

Effect of behaviour change communication on breastfeeding practices in periurban area of Aligarh

Khan MH¹, Khaliq N², Siddiqui AR³, Amir A⁴, Ahmad A⁵, Shah MS⁶, Khan R⁷

¹Senior Resident, ²Professor, ^{3,4}Associate Professor, ^{5,6}Assistant Professor

Department of Community Medicine, Jawaharlal Nehru Medical College (JNMC), ⁷Assistant Professor, Department of Community Dentistry, Aligarh Muslim University (AMU), Aligarh, UP, India.

Abstract:

Objectives: 1. To assess the behavior of pregnant women regarding breastfeeding practices. 2. Assessing impact of Behavior Change Communication Package among pregnant women regarding breastfeeding practices.

Study design: A community based intervention study

Setting: Field practice areas of Urban Health Training Center, Department of Community Medicine, JNMCH, AMU, Aligarh.

Participants: 200 pregnant women (100 pregnant women from each intervention and non-intervention group)

Sampling: Purposive sampling method.

Statistical Analysis: Data analysed with Epi Info version 3.5.1. Percentages, Relative Risk and Chi Square Test used.

Results: Due to implementation of BCC Package in intervention, good practices like giving colostrum were increased two times. Initiation of breastfeeding within 1 hour was increased 4.7 times, exclusive breastfeeding was gone up 3.8 times for first seven days of delivery. There was significant difference (P-value <0.05) between the two groups regarding breastfeeding on 7th day of delivery. The differences were significant (P-value <0.05) on 7th and 28th days of delivery.

Conclusion: Good practices of breastfeeding within one hour, using colostrum, exclusive breastfeeding were improved significantly after implementation of behavior change communication package.

Keywords: Behavior Change Communication, Breastfeeding, Colostrum.

Introduction:

Breastfeeding is the fundamental right of child. The initiation of breastfeeding and the timely introduction of adequate safe and appropriate complementary foods in conjunction with continued breastfeeding are of prime importance for the growth, development, health and nutrition of infant and children¹. This will require a renewed and intensified scale up of evidence-based interventions and programs focused on preventing deaths of newborns. A recent analysis of the evidence base for efficacy (i.e. impact under ideal conditions) and effectiveness (i.e. impact within a health system) of interventions, and their cost-effectiveness, suggested that feasible, cost-effective interventions exist that could prevent roughly two-thirds of all neonatal deaths². 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 practices, with the following aims and objectives: 1. To assess the behaviour of pregnant women regarding breastfeeding practices. 2. Implementation and assessing impact of Behaviour Change

Communication Package among pregnant women regarding breastfeeding practices.

Material & methods:

The present community based intervention study entitled "Impact of Behaviour Change Communication On Breastfeeding Practices In Periurban Area Of Aligarh" was conducted in the field practice area of the Urban Health Training Centre, Department of Community Medicine, Jawaharlal Nehru Medical College, Aligarh Muslim University, Aligarh, Uttar Pradesh. The Urban Health Training Center (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 subjects included in the study were residents of four registered areas of the urban health training center. Urban Health Training Centre 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 randomly for intervention group and the other 2 areas

Address for Correspondence:

Dr. Mohd. Haroon Khan,
Senior Resident, E-5 Abdullah Apartment, College road Civil line Aligarh, (UP) India.
Email: drharoonkhan99@yahoo.com

(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. Purposive sampling i.e. nonrandom sampling to include subjects that serve the specific purpose was used. Two hundreds pregnant women (100 pregnant women from each intervention and non-intervention groups) with expected date of delivery between October 2008 to July 2009 as observed from the previous records were chosen for the study.

Exclusion criteria for intervention and non-intervention groups were primigravida, high-risk pregnant women, pregnant women who opted to deliver outside Aligarh. Ethical considerations are local cultural values and ideas were respected. Confidentiality was assured. All pregnant women in the intervention and non-intervention areas were approached individually and an informed consent was taken before collecting data. All primigravida in intervention block were also informed about the messages of intervention packages, though they were excluded from the study. Proper management or referral was given to women who were found to have any health problem.

A house to house visit was made to get the information about pregnant women till 200 pregnant women (100 each from intervention and non-intervention groups) were enrolled in the study (purposive sampling). The data were collected by using pre-designed and pre-tested semi structured questionnaire. Socioeconomic status was assessed using Modified Kuppaswami Scale for urban population.

The study was conducted in three phases in intervention as well as non-intervention groups.

Phase I. Baseline collection of data of pregnant women about breastfeeding practices.

Phase II. Intervention phase (only in Intervention group) Behavior change communication (BCC) package was designed focusing on changing the adverse behavior of pregnant women regarding breastfeeding practices. It included information regarding identification, socioeconomic status, breastfeeding practices ie Initiation of breastfeeding within 1 hour of birth. Colostrum should be given. No pre-lacteal feed should be given. Exclusive breastfeeding should be done for 6 months. The baby should be put on the shoulder after feeds to facilitate burping. 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.

Phase III. Post intervention phase.

After first week: During phase III all mothers in intervention areas who delivered were contacted after one week of delivery. Data were collected about good and harmful breastfeeding practices.

After 28th day: Information regarding breastfeeding was collected.

Data entry and statistical analysis was carried out using Epi Info version 3.5.1. Significant difference was determined using Chi-square test. Intervention and non-intervention groups were also compared after 7th and 28th of delivery days. The impact of BCC was assessed using relative risk and difference was accepted significant at more than 95% (p value <0.05).

Results:

Socio-demographic Characteristics: In majority of study subjects (80%) in intervention group and 86% in non-intervention group were in the age group of 15-30 years. Most of the pregnant women in intervention group (83%) and (98%) in non-intervention were Muslim and rest of them belonged to Hindu community in either group. In intervention group, 72% of pregnant women were illiterate. 78% pregnant women were illiterate in non-intervention group. 46% pregnant women in intervention and 51% pregnant women in non-intervention group belonged to upper lower class according to Modified Kuppaswami Scale³ of socioeconomic status. There was no significant difference (p-value >0.05) between the two groups (Table 1).

Prevailing breastfeeding practices before BCC intervention: In the present study, initiation of breastfeeding within 1 hour was done in 17% of babies. Colostrum was given by 39%. 19% had been exclusively breastfed. Pre-lacteal feeds were given in 81% and pacifiers in 75% babies in non-intervention group. Initiation of breastfeeding within 1 hour was done in 15% of babies in intervention, colostrum was given by 43% and 21% babies had been exclusively breastfed. Pre-lacteal feeds were given in 79% and pacifiers in 70% babies in intervention group. There was no significant difference (p-value >0.05) between the two groups (Table 2).

Table1 : 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-value->0.05		
Religion		
Hindu	02	17
Muslim	98	83
$\chi^2=13.08$, df=1, p-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-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-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-value>0.05		
Type of family		
Nuclear	67	62
Joint	33	38
$\chi^2=0.54$, df=1, p-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-value>0.05		

Table 2: Breastfeeding practices before BCC intervention

Variables		Non-intervention group	Intervention group
		N=100	N=100
Breastfeeding initiation within 1 hr	Yes	17	15
	No	83	85
	$\chi^2=1.49, df=1, p\text{-value} >0.05$		
Colostrum given	Yes	39	43
	No	61	57
	$\chi^2=0.33, df=1, p\text{-value} >0.05$		
Exclusive Breastfeeding	Yes	19	21
	No	81	79
	$\chi^2=0.13, df=1, p\text{-value} >0.05$		
Prelacteal feeds given	Yes	81	79
	No	19	21
	$\chi^2=0.12, df=1, p\text{-value} >0.05$		
Pacifiers given	Yes	75	70
	No	25	30
	$\chi^2=0.62, df=1, p\text{-value} >0.05$		

Table 3: Breastfeeding practices after BCC intervention (On 7th and 28th day of delivery-follow up survey).

Variables		Non-intervention	Intervention group
		N=100	N=100
Breastfeeding initiation within 1 hr- seven days	Yes	10	47
	No	90	53
	RR=4.7, p-value <0.05		
Colostrums given within seven days	Yes	39	90
	No	61	10
	RR=2.3, p-value <0.05		
Exclusive breastfeeding			
For 7 days	Yes	15	58
	No	85	42
	RR=3.86, p-value <0.05		
For 28 days	Yes	10	52
	No	90	48
	RR=5.20, p-value < 0.05		
Prelacteals feed given			
For 7 days	No	17	66
	Yes	83	34
	RR=3.88, P-value <0.05		
Pacifiers given			
For 7 days	No	83	88
	Yes	17	12
	RR=1.01, P-value >0.05		
For 28 days	No	46	73
	Yes	54	27
	RR=1.58, P-value <0.05		

Effect of BCC Intervention (On 7th & 28th day of delivery-follow up survey): Initiation of breastfeeding within 1 hour was done in 10% of babies. Colostrum was given by 39% mothers. 15% babies were exclusively breastfed for first 7 days of delivery whereas 10% babies had exclusively breastfeeding up to 28 days of delivery in non-intervention group. Due to implementation of BCC Package Initiation of breastfeeding within 1 hour was increased 4.7 times, colostrum was increased two times, and exclusive breastfeeding was gone up 3.8 times. Practices of prelacteals were reduced, use of pacifier was reduced significantly (P-value <0.05) in intervention group (Table 3).

Discussion:

Due to implementation of BCC Package there was significant difference between the two groups regarding to good breastfeeding practices (Initiation of breastfeeding within 1 hour, colostrums, exclusive breastfeeding on 7th days of delivery. The differences were significant (P-value <0.05) on 7th and 28th days of delivery. Harmful Practices like prelacteals, and use of pacifier were reduced significantly in intervention group up to twenty eight days and become significant with comparison on seventh day of delivery. Other studies like Prasad and Costello⁴ reported that breastfeeding was started within 24 hours of birth by 29% of control mothers, 84% in the early follow up and 59% in the late follow up groups. Lutter et al⁵ revealed in his study that exposure to breastfeeding activities was universally high at the program hospital and universally low at the control hospital. Haider et al⁶ reported that peer counseling significantly improved breastfeeding practices. Mothers in the intervention group were less likely to give prelacteals and postlacteals foods. In a study from Shivgarh, Uttar Pradesh by Kumar et al⁷ reported improvements in breastfeeding in intervention arms.

Conclusion:

It was concluded that late Initiation of breastfeeding, rejection of colostrums, and use of prelactel feed and pacifiers, declined trend of exclusive breastfeeding were prevalent among peri-urban area of Aligarh. There was a significant impact of behaviour change communication package on the behaviour of pregnant women regarding breastfeeding practices. Although there was significant improvement in knowledge of mothers regarding breastfeeding practices some breastfeeding practices had not changed due to some strong cultural beliefs and influence of mother in-law and elderly females of the family.

Behaviour Change Communication Package can be applied through health workers in the community to improve breastfeeding practices 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 practices.

References:

1. Kulkarni M, Anjenaya, Gujar R. Breastfeeding practices in an urban community of Kalamboli, Navi Mumbai. *Indian Journal of Community Medicine.* 2004; 29(4): 179-180.
2. Darmstadt GL, Bhutta ZA, Cousens et al. Evidence based, cost-effective interventions: how many newborn babies can we save? *The Lancet.* 2005; 365: 977-988.
3. Meher R, Jain A, Sabharwal A et al. Deep neck abscess: a prospective study of 54 cases. *The Journal of laryngology & Otology.* 2005; 119: 299-302.
4. Prasad B, Costello MDL. Impact and sustainability of a "baby friendly" health education intervention at a district hospital in Bihar, India. *BMJ.* 1995; 310: 621-623.
5. Lutter CK, Perez-Escamilla R, Segall A et al .The effectiveness of a hospital based program to promote exclusive breast-feeding among low-income women in Brazil. *American Journal of Public Health.* 1997; 87(4): 659-663.
6. Haider R, Kabir I, Fuchs GJ et al. Neonatal diarrhoea in a diarrhoea treatment center in Bangladesh, clinical presentation, breastfeeding management and outcome. *Indian Pediatr.* 2000; 37: 37-43.
7. Kumar V, Mohanty S, Kumar A et al. Effect of community-based behaviour change management on neonatal mortality in Shivgarh, Uttar Pradesh, India: A Cluster-Randomised Controlled Trial. *The Lancet.* 2008; 372: 1151-1162.