Determinants of Exclusive Breastfeeding among Mothers in Rawalpindi: A Cross Sectional Study

Sara Bashir Kant¹, Humaira Mahmood², Masood ur Rehman³,
Misha Anis⁴, Assad Hafeez⁵

¹Assistant professor,
Department of Community
Medicine, Azad Jammu
and Kashmir Medical
College, Muzaffarabad

² Assistant professor,
Department of Community
Medicine, AFGMI
Rawalpindi, National
University of Medical
sciences (NUMS)

³Fellow Surgical Oncology,
Shaukat Khanum Memorial
Hospital Lahore

⁴ Resident Histopathology,
PIMS, Islamabad

⁵Vice Chancellor, Health
Services Academy,
Islamabad

Corresponding Author:

Sara Bashir Kant
Email:
drsaranisar@gmail.com

Abstract

Background: Exclusive Breast Feeding is one of the most cost effective and simple ways to ensure child health and survival and is the single most instrumental intervention that leads to decreased child mortality and morbidity. This study was done to determine the frequency of exclusive breast feeding among mothers in rural Rawalpindi and to determine the frequency of factors affecting exclusive breast feeding among mothers in rural Rawalpindi.

Methods: It was a descriptive cross- sectional study, conducted in 6 months in Union Council Mandra, from November 2014 to April 2015. A sample size of 245 was selected through non-probability consecutive sampling. Data was collected on a structured questionnaire from mothers visiting the RHC Mandra facility after taking informed consent. Data was analyzed in the statistical software SPSS 10.

Results: The frequency of Exclusive Breast Feeding (EBF) determined in the study was 52.2%. 29% mothers had primary level education, 52.7% had deliveries in the public hospitals and 46.5% were house wives. The birth order, age of the child, number of antenatal visits, birth wt. and mode of delivery ($p < 0.05$) were significantly associated with EBF. The association of mother's and father's education level, monthly income, birth interval and mother's occupation with EBF were not statistically significant ($p > 0.05$).

Conclusion: Health education by health professionals during antenatal period to initiate and maintain exclusive breast feeding should be strengthened by focusing more on the nutritional aspects of the newborn babies and its benefits in the later life.

Keywords: Exclusive breast feeding; determinants; child health

Introduction

Exclusive Breast Feeding is one of the most simple and cost effective way to ensure healthy child survival.(1)and is the single most instrumental intervention that leads to

decreased child mortality and morbidity.(2) The World Health Organization recommends exclusive breast feeding for up to 6 months of life that is followed by complementary foods for up to two years of age.(3,4)Every year about 800,000 child lives can be saved if breast feeding is started within an hour of

birth and is continued up to two years of life. Globally, less than 40% of infants under six months of age are exclusively breastfed.(5) Exclusive breastfeeding has been proved as an essential practice to ensure child health and development and is also beneficial for mother's health.(6) Data from developing countries shows that the prevalence of EBF has increased from 33% in 1995 to 39% in 2010. The prevalence of EBF has increased in almost all regions in the developing world, and a major improvement was seen in West and Central Africa where the prevalence has been doubled from 12% to 28%, while less improvements were observed in South Asia where the increase was from 40% in 1995 to 45% in 2010(7). It has been reported from Eastern Mediterranean Regional Office (EMRO) of WHO that there is greater than 60% rate of early breast feeding initiation with almost 60 % of mothers continuing breast feeding up to twelve months but rate of Exclusive Breast Feeding for under six months of infants is only 40 % or less.(8) It is seen that there is lack of exclusive breast feeding as well as other unsafe practices like pre lacteal feeds and discarding colostrum, in Pakistan.(9) Exclusive breast feeding for the first 6 months of life remains essential, and provides critical protection to infants from infections in the environments lacking safe water supply and sanitation.(10) Proportion of children under age 6 months who are exclusively breast fed was 38% according to PDHS 2006-07, has remained unchanged in the past 6 years and is still 38%. IYCF strategy 2008 aimed to increase the prevalence of EBF to 55% but this couldn't be achieved.(11) This study was done to determine the frequency of exclusive breast feeding among mothers in rural Rawalpindi and to determine the frequency of factors affecting exclusive breast feeding among mothers in rural Rawalpindi.

Methodology

It was a descriptive Cross-sectional study, conducted in Union Council Mandra, outskirts of Rawalpindi. RHC Mandra is a rural health center situated in the rural area of District Rawalpindi. It was completed in 6 months duration, from November 2014 to April 2015. A Sample of 245 breast feeding mothers was calculated using WHO's statistical sample size calculator with desired confidence interval of 95 %, prevalence of 6%(5) of women who delivered by c-section in

study from Ghana and absolute precision taken was 3%. Sampling technique used was Non-Probability Consecutive Sampling. All mothers having children under 2 years of age visiting the RHC facility were selected. Mothers who were suffering from chronic diseases that are barrier to breast feeding, and mothers of children with congenital anomalies which prevent breast feeding e.g. Clift-lip and cleft-palate were excluded from the study. Before starting the study, permission from ethical committee of Health Services Academy, Islamabad was taken. Data were collected through pre tested questionnaire, developed after extensive literature search, in Urdu language and validated by a Pediatrician and a Gynecologist. After taking informed consent of mothers, data was collected from the mothers by the principal researcher through interview. The questionnaire included socio demographic, antenatal and natal variables. Data were analyzed in the statistical software SPSS 10. Qualitative variables as gender of baby, mother's education, mode of delivery, place of delivery, birth order and antenatal visits were measured as frequencies and percentages. For quantitative variables as age of mother, age of baby, birth interval and number of antenatal visits, mean and standard deviation were calculated. Effect modifiers like age of mother, age of baby, birth order, birth interval, education, monthly income, occupation and whether living in joint family, were controlled by stratification. Post stratification chi-square test was applied. Level of significance taken was $p \leq 0.05$.

Results

The frequency of Exclusive Breast Feeding among the study participants was 128 out of 245 (52.2%). Table no:1 shows the socio-demographic characteristics of the mothers. 36 (14.7%) mothers were uneducated and 71 mothers i.e. 29%, had primary education. 167 (68.2%) females had undergone normal vaginal deliveries and 78 (31.8%) had delivered babies by c-section. 167 mothers (68.2%) were having monthly income between Rs. 5000 to Rs. 20,000 per month. 9 (3.7%) mothers had monthly income less than Rs. 5000 and 69 (28.2%) had monthly income above Rs. 20,000. 198 children (81%) had birth weight between 2.5 to 3.5Kg.

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Table 1. Socio demographic characteristics of the respondents (n=245)

Variable		Frequency (n)	Percentage %
Exclusive breast feeding		128	52.2
Mother's education	Uneducated	36	14.7
	Primary	71	29.0
	Middle	43	17.6
	Matric	61	24.9
	others	34	13.9
Antenatal checkups	Yes	230	93.9
	No	15	6.1
Mode of delivery	Normal delivery	167	68.2
	c-section	78	31.8
Place of delivery	Public hospital	129	52.7
	Home	30	12.2
	Private clinic	86	35.1
Child sex	Male	124	50.6
	Female	121	49.4
Birth order	First	80	32.7
	Second	82	33.5
	Third	49	20
	More than three	34	13.9

Age of mother and child, number of antenatal visits and birth interval are shown in table no:2 with their mean and standard deviations:

Table 2. Mean and Standard deviation of quantitative variables (n=245)

Variable	Frequency (n)	Mean	Standard deviation
Age of mother	245	26.68 years	4.92518 years
Age of child	245	10.76 months	6.29542 months
Birth interval	245	20.06 months	19.573 months
Antenatal visits	245	3.8571 times	1.4315 times

Association of EBF with age of mother(p=0.506), mother's education (p=0.213), father's education(p=0.415), child gender(p=0.956) was not statistically significant. Statistically significant results

are shown in table no:3 with variables and their respective p-values:

Table 3. Statistically significant variables and their p-values

Variable	Categories	Exclusive breast feeding		Chi-square test p-value (p≤0.05)
		Yes	No	
Age of child	0-6 months	44	27	0.02
	7-12 months	45	54	
	13-18 months	36	26	
	19-24 months	3	10	
Birth order	First	50	30	0.043
	Second	34	48	
	Third	24	25	
	more than three	20	14	
Birth weight	Don't know	9	19	0.04
	less than 2.5 kg	2	3	
	2.5-3.5 kg	113	87	
	More than 3.5 kg	4	8	
No. of antenatal visits	Zero	9	6	0.001
	One	1	2	
	Two	6	12	
	Three	21	35	
	Four	26	33	
	More than four	65	29	
Mode of delivery	Normal delivery	95	72	0.03
	C-section	33	45	

Association of EBF with age of baby showed statistically significant result with p=0.02. The relationship between birth order and EBF was statistically significant i.e. p=0.04. Association of EBF with mode of delivery and number of antenatal checkups show statistically significant result with p=0.03 and p=0.001 respectively. The women who had normal deliveries showed increase frequency of EBF. p=0.04 shows statistically significant association of birth weight with frequency of EBF.

Discussion

Breast feeding is a universal phenomenon and is common in almost all cultures of the world. There is universal awareness of the benefits of breast feeding

for both mother and the baby.(12)Pakistan is one of the signatories of International Code on Marketing of Breast milk substitutes but unfortunately, the prevalence of exclusive breast feeding in Pakistan remains the same since the last decade i.e. 38%.(10) The frequency of exclusive breast feeding found in this study was 52.2%. This was higher as compared to 33% and 40% determined from studies in Islamabad and Karachi. (13,14) This might be because of difference in the socio demographic characteristics of the study participants. In this study, there were 50.6% male children and 49.4% female children. These findings are to extent similar with the findings from study in rural area of Bangladesh where there were 48.8% female and 51.2% male children. (15) There was non-significant association of gender of baby and exclusive breast feeding. This is in contrast to the findings from study in Nigeria which showed female babies were more likely to be breast fed than male babies. (16) The frequency of mother's education showed that 14.7% mothers had no education and most of the mothers i.e.29% had primary level education. These findings are consistent with the findings from PDHS 2012-13 which also shows higher percent of primary education in women of rural areas of Punjab. (17) In a community based cross sectional survey in North West Ethiopia, there was significant association of mother's education with frequency of exclusive breast feeding. (18) But in this study, statistically non-significant result with $p=0.213$ was observed. This was supported by finding from study done in Iran.(19) Normal deliveries were significantly associated with the increase in frequency of exclusive breast feeding ($p=0.012$). This significant association of mode of delivery and EBF was also seen in study by Joshi PC *et al* in Bangladesh in 2014 and as well as in study done in Lebanon in 2013. (20,15)The relationship between birth order and EBF was statistically significant i.e. $p=0.046$.This finding is consistent with results of study in Sri Lanka(15)Mean age of children in the study was 10.76 months with SD $\pm$ 6.295. There was statistically significant association of EBF with age of child($p=0.02$). This significant association was also seen in studies done in Ethiopia, Nigeria and Kenya. (21,22,16,23)93.9% participants had antenatal checkups in this study. Mean number of antenatal visits was 3.85 visits. The p-value obtained for the association of number of antenatal visits and EBF was $p= 0.001$. In Cochrane data base systematic review, it is suggested

that antenatal education of breast feeding increases breast feeding duration.(24)

Conclusion

Health education by health professionals during antenatal period to initiate and maintain exclusive breast feeding should be strengthened by focusing more on the nutritional aspects of the newborn babies and its benefits in the later life

Recommendations

Health education by health professionals during antenatal period to initiate and maintain exclusive breast feeding should be strengthened by focusing more on the nutritional aspects of the newborn babies and its benefits in the later life. Government health services should emphasize on regular trainings of the staff on breast feeding especially the staff working in maternity wards and antenatal clinics so that they can help in timely initiation of breast feeding of mothers and also to help mothers if they are having problems regarding initiation as well as maintenance of breast feeding. Mothers should be encouraged by community health workers at their homes to practice exclusive breast feeding up to six months and to continue breast feeding along with complementary foods up to two years.

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