



Original article

Knowledge of Mothers regarding Breastfeeding related Problems in Peri urban Area of Aligarh: A Behaviour Change Communication Intervention Study

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ABSTRACT

Background: Breastfeeding is simply the cheapest and healthiest way to feed a baby and is one of the oldest practices, recommended in the ancient Hindu scriptures, Holy Quran and Biblical records. **Materials & Methods:** The present community based intervention study was conducted in the field practice area of the Urban Health Training Centre (UHTC), Department of Community Medicine, Jawaharlal Nehru Medical College, Aligarh Muslim University, Aligarh, Uttar Pradesh, India. Purposive sampling i.e. nonrandom sampling to include subjects that serve the specific purpose was used. Two hundred pregnant women were chosen for the study. The study was carried out from one year. Data were analyzed with Epi Info version 3.5.1. Percentages, and Chi Square Test used. The present study was carried out with the following aims and objectives: 1. To assess the knowledge of pregnant women regarding breastfeeding during AIDS, TB, mild illness, cracked nipple and breast engorgement. 2. Implementation and assessing impact of Behaviour Change Communication (BCC) Package among pregnant women regarding breastfeeding during AIDS, TB, mild illness, cracked nipple and breast engorgement. **Results:** Due to BCC Package implementation, there was significant difference between two groups regarding correct knowledge of continuation of breastfeeding in AIDS, TB and mild illness and correct knowledge of cause of cracked nipples i.e. incorrect attachment and frequent washing of breast were significantly increased in intervention group. Correct knowledge of management of breast engorgement at home increased in intervention group due to BCC package as compared to non-intervention group that was statistically significant i.e. continuing breastfeeding, express breast milk and local warm water packs increased on 7th day of follow up survey and remained maintained on 28th day of delivery.

Conclusion: There was a significant impact of BCC package (RR>1.00, p-value<0.050) on knowledge of mothers regarding breastfeeding related problem.

KEYWORDS: Cracked nipples, breast engorgement, express breast milk, warm water packs.

INTRODUCTION

The human species is the only one among mammals in which breastfeeding and weaning are not governed only by instinct. Therefore, breastfeeding and weaning have to be learned. Currently, especially in modern societies, women have few opportunities to learn something about breastfeeding because their traditional sources of learning more experienced women in the family were lost as extended families were replaced by nuclear families. Consequently, women become mothers with little or no ability to breastfeed, which makes them more vulnerable to difficulties during the process. Health professionals play a crucial role in the prevention and management of such difficulties, but to do that, they need specific knowledge, attitudes and skills [1].

Breastfeeding confers short-term and long-term benefits on both child and mother, including helping to protect children against a variety of acute and chronic disorders. The review of studies from developing countries shows that infants who are not breastfed are 6–10 times more likely to die in the first few months of life than infants who are breastfed. Diarrhea and pneumonia are more common and more severe in children who are artificially fed, and are responsible for many of these deaths [2].

The present study was carried out with the implementation of behaviour change communication package to improve neonatal health and to assess the impact of these interventions on knowledge and practices of mothers regarding breastfeeding related diseases and management of breastfeeding related problem at home, with the following aims and objectives: 1. To assess the knowledge of pregnant women regarding breastfeeding during AIDS, TB, mild illness, cracked nipple and breast engorgement. 2. Implementation and assessing impact of Behaviour Change Communication Package among pregnant women regarding breastfeeding during AIDS, TB, mild illness, cracked nipple and breast engorgement.

MATERIALS AND METHODS

The present community based intervention study entitled “Knowledge of Mothers regarding

Breastfeeding related Problems in Peri urban Area of Aligarh: A Behaviour Change Communication Intervention Study” was conducted in the field practice area of the Urban Health Training Centre (UHTC), Department of Community Medicine, Jawaharlal Nehru Medical College, Aligarh Muslim University, Aligarh, Uttar Pradesh, India. The UHTC of the Department of Community Medicine is located 2 Kms away from the medical college on the Qila road. The area is basically a peri-urban area situated on the outskirts of the city. The study subjects were residents of four registered areas of the UHTC. UHTC caters a total population of 11199 at the start of the study. There were four areas, i.e. Firdaus Nagar, Nagla Qila, Patwari ka Nagla, and Shahanshabad under UHTC. Out of these 4 areas, 2 areas (Firdaus Nagar, Nagla Qila) were chosen for intervention group and the other 2 areas (Patwari ka Nagla, Shahanshabad) served as non-intervention group. The population in this area was relatively stable and allowed for follow up visits. Approval for study was passed from the institutional board of study meeting (28.08.2008, item no. 5). Purposive sampling i.e. nonrandom sampling to include subjects that serve the specific purpose was used. Two hundred pregnant women (100 pregnant women from each intervention and non-intervention groups) as observed from the previous records were chosen for the study. The study was carried out from one year i.e. from September 2008 to August 2009 which included the development of study tools, collection of data, analysis, tabulation of findings, and interpretation of results.

Exclusion criteria were primigravida, high-risk pregnant women, pregnant women who opted to deliver outside Aligarh. Ethical considerations were local cultural values and ideas, were respected. Confidentiality was assured. All pregnant women were approached individually and an informed consent was taken before collecting data. All primigravida in intervention group were also informed about the messages of

BCC packages, though they were excluded from the study. Proper management or referral was given to women who were found to have any health problem. The study was conducted in three phases.

Phase I. Baseline collection of data

A house to house visit was made to get the information about pregnant women till 200 pregnant women were enrolled in the study. Data were collected by using pre-designed and pre-tested semi structured questionnaire. It included information regarding identification, socioeconomic status, correct knowledge regarding continuation of breastfeeding in AIDS, TB and mild illness and correct knowledge of management breast engorgement (Continue breast milk, Express breast milk, Local warm water packs) and causes of cracked nipples (incorrect attachment, frequent washing of breast)

Phase II. Intervention phase (only in intervention group)

BCC [3] package was designed focusing on changing the knowledge and adverse behaviour of pregnant women regarding breastfeeding in AIDS, TB and mild illness and management breast engorgement (Continue breast milk, Express breast milk, Local warm water packs) and causes of cracked nipples (incorrect attachment, frequent washing of breast). Mothers known to be HIV-infected should exclusively breastfeed their infants for the first 6 months of life, introducing appropriate complementary foods thereafter, and continue breastfeeding for the first 12 months of life [4]. Continue breast-feeding of neonates regardless of the mother's TB status [5]. Mild illness is not a contraindication of breastfeeding. Once breast engorgement is established, the following measures are recommended: manually express some milk

before breastfeeding, breastfeed on demand on a regular basis; apply warm compresses to help the ejection of the milk. Preventive measures for cracked nipple include: use a proper breastfeeding technique; keep the nipples dry by exposing them to air or sunlight, avoid products that remove the natural protection of nipples, such as soaps, alcohol or any drying agent. The information in this package was given to every individual pregnant woman of the intervention group in the 9th month of gestation and self designed pamphlets containing simple messages in local languages (Hindi, Urdu) were distributed to all pregnant women. For those who could not read, their literate family members were asked to read for them. All the information about behaviour change communication package was given explaining why messages were important for them.

Phase III. Follow-up

After the first week: All mothers who delivered were contacted after one week of delivery. Data were collected about breastfeeding related problem and its management. **After 28th day:** Information regarding breastfeeding related problem and its management was collected.

Data Entry and Statistical Analysis: Data entry and statistical analysis were carried out using Epi Info version 3.5.1. Epi Info is a series of freely distributable programs for use by public health professionals in conducting outbreak investigations, general database and statistics applications. Significant difference was determined using Chi-square test or Fisher's exact test. Intervention and non-intervention were also compared after 7th and 28th of delivery days. The impact of behaviour change communication was assessed using relative risk and difference was accepted significant at more than 95% (p value <0.05). P value was calculated using chi-square test.

RESULTS

Majority of pregnant women were in the age group of 15-30 years. Most of the pregnant women were Muslim. 72% of pregnant women were illiterate, 18 % were educated up to high school and only 7% were educated above high school. Education of husbands of pregnant women was also low i.e. 54% illiterate. Majority of the families (64.5%) were nuclear. 99% pregnant

women were housewives. Most pregnant women (75%) had more than one live issue. 48.5% pregnant women were belonged to upper lower class according to Modified Kuppuswami Scale [6] of socio-economic status. There was no significant difference (p-value>0.05) between the two groups regarding socio-economic status (Table 1).

Table : Demographic profile of pregnant women

Variables	Non-intervention group	Intervention group
	N=100	N=100
Age group		
15-30	86	80
31-45	14	20
$\chi^2=1.3, df=1, p\text{-value}>0.05$		
Religion		
Hindu	02	17
Muslim	98	83
$\chi^2=13.08, df=1, p\text{-value}<0.05$		
Education of pregnant women		
Illiterate	78	72
Up to high school	16	20
Above high school	06	08
$\chi^2=0.97, df=2, p\text{-value}>0.05$		
Education of husband		
Illiterate	59	49
Up to high school	37	41
Above high school	04	10
$\chi^2=3.70, df=2, p\text{-value}>0.05$		
Occupation of pregnant women		
Housewife	100	98
Unskilled	00	02
Occupation of husband		
Unemployed	58	55
Semiskilled	25	24
Skilled	09	12
Clerical/shop	08	09
$\chi^2=0.59, df=3, p\text{-value}>0.05$		
Type of family		
Nuclear	67	62
Joint	33	38
$\chi^2=0.54, df=1, p\text{-value}>0.05$		
Social class		
Upper	00	02
Upper middle	14	16
Lower middle	30	35
Upper lower	51	46
Lower	05	01
$\chi^2=5.79, df=4, p\text{-value}>0.05$		

Knowledge of Pregnant women before BCC: It was revealed that majority of mothers (59%) in intervention and (63%) in non-intervention had correct knowledge that mild illness was not contraindication of breastfeeding. Correct knowledge regarding continuation of breastfeeding in AIDS and TB was low in both groups. There were few mothers in intervention

and non-intervention groups who had correct knowledge of breastfeeding related problems (incorrect attachment, frequent washing of breast) as a cause of cracked nipples. There was no significant differences (p -value>0.05) between two groups regarding correct knowledge of breastfeeding related problem (**Table2**).

Table 2: Correct knowledge regarding breastfeeding related problem

Variables		Non-intervention group	Intervention group
		N=100	N=100
Continue breastfeeding in AIDS	Yes	07	09
	No	93	91
	$\chi^2=0.27, df=1, p\text{-value} >0.05$		
Continue breastfeeding in TB	Yes	10	11
	No	90	89
	$\chi^2=0.05, df=1, p\text{-value} >0.05$		
Continue breastfeeding in Mild illness	Yes	63	59
	No	37	41
	$\chi^2=0.34, df=1, p\text{-value} >0.05$		
Cracked nipple occurs due to			
Incorrect attachment	Yes	06	07
	No	94	93
	$\chi^2=0.08, df=1, p\text{-value} >0.05$		
Frequent washing of breast	Yes	05	06
	No	95	94
	$\chi^2=0.10, df=1, p\text{-value} >0.05$		

Majority of mothers (82%) in intervention and (63%) in non-intervention had correct knowledge that continuing breastfeeding relieved breast engorgement. Breast engorgement was relieved by local warm water packs applied on breast of lactating mothers i.e. (55%) in intervention and (62%) in non-intervention group. 41% mothers in

intervention and 37% mothers in non-intervention had correct knowledge that breast engorgement was relieved by express breast milk. No significant differences (p -value>0.05) were found between two groups regarding correct knowledge about management of breastfeeding related problems at home in study group (**Table 3**).

Table 3: Correct knowledge about management of breastfeeding related problems at home in study groups

Variables	Non-intervention group		Intervention group	
	N=100		N=100	
Breast engorgement				
Continue breast milk	Yes	77	82	
	No	23	18	
	$\chi^2=0.77, df=1, p\text{-value}>0.05$			
Express breast milk	Yes	37	41	
	No	63	59	
	$\chi^2=0.34, df=1, p\text{-value}>0.05$			
Local warm water packs	Yes	62	55	
	No	38	45	
	$\chi^2=1.01, df=1, p\text{-value}>0.05$			

Knowledge of Pregnant women After BCC:

Due to behaviour change communication package implementation, there were significant difference (P – value <0.05) between two groups about correct knowledge of continuation of breastfeeding in AIDS (RR=7.0, P – value < 0.05), TB (RR=3.2, p– value < 0.05) and mild illness (RR=1.46, p– value < 0.05) on 7th day of

follow up and remain maintained on 28th day of delivery. Correct knowledge of causes of cracked nipples i.e. incorrect attachment (RR=10.0, p– value < 0.05) and frequent washing (RR=11.0, p– value < 0.05) of breast were significantly increased in intervention group on 7th day of follow up survey and remained maintained on 28th day of delivery (Table 4).

Table 4: Correct knowledge about breastfeeding related problems (On 7th and 28th day of delivery follow up survey)

Variables	Non-intervention group		Intervention group (BCC package given)	
	N=100		N=100	
Continue breastfeeding in AIDS				
For 7 days	Yes	04	28	
	No	96	72	
	RR=7.0, P – value < 0.05			
For 28 days	Yes	04	27	
	No	96	73	
	RR=6.75, P – value < 0.05			

Continue breastfeeding in TB			
For 7 days	Yes	10	32
	No	90	68
	RR=3.2, p- value < 0.05		
For 28 days	Yes	10	32
	No	90	68
	RR=3.2, p- value < 0.05		
Continue breastfeeding in Mild illness			
For 7 days	Yes	59	86
	No	41	14
	RR=1.46, p- value < 0.05		
For 28 days	Yes	61	86
	No	39	14
	RR=1.41, p- value < 0.05		
Cracked nipple occurs due to			
Incorrect attachment			
For 7 days	Yes	02	20
	No	98	80
	RR=10.0, p- value < 0.05		
For 28 days	Yes	02	18
	No	98	82
	RR=9.0, p- value < 0.05		
Frequent washing of breast			
For 7 days	Yes	02	22
	No	98	78
	RR=11.0, p- value < 0.05		
For 28 days	Yes	02	22
	No	98	78
	RR=11.0, p- value < 0.05		

Knowledge of management of breast engorgement at home increased in intervention group due to BCC package as compared to non-intervention group. There was statistically significant difference (P-value <0.05) in correct knowledge about management of breast related problems i.e.

continuing breastfeeding (RR=1.24, p- value < 0.05) express breast milk (RR=2.41, p- value < 0.05) and local warm water packs (RR=1.67, p- value < 0.05) on 7th day of follow up survey and remained maintained on 28th day of delivery (**Table 5**).

**Table 5: Correct knowledge about management of breastfeeding related problems at home
(On 7th and 28th day of delivery-follow up survey)**

Breastfeeding problem	Non-intervention group		Intervention group (BCC package given)
	N=100		N=100
Management of breast engorgement at home			
Continue breastfeeding			
For 7 days	Yes	74	92
	No	26	08
	RR=1.24, p- value < 0.05		
For 28 days	Yes	75	92
	No	25	08
	RR=1.22, p- value < 0.05		
Express breast milk			
For 7 days	Yes	39	94
	No	61	06
	RR=2.41, p- value < 0.05		
For 28 days	Yes	39	92
	No	61	08
	RR=2.35, p- value < 0.05		
Local warm water packs			
For 7 days	Yes	56	94
	No	44	06
	RR=1.67, p- value < 0.05		
For 28 days	Yes	55	92
	No	45	08
	RR=1.67, p- value < 0.05		

DISCUSSION

Due to implementation of BCC Package there was significant difference between the two groups regarding correct knowledge of continuation of breastfeeding in AIDS, TB and mild illness and correct knowledge of cause of cracked nipples i.e. incorrect attachment and frequent washing of breast were significantly increased in intervention group. Correct knowledge of management of breast engorgement at home increased in intervention group due to BCC package as compared to non-intervention group that was

statistically significant i.e. continuing breastfeeding, express breast milk and local warm water packs increased on 7th day of follow up survey and remained maintained on 28th day of delivery. Even though an ill child is frequently less hungry, continued feeding will protect him or her from severe weight loss and malnutrition and help the child to recover from the illness. Continued breastfeeding will shorten the duration of diarrhea and help to prevent dehydration and growth faltering. Effective breastfeeding is a function of the proper positioning of mother and

baby and attachment of child to the mother's breast [7]. Studies conducted in North India reveal that there was “good attachment” in 42% mother-infant pairs and infants were held in “correct position” by 60% mothers [8]. A study in Bangladesh reported that correct breastfeeding position (74%) and good attachment (72.3%) as assessed by CHWs at late visits (67 days after delivery) were practiced by mothers [9]. An effective sucking technique is considered important to establish breastfeeding, to ensure milk transfer, and to prevent breastfeeding problems [7, 10-12]. In a study from Shivgarh, Uttar Pradesh by Kumar et al reported improvements in breastfeeding in intervention arms [13].

CONCLUSION

There was a significant impact of BCC package on the behaviour of pregnant women regarding breastfeeding related diseases and management of breastfeeding related problem at home, BCC Package can be applied through health workers in the community to improve breastfeeding practices and breastfeeding related problems that can decrease the morbidity and mortality among infants. There is an urgent need to educate mothers and train health care providers including ANM, ASHA and CMC workers etc. on breastfeeding related diseases and management of breastfeeding related problem at home

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CONFLICT OF INTEREST None to declare

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