170 (89.5)
Complementary feeding should be continued during diarrhoea	144 (75.8)
Complementary feeding should be continued after immunization	142 (74.7)
Handwashing should be practiced by both the mother and infant before complementary feeding	57 (30.0)
Homemade complementary foods are better than commercially processed infant foods	164 (86.3)
Characteristics of complementary foods:	
- Should have low dietary fiber	57 (30.0)
- Should not be watery	160 (84.2)
- Should have variety	145 (76.3)
- Should be thick in consistency	175 (92.1)
Oil or ghee can be added to complementary foods to increase energy density	146 (76.8)
Green leafy vegetables can be added to complementary foods to increase vitamin and mineral content of feed	59 (31.0)
Pulses can be added to increase protein content of feed	85 (44.7)
Dal water is not appropriate as a complementary food	109 (57.4)
Correct Reason	62 (65.3) ^e
Breastfeeding should be continued at least up to 2 years of age	86 (45.3) ^c
Correct proportion of water, sugar and salt for preparation of homemade ORS solution	74 (38.9)
Feeding infants below 6 months during diarrhea	146 (76.8)
Amount of ORS to be given to 2 months to 2 years old infant - approximately $\frac{1}{4}$ - $\frac{1}{2}$ cup (50-100ml) ORS after each loose stool	85 (44.7)
Prepare fresh ORS every day and used within 24 hours	151 (79.5)
A low birth weight (LBW) infant weighs less than 2500 g at birth	156 (82.1)
According to ICDS, Children below the age of 3 years are weighed once a month by Anganwadi worker (AWW)	43 (22.6)
Mid upper arm circumference (MUAC) of less than 11.5cm (115mm) indicates Severe Acute Malnutrition	27 (14.2)
A flat growth curve plotted on weight-for-age growth chart for an infant is a warning sign categorized as dangerous	49 (25.8)
Children 6-59 months of age having a haemoglobin of less than 11 g/dl are considered anaemic.	49 (25.8)

^y based on WHO definition of exclusive breastfeeding (4)^e answered by 95 participants out of 109 who gave correct answer to related question, therefore percentage has been calculated out of 95^c responses including 'up to 2 years' or '2.5 years' or '3 years' were considered correct

TABLE 3 MESSAGES GIVEN BY ASHAs DURING SIMULATED SITUATION COUNSELLING SESSIONS (N=182)

Situation-wise Key Messages	Total no. of key messages to be delivered [‡]	Proportion of ASHAs (%)			
		Correct Message		Incorrect Message	Message not delivered
		Complete [§]	Incomplete [¶]		
GROUP I (n=60)					
SITUATION 1 (n=60): <i>Breast feeding counselling of nine month pregnant woman</i>					
• Early initiation of breast feeding within one hour of birth		18 (30.0)	29 (48.3)	4 (6.7)	9 (15.0)
• Avoidance of pre-lacteal feeds like honey, <i>ghutti</i> , animal or formula milk, tea, water or glucose water or any other food as these are harmful		20 (33.3)	16 (26.7)	0 (0.0)	24 (40.0)
• Exclusive breast feeding till six months (180 days) of age		28 (46.7)	4 (6.7)	0 (0.0)	28 (46.7)
• Meaning of exclusive breast feeding		1 (1.7)	12 (20.0)	0 (0.0)	47 (78.3)
• Lactating mother's diet		14 (23.3)	10 (16.7)	2 (3.3)	34 (56.7)
• Breast feeding attachment and position		5 (8.3)	12 (20.0)	6 (10.0)	37 (61.7)
No. of key messages delivered (%)	360	105 (21.9)	83 (23.1)	12 (3.3)	179 (49.7)
SITUATION 2 (n=60): <i>Counselling mother of 8-months old infant having diarrhoea</i>					
• Frequent breast feeding during diarrhoea		17 (28.3)	34 (56.7)	0 (0.0)	9 (15.0)
• Small and frequent meals, feeding soft food such as <i>dalia/ khichdi</i> with curd		32 (53.3)	22 (36.7)	0 (0.0)	6 (10.0)
• Feeding ORS and the amount of ORS to be given		9 (15.0)	30 (50.0)	7 (11.7)	14 (23.3)
• Method of preparation of ORS		9 (15.0)	18 (30.0)	2 (3.3)	31 (51.7)
• Preparing fresh ORS every day and discarding reconstituted ORS after 24 hours		17 (28.3)	3 (5.0)	2 (3.3)	38 (63.3)
• Amount of Zn tablet to be given as an adjunct to treatment		7 (11.7)	10 (16.7)	0 (0.0)	43 (71.7)
• Practising basic hygiene while preparation of feed and feeding the baby		9 (15.0)	9 (15.0)	0 (0.0)	42 (70.0)
• Avoidance of bottle feeding		5 (8.3)	0 (0.0)	0 (0.0)	55 (91.7)
No. of key messages delivered (%)	480	86 (23.9)	126 (26.3)	11 (2.3)	238 (49.6)
Total no. of key messages delivered (%) - Situation 1 and 2	840	191 (22.7)	209 (24.9)	23 (2.7)	417 (49.6)
GROUP II (n=60)					
SITUATION 3 (n=60): <i>Complementary feeding counselling for mother of infant who is going to complete 6-months of age</i>					
• Introduction of complementary food on completion of six months (180 days) in addition to continued breastfeeding		21 (35.0)	17 (28.3)	4 (6.7)	18 (30.0)
• Type of complementary food to be fed		40 (66.7)	1 (1.7)	15 (25.0)	4 (6.7)
• Frequency and amount of complementary food to be fed		2 (3.3)	14 (23.3)	10 (16.7)	34 (56.7)
• Consistency of feed		6 (10.0)	22 (36.7)	7 (11.7)	25 (41.7)
• Dietary diversity with inclusion of food items from different food groups		6 (10.0)	13 (21.7)	0 (0.0)	41 (68.3)
• Incorporation of oil/ <i>ghee</i> to increase energy density of food		7 (11.7)	9 (15.0)	0 (0.0)	44 (73.3)
No. of key messages delivered (%)	360	82 (22.8)	76 (21.1)	36 (10.0)	166 (46.1)
SITUATION 4 (n=60): <i>Counselling 9-month pregnant woman who was unable to feed colostrum to her first child as her mother-in-law had insisted that the milk (first expressed and pale colour) was stored in her breast for 9-months and was stale</i>					
• Benefits of colostrum		57 (95.0)	2 (3.3)	0 (0.0)	1 (1.7)
• Colostrum feeding within one hour of birth		11 (18.3)	3 (5.0)	0 (0.0)	46 (76.7)

• Avoidance of pre-lacteal feeds like honey, <i>ghutti</i> , animal or formula milk, tea, water or glucose water or any other food as these are harmful • Exclusive breast feeding till six months (180 days) of age	No. of key messages delivered (%)	240	10 (16.7) 14 (23.3) 92 (38.3)	11 (18.3) 4 (6.7) 20 (8.3)	0 (0.0) 0 (0.0) 0 (0.0)	39 (65.0) 42 (70.0) 128 (53.4)
Total no. of key messages delivered (%) - Situation 3 and 4		600	174 (29.0)	96 (16.0)	36 (6.0)	294 (49.0)
GROUP III (n=62)						
SITUATION 5 (n=62): <i>Counselling mother of 3-months old infant having diarrhoea</i>	No. of key messages delivered (%)	372	26 (41.9) 2 (3.2) 8 (12.9) 6 (9.7) 5 (8.1) 3 (4.8)	31 (50.0) 24 (38.7) 12 (19.4) 2 (3.2) 4 (6.5) 2 (3.2)	0 (0.0) 22 (35.5) 5 (8.1) 2 (3.2) 2 (3.2) 0 (0.0)	5 (8.1) 14 (22.6) 37 (59.7) 52 (83.9) 51 (82.3) 57 (91.9)
SITUATION 6 (n=62): <i>Complementary feeding counselling for mother of 1-year old infant</i>	No. of key messages delivered (%)	496	50 (13.4)	75 (20.2)	31 (8.3)	216 (58.1)
• Type of complementary food to be fed • Frequency and amount of complementary food to be fed • Incorporation of oil/ <i>ghee</i> to increase energy density of food • Undiluted milk should be given to the infant • Cereals and pulses should be mutually supplemented • GLVs (tender leaves of <i>bathua</i> , <i>palak</i> and <i>chaulai</i>), other vegetables (tomato, pumpkin, carrot, etc.) should be given • Seasonal less fibrous fruits such as banana, papaya, <i>cheeku</i> , mango etc. may be given • Boiled/ cooked egg or meat and fish (in case of non-vegetarians) can be given	No. of key messages delivered (%)	496	48 (77.4) 5 (8.1) 10 (16.1) 2 (3.2) 2 (3.2) 18 (29.0) 17 (27.4) 12 (19.4)	8 (12.9) 17 (27.4) 25 (40.3) 21 (33.9) 11 (17.7) 15 (24.2) 19 (31.7) 5 (8.1)	5 (8.1) 12 (19.4) 0 (0.0) 1 (1.6) 0 (0.0) 0 (0.0) 0 (0.0) 0 (0.0)	1 (1.6) 28 (45.2) 27 (43.5) 38 (61.3) 49 (79.0) 29 (46.8) 26 (41.9) 45 (72.6)
Total no. of key messages delivered (%) - Situation 5 and 6		868	164 (18.9)	196 (22.6)	49 (5.6)	459 (52.9)
OVERALL		2308	529 (22.9)	501 (21.7)	108 (4.7)	1170 (50.7)

A total of six context specific situations were formulated for simulated counselling and each ASHA was assessed for her counselling skills during two situations. Thus, n=60/62 for each situation included in Group I/II/III.

‡ Total no. of key messages to be delivered for each situation during the simulated counselling sessions is equal to the product of the total no. of key messages for the situation and the no. of ASHAs assessed; § A message was considered complete when the entire information pertaining to that message was correctly delivered; ¶ A message was considered incomplete when only part of the information pertaining to that message was correctly delivered i.e. when the complete message was not communicated.