

**Original article**

**Capacity building of student volunteers to influence infants & young child feeding behaviors of urban mothers.**

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**Abstract**

**Background:** The study attempted to build capacities of NSS student volunteers as community mobilizers so as to impart knowledge on the issues related to optimal infant and young child feeding (IYCF) practices over a period of one month (four days/week). Further, they were expected to sequentially improve community participation by involving community change agents (CCAs) who in turn would build their own capacities for IYCF practices.

**Method:** The capacity building of both the mobilizers and the CCA's was done with the help of pre-tested modules. Formative research was done to assess the existing knowledge, attitude and practices of the mothers regarding causes and consequences of malnutrition, feeding and caring practices for children. The Positive deviant children were identified by the CCA's with the help of mobilizers using the "Positive Deviance Inquiry Check list". The positive deviant practices identified in these children were promoted during capacity building sessions of CCA's.

**Results:** The study demonstrated that NSS volunteers could be effectively used to build the capacities of the selected change agents. Capacity building of the change agents showed remarkable improvements not only in their knowledge about healthy feeding and caring of children (5% vs. 90%) but also regarding practices related to healthy feeding and caring (2% vs. 80%). The reinforcement at monthly interval was effective to sustain the motivational levels of change agents. *Conclusion:* NSS volunteers could be mobilized to work in the communities along with CCA's to improve the optimal IYCF practices.

**Key Words:** Community Change Agents (CCA's), Capacity Building, IYCF practices

**Introduction:**

An important correlate of child nutritional status is nutrient intake, which in turn depends on the nature and duration of feeding practices.

Feeding practices are especially critical during the first few days and months of an infant's life, since growth is faster and protection against illnesses and infections is most needed during this crucial period. Ideally, a baby should be put to the mother's breast immediately after birth. However, NFHS-3<sup>1</sup> data indicate that nearly one-half of Indian babies have to wait to be breastfed for more than a day after they are born. This is how the cycle of child malnutrition begins very early in an Indian child's life. The delay in breastfeeding is often related to an incorrect perception that the first breast milk (colostrum) is an inferior food, early termination of exclusive breastfeeding and late and early introduction of complementary and supplementary feeding, mother's perception of not producing sufficient quantities of milk due to their poor nutrition and heavy workload, etc. This clearly suggests that the major burden of child malnutrition occurs in children less than 2 years of age and the major causes being poor IYCF practices. This consequently also reinforces the point that, capacity of the community needs to be built by specially focusing on caring and feeding practices of the mothers and children.

**Methods:**

The study was carried out in 2 AWC's covered by ICDS centers in urban Baroda. Mobilizers (n=10) for the study were community volunteers under the National Service scheme (NSS). The major role of the mobilizers was to build capacities of the selected Community Change Agents viz. mothers of children under 2 years of age, volunteers (n=58) so as to enhance community participation and bring about improvement in the knowledge and practices of mothers of children <2 years of age regarding optimal IYCF practices.

The baseline knowledge of the selected mobilizers and CCAs regarding IYCF practices was assessed with the help of semi-structured pre-tested KAP questionnaire. The capacity building sessions of the mobilizers was conducted 4 days/week for a month. Well

nourished children sharing the same economic and social environment were identified by the CCA's with the help of mobilizers using the "Positive Deviance Inquiry Check list"<sup>2</sup> at baseline.

Positive Deviance (PD) is a development approach that is based on the premise that solutions to community problems already exists within the community<sup>3</sup>. The term "positive deviance" has been defined as "adaptive responses for satisfactory child growth under harsh economic circumstances such as food scarcity, while "negative deviance" is described as "the failure of children to grow satisfactorily, even under good economic conditions". The CCA's were demonstrated how to identify PD practices among their community that led to good nutrition using a pretested checklist that was prepared by the mobilizers.

The checklist was prepared by mobilizers with the help of the investigator. It was prepared keeping in mind the positive feeding, caring and health seeking behaviors of the mother's viz. checking the practices of mothers of well nourished children against the undernourished children and finding the reasons of undernourishment. The identified PD practices were used for promotion during the capacity building sessions of the CCA's.

The following PD practices were identified by CCA's:

Good feeding practices

Initiation of breastfeeding within one hour

- Colostrum given
- Complementary foods given 4-5 times a day
- Good caring practices
- Active feeding
- Hand washing before and after feeding
- Good body hygiene
- Good health seeking practices
- Seeking treatment of the sick child at health center
- Giving ORS when child gets diarrhoea
- Child fully immunized
- Child taken for growth monitoring every month at AWC

Capacity building sessions of the CCA's was conducted for 2 days by the mobilizers and reinforcement of the capacity building sessions was done every month. This was continued for a period of four months. The impact of capacity building intervention of the mobilizers and CCA's was assessed by studying the

improvements, if any on the KAP scores of the CCA's. Semi-structured questionnaire and observation method were used to assess positive changes in feeding practices of the mothers after the period of four months.

**Results:**

**Efficacy of involving students as community mobilizers :**

Knowledge of mobilizers regarding various nutrition and health terms and practices was almost nil at the baseline. viz. definition of LBW baby, IYCF practices (viz. exclusive breast feeding till 6 months, time of initiation of complementary foods, quantity and frequency of complementary foods), importance of increase in weight gain during pregnancy and its effects on birth outcome, early registration of pregnancy, antenatal care and its components, PD concept and identification of PD practices. Knowledge of the mobilizers improved significantly (100%) for all the messages after the capacity building sessions, which suggested that capacities of the mobilizers were built to forward the same messages to the change agents.

**Efficacy of capacity building of the community change agents by the mobilizers**

The demographic profile of the two anganwadi centers selected showed that the total number of households were 400 having a population of 95 mothers of children under two years of age; 23 pregnant and 35 lactating women, of which a total of 58 mothers were selected and motivated to act as CCA's.

Drawing and dialogue was conducted to explore the various perceptions of the mothers with respect to healthy diet and malnutrition. Need for food was reported by, majority (70%) "we get strength" followed by 65% who reported "we should eat to fill our stomach" while 55% responded as "we should eat to keep body health". Perceptions regarding a balanced diet showed that 75% of them could draw dal, rice, roti, vegetables in a plate. However when asked about what should be included in a child's diet, 65% of mothers could only answer milk, khichdi, etc. There was a lack of mention of fruits and vegetables. "Not eating food" was the most common (80%) perception of the CCA's regarding the cause of malnutrition. Other perceptions with regards to causes of malnutrition included diseases/illnesses. According to most of the mothers, most common (73%) sign of malnutrition was "child cannot eat much", followed by "child falls ill

frequently” (63%) and “child cries a lot” (57%).

**Impact of Capacity Building of CCA’s by the mobilizers on knowledge regarding optimal IYCF:**

Remarkable improvements in the knowledge of CCA’s were observed post intervention. At baseline majority (58.3%) of CCA’s lacked the knowledge regarding definition of Low Birth Weight baby which increased to 70 % after capacity building.

Table 1: Change in Knowledge of Mothers Regarding Breast Feeding Practices

Sr. No.	Response	Percent Response		χ <sup>2</sup> Value
		Pre	Post	
1.	<b>Initiation of breast feeding</b>			<b>30.12</b>
	Soon after delivery	15.03% (9)	86.8% (52)	
	Within 2 hours of delivery	31.7% (19)	11.69% (7)	
	After 2 days	5.01% (3)	1.67% (1)	
	After 1 week	-	-	
2.	<b>Ideal food for the child after birth</b>			<b>22.45</b>
	Honey	63.4% (38)	25.0% (15)	
	Janam Ghutti	-	-	
	Mother’s milk	15.03% (9)	65.1% (39)	
	Other liquids (eg.: Sugar water, Jaggery water)	21.7% (13)	10.02% (6)	
3.	<b>Duration of exclusive breast feeding</b>			<b>56.51</b>
	4 Months	95.1% (57)	25.0% (15)	
	6 Months	5.01% (3)	75.2% (45)	
	1 Year	-	-	
4.	Including water before 6 months	78.5% (47)	45.1% (27)	
5.	<b>Conditions in which water is fed before 6 months</b>			<b>19.14</b>
	Diarrhoea	50.1% (30)	-	
	Summer	25.0% (15)	15.03% (9)	
	Fever	5.01% (3)	-	
	Thirst	20.0% (12)	-	

\* Figures in ( ) indicates number of subjects

At baseline knowledge regarding the breastfeeding was sub optimal which changed drastically post intervention (Table I). Similar picture was seen with regards to baseline knowledge regarding complementary feeding which also changed positively post intervention (Table 2).

**Immunization**

Knowledge about the felt needs of the mothers for immunization was good at baseline (96%) which remained so after intervention. However considerable improvement in the knowledge regarding various vaccines was observed. Majority of them knew about all the vaccines including Vitamin-A supplementation which

only 35% of mothers knew at the baseline vs. 82% post intervention.

**Table 2: Change in Knowledge of Mothers Regarding Complementary Feeding and Introduction of Family Food**

Sr. No.	Response	Percent Response		χ <sup>2</sup> Value
		Pre	Post	
1.	<b>Actual age of introduction of complementary foods</b>			<b>43.79</b>
	4 Months	68.47% (41)	1.67% (1)	
	6 Months	11.69% (7)	93.52% (56)	
	7 Months	16.7% (10)	5.01% (3)	
	8 Months	3.34% (2)	-	
	10 Months	-	-	
2.	<b>Amount (Quantity) of Complementary food to be started at 6 months</b>			<b>24.62</b>
	½ Katori	85.17% (51)	90.18% (54)	
	1 Katori	11.69% (7)	5.01% (3)	
	2 Katori	3.34% (2)	5.01% (3)	
3.	<b>Frequency of feed</b>			<b>34.19</b>
	2 Times	80.16% (48)	5.01% (3)	
	3 Times	13.36% (8)	6.68% (4)	
	4 Times	6.68% (4)	86.64% (52)	
4.	<b>Types of foods given</b>			<b>54.31</b>
	Dal Water	11.69% (7)	1.67% (1)	
	Mashed Dal, Rice, Roti, Vegetable	5.01% (3)	83.5% (50)	
	Khichadi	63.46% (38)	10.02% (6)	
	Other	20.04% (12)	5.01% (3)	
5.	<b>Age of introduction of family diet</b>			<b>45.35</b>
	9 Months	90.18% (54)	1.67% (1)	
	1 Year	5.01% (3)	88.51% (53)	
	1½ Year	1.67% (1)	5.01% (3)	
	2 Years	1.67% (1)	3.34% (2)	
6.	<b>Amount of food 1-2 year old should eat</b>			<b>43.63</b>
	½ amount of mothers diet	15.03% (9)	85.17% (51)	
	¼ amount of mothers diet	10.02% (6)	10.02% (6)	
	No idea	30.06% (18)	-	
	Others	45.09% (27)	5.01% (3)	

\* Figures in ( ) indicates number of subjects

**Health Seeking Practices**

Impact of Capacity Building of CCA’s by the mobilizers on Practices related to optimal IYCF. At baseline the practices documented using a questionnaire and observed regarding breastfeeding and complementary feeding was poor ranging from 5% to 35%. However remarkable improvements in knowledge about all these important key issues of complementary

feeding practices was observed post intervention which ranged from 77 to 94% (Table 3).

At baseline surrounding cleanliness was observed only in the houses of 12 % of the mothers. But after having known the impact of unhealthy surroundings on the health of the child more attention was paid by the mothers to cleanliness of surroundings (85%). Personal hygiene practices improved such as regular bath to the child (11% vs. 80%); hand washing of the mother and the child before and after eating/feeding (16% vs. 87%). The use of sun sterilized utensils for feeding the child was also observed (17% vs. 96%)

**Table 3: Change in Practices of Mothers after Capacity Building**

Sr. No.	Practice	Percent Response		X <sup>2</sup> value
		Pre	Post	
1.	<b>Breast Feeding</b>			-
	Introduction of breast milk soon after birth (normal delivery)	25% (1)	75% (3)	
	Introduction of breast milk after 1 hour (caesarian)	-	25% (1)	
	Colostrum fed	25% (1)	100% (4)	
	Breastfeeding during illness	80% (47)	98% (54)	
	Exclusive breast feeding for 6 months	24% (5)	58% (30)	
2.	<b>Complementary Feeding</b>			67.13
	Introducing complementary food at 6 months	10% (5)	86% (45)	
	Continuation of breast milk along with complementary food after 6 months	35% (18)	86% (45)	
	Giving semi solid mushy foods from all food groups	5% (2)	94% (49)	
	Increase frequency of complimentary foods with age	15% (8)	92% (48)	
	Active feeding	15% (8)	77% (40)	

\* Figures in ( ) indicates number of subjects

**Discussion:**

To tackle the problem of malnutrition, many programs have been initiated by the government of India. ICDS is the first largest program which has been implemented to combat malnutrition, since 1975. In spite of it being a direct nutrition and health intervention program in the world for children and pregnant, lactating women, the rates of malnutrition are still alarmingly high. Evaluation of the program has revealed deficiencies in many areas such as poor utilization of services in the age group of less than three years, lack of community

participation, unsatisfactory referral services and improper growth monitoring and promotion.

Change is possible, if community involvement and ownership is increased and the capacities of the community members to identify, analyze and act to combat malnutrition in their communities is built. A successful capacity building initiative was undertaken by Vietnam by adopting the concept of “Positive Deviance”. Positive Deviance (PD) is based on the hypothesis that solutions to the community’s problems requiring social and behavioral change can be identified within the community by identifying those individuals who already exhibit the desired behaviour<sup>3</sup>.

In order to decline malnutrition rates substantially in children, exclusive breast feeding and proper complementary feeding practices must be emphasized. The World Health Assembly and the UNICEF Executive Board unanimously endorsed the Global Strategy for Infant and Young Child Feeding in 2002 that aims to revitalize world attention to feeding practices that have an impact on the nutritional status, growth, development, health and thus the very survival of infants and young children<sup>4</sup>.

The present study demonstrated remarkable improvements in knowledge and practices of mothers regarding infant feeding practices after capacity building intervention. The capacity building intervention was successful in increasing the knowledge of mothers regarding healthy feeding and caring practices (5% vs. 90%).

Significant changes in infant and young child feeding and caring practices (2% vs. 80%) of the mothers was also observed after intervention. In the present study knowledge of exclusive breast feeding for 6 months was uncommon (5%). Similarly, NFHS-2 (2000)<sup>5</sup> also reported that in Gujarat only 41.2% of children were exclusively breast fed till six months, while NFHS-3 (2005)<sup>1</sup> the number increased to 46%. Another study conducted by Parkar (2001) in urban Baroda also demonstrated that the practice of exclusive breast feeding was uncommon (15%)<sup>6</sup>.

Early introduction of complementary feeds (at 4 months) was observed at baseline which supports the results of earlier study conducted in urban slums of Baroda. However, earlier studies conducted in Baroda also revealed that more than one – third of slum dwelling women perceived that the child should be weaned at one year, as they believed that child should be

weaned to solid foods only when they start teething<sup>7</sup>.

The data also demonstrated that capacity building of the NSS volunteers who could be used as mobilizers was a useful strategy and these mobilizers could disseminate the key messages in the community quite effectively and in turn their own capacities on nutrition and health related issues were also built. The capacity building of the change agents in the community can lead to positive gains in knowledge and has the potential to influence behavioral change in the community and improve nutritional status of the vulnerable groups in the long run.

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