Original Article

Determinants of exclusive breastfeeding in Pakistan: An examination of the 2012-2013 Demographic and Health Survey

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Objective: To identify the determinants factors of exclusive breast feeding (EBF) in Pakistan.
Methodology: The analysis included 451 children using the data from Pakistan Demographic and Health Survey 2013. Multilevel logistic regression was used to highlight the determinants factors of EBF for infant under six months.
Results: During pregnancy, ≥4 antenatal visits had significant effect on EBF. Mothers living in Balochistan significantly influenced infant EBF and de facto place of residence in large cities had significant effect on EBF. Women in age group 20-34 effected EBF; likewise poorer and richest wealth index was associated with EBF.
Conclusion: Pakistan is inextricably linked with EBF determinants. There is need for intervention for national EBF in all level (individual, household and community) to target health improvement in children. Health care providers and policymakers should increase nutritional counselling in mothers or caregivers. (Rawal Med J 202;45:172-175).
Keywords: Pakistan, Demographic and Health Survey, exclusive breastfeeding, determinants, infant.

INTRODUCTION

Exclusive breast feeding (EBF) stated as administering breast milk only, while no other fluids or liquids or foods.[1] WHO recommended EBF for first six months of child life to attain optimal health, development and growth.[2] EBF advantages and risk of mortality and morbidity connected with children suboptimal feeding practices are well known.[3-7] According to the Pakistan Demographic and Health Survey (PDHS) 2012-2013, rate of non-exclusive breastfeeding is 67% and EBF is 38% only. These results show clearly that women can be encouraged for EBF.

To understand the reason of low EBF in Southeast Asia, number of studies have investigated several barriers that influence the ability and willingness of mothers for EBF to their child. Numerous cultural practices as give additional liquids or foods including sugar, honey, mustard oil and water immediately after child birth contributed for lower EBF rate.[8] In this study, secondary data analysis of PDHS 2013 aimed to the evaluate the individual, household and community level factors responsible for EBF.

METHODOLOGY

This cross-sectional data came from third PDHS 2012-2013, which was carried out under the supervision of National Institution of Population Studies (NIPS). Survey was conducted to collect data at household level and 12943 households were interviewed. All married women age 12-49 years were eligible to response for the questionnaire in four provinces of Pakistan. In this study, dependent variable is EBF that was treated as continuous variable. Dependent variable EBF is measure in two stages, firstly, mothers were asked that their child was breastfed (yes, no). Secondly, mothers were asked whether they give any other food/liquid or not. Mothers who were EBF were coded as 1 and who did not breast feed and who breastfed but also give any other food coded as 0.

Explanatory variable was categorized into individual, household and community level determinants. Individual level characteristic include as sex of child (male and female), birth order (1, 2-4, 5& above), age of mother (14-19, 20-34 and 35-49), husband education (nil, primary and secondary), birth in past year (no and yes), sex of household head (male and female), no of antenatal visits during pregnancy (1, 2-3 and 4 & above), de facto place of residence (small and large cities), place of delivery (home and hospital), delivery by cesarean section (yes and no), de jure type (urban and rural) and mother employment (yes, no).

Household level variable includeded as wealth index (poorer, poorer, middle, richer and richest). Community level indicator were residence (urban, rural) and region (Punjab, Sindh, Khyber PakhtunKhwa, Balochistan, Gilgat-Baltistan and Islamabad).

Statistical analysis: Data analysis was carried out using SPSS version 24. Determinants independent effect between EBF assessed by applied multiple logistic regression. Determinant factors association with EBF is reported by using odd ratios 95% confidence intervals. Significant level was P<0.01.

RESULTS

The majority (83.2%) of women did not have delivery by Cesarean section. One fourth of the mothers (20.6%) had no antenatal visits during pregnancy. Of the total births, 38.6% were delivered at home. Male and female children from different age group were almost equally respondents of the sample. About 93.3% male were household heads and 15.7% of the fathers were not educated. About 55.4% child were lived to rural area and majority 78.7% of the respondents were belong small cities (Table 1).

Table 1 Individual, household and community level determinants of child's 0-6 months.(451); secondary data analysis.

Variables		n	%	Variables		n	%
No. of Antenatal Visits During Pregnancy	None	93	20.6		Total	451	100.0
	1-3	163	36.1	Age of Mother	14-19	35	7.8
	4 & Above	195	43.2		20-34	361	80.0
	Total	451	100.0		35-49	55	12.2
Sex of Child	Female	227	50.3		Total	451	100.0
	Male	224	49.7	De Facto Place of Residence	Small Cities	355	78.7
	Total	451	100.0		Large Cities	96	21.3
Region	Punjab	137	30.38		Total	451	100.0
	Sindh	101	22.39	Ethnicity	English	38	8.43
	KPK	80	17.74		Punjabi	98	21.73
	Balochistan	63	13.97		Sindhi	45	9.98
	GB	45	9.98		Blochi	31	6.87
	Islamabad	25	5.54		Pashto	90	19.96
	Total	451	100.0		Other	149	33.04
EBF	No	286	63.4		Total	451	100.0
	Yes	165	36.6				

Table 2. Rates exclusive breast-feeding by individual, household and community-level characteristics; secondary analysis.

		Std. Error	Sig. (2-tailed)	90% Confidence Interval	
				Lower	Upper
Antenatal Visits 4≥	-.613	.411	.108	-1.277	.081
Region Baluchistan	-1.068	.700	.089	-2.310	-.058
De Facto place of Residence Large	-.678	.393	.059	-1.365	-.109
Ethnicity balochistan	-1.958	6.220	.014	-20.740	-.639
Ethnicity Pashto	1.013	.655	.094	.015	2.223
Age women 35-49	-1.173	.702	.061	-2.387	-.035
Wealth Index poorer	.687	.411	.076	.070	1.396
Wealth index richest	1.239	.547	.013	.476	2.256

Mothers who had 1-3 antenatal visits during pregnancy (95% CI=-.759 to .418, P>.01) had no significant effect on EBF. The mothers who had ≥ 4 antenatal visits during pregnancy (95% CI = -1.277 to.081, P>.05) had marginally significant rather than no antenatal visits during pregnancy. There was insignificant effect of male infant on EBF than female infant. Punjab, Sindh, KPK, Gilgat Balkistan were insignificantly associated with EBF than Baluchistan (90% CI= -2.310 to -.058, P<.01). Mothers who belonged to Baluchistan were significantly affected EBF. Child birth order 2-4 and 5≤ insignificant for EBF. De facto residence in large city (90% CI= -1.365 to -.109, P<.05) significantly

affected EBF (Table 2).
Punjabi and Sindhi insignificantly effected EBF than Pashto (90% CI=.015 to 2.223, P<.01) and Balochi (90% CI=20.740 to -.639, P<.01). Sex of household head insignificantly effected EBF. Women age group 20-34 significantly not associated with EBF. Women age group 35-49 (90% CI= -2.387 to -.035, P<.05) significantly affected child EBF. Husband education significantly not associated EBF. Wealth index middle and richer significantly not associated with EBF than poorer wealth index (90% CI= .070 to 1.396, P<.01) and richest (90% CI= .476 to .2.265, P<.01) significant associated with child EBF.

DISCUSSION

EBF in early childhood is essential immediate nutrition for the child long-term health and its benefits have proven in the life's first year.[9] We found prevalence of EBF in 2012-3013 was 36.6% which is significantly lower than recommended WHO/ United Nations Children's Fund universal level of EBF less than six months' children.[10,11] A similar Bangladesh study has reported low prevalence of EBF in 0-6 months' infants of 35%.[12]
Among the individual, household and community-level characteristics (child and mother) considered in this study, the wealth quintile, mother age, residence and ethnicity showed significant association with EBF. Mothers from poorest and richest wealth quintile were relatively negatively associated with EBF, respectively (90% CI= .070 to 1.396, P<.01) and (90% CI= .476 to .2.265, P<.01). However, children from the poorest households were less likely to be EBF compared to children from middle-level. Mother from poorer socioeconomic class were significantly less associated with child EBF.[13] A local study from Pakistan reported that richest wealth quintiles as risk factors for determinants of child feeding practices.[14]
We found that Pashto and Balochi ethnicity also effected significantly EBF. Mothers affiliation with ethnic group was found that influence the exclusive breastfeeding practice. Other similar studies from Nigeria and Ghana reported similar findings.[15-17]
Mothers age (35-49) were significantly associated with EBF. However, a study from Brazil stated that statistically maternal age (36 years and older) was associated with breastfeeding.[18] Some other studies found negative factor of EBF association with maternal age of ≥35.[19,20]
These results indicate that the health services support programs for EBF is weak in all levels, individual, household and community level. To enhance EBF rate, there were no breast feeding promotional activities and nutritional mediations and continuation within six months with proper complementary breastfeeding. Influencing determinants of EBF in Pakistan need to be addressed. Further, promotion programs for EBF should be given special care and attention by government to those mothers who are not practicing breastfeeding. This study indicates the necessity of health promotion for EBF both mothers and infant. New mothers should target for EBF importance. Previous researches recommend a strong impact of in laws and mother's parents on infant rearing and caring practices.[21]

CONCLUSION

In Pakistan EBF rates are lowest. To improve EBF practices, government must wakeup for child related health programs. There is a need to deliver national programs for EBF interventions at all levels of health-care infrastructure and increase health care providers for nutritional counselling. To improve EBF rate, there is need for friendly laws and effective implementation in Pakistan.

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