SOCIO-DEMOGRAPHIC FACTORS RESPONSIBLE FOR NON-EXCLUSIVE BREAST FEEDING IN CHILDREN 0-6 MONTHS VISITING CHILDREN HOSPITAL PIMS ISLAMABAD

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ABSTRACT

Objective: To determine the frequency of socio-demographic factors responsible for non-exclusive breastfeeding in children visiting Children Hospital, PIMS, Islamabad.

Study design: Cross sectional study

Place and duration: This study was carried out at the Lactation Clinic, Accident and Emergency Department, and Outpatient Department of the Children Hospital, PIMS Islamabad. The total duration of the study was six months and eleven days. The enrolment of patients was done from 15-11-2013 to 14-10-2014.

Methods: A total of 353 infants were included. Information about socio-demographic factors were obtained from mothers and recorded on the Proforma specially designed for the current study.

Results: The mean (SD) age of all infants was 3.9 (± 1.5). The median age was 3.1 months. A substantial majority of infants, 52.1% were aged between 2 and 4 months. 58.9% infants were males and 40.5% mothers were less than 25 years of age. Out of 353 infants, 61.8% were residence of urban area, 35.1% mothers were illiterate ,71.1% mothers were house wives and 28.9% fathers were illiterate. 24.6% fathers were government servants and 53.0% infants belonged to poor class. A substantial majority, 58.1% mothers had no ANC visits and a substantial majority, 60.1% mothers had no PNC visit. 62.3% mothers had delivery assisted by TBA and 56.4% mothers had delivery at home. 71.1% mothers perceived that they had insufficient milk and 77.1% mothers had not received breastfeeding counselling during ANC visit and 87.3% mothers breasts were not examined during ANC visit.

Conclusions: To conclude, our study shows that frequency of non-exclusive breastfeeding was higher among male infants 2-4 months old having mothers younger than 25 years , residing in urban areas having illiterate parents and belong to poor socioeconomic class. A detailed strategy should be made to provide awareness about breastfeeding and its benefits to all women during pregnancy, at delivery and soon after delivery.

Key words: socio-demographic factors, non-exclusive breastfeeding, infants, , mothers

INTRODUCTION

According to the convention on the Right of a Child, every infant has the right to good nutrition.[1] National development is mainly indicated by nutritional well-being of its population. Development, health and survival of a nation and its future generations mainly depends on nutrition.[2] Breast milk is reported to be the best nutrition for babies.[2] Evidance shows that exclusive breastfeeding is the optimal way of feeding infants for the first 6 months of life.[3] According to WHO about 35% of the children worldwide are exclusively breastfed. About 33% and 41% of the infants are breastfed exclusively in sub-saharan Africa and Zimbabwe respectively[4]. These rates are low compared to the recommended 90%[5]. Exclusive breastfeeding for the first six months is beneficial for mother and child both. Breast milk provides nutrients ,prevent allergies and decreases risk of infection in children ,while in mothers it decreases weight, contraction of uterus , delayed return to fertility and its affordability compared to infant formula[6]. Breast feeding also promotes bonding for both the mother and child[7,8]. Non-exclusive breast feeding in the first six months of life, results in 1.4 million deaths and increase of disease burden in children less than 5 years[9]. Growth ,health and development of infants and young children depends on optimal infant and young child feeding (IYCF) practices.[10,11] Almost one-fifth of overall under-five mortality can be prevented if about 90% infants are covered with optimal IYCF practices[12]. The rate of exclusive breastfeeding are lowest in Pakistan as compared to other South Asian countries[13]. Exclusive breastfeeding is associated with maternal

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working status, as non-working mothers (39.1%) are more likely to exclusively breastfeed ,however there was no difference found in exclusive breastfeeding practices in women from urban (35.7%) and rural (37.7%) areas and in maternal age categories as revealed by Pakistan demographic and health survey report (2006-07)[13]. Recently a study from Pakistan showed that the perception of mothers of having insufficient milk, working mothers, mothers with chronic diseases, children with congenital or acquired diseases, mothers having next pregnancy, mother death and twin babies were responsible for non-mother feeding[14]. Similarly, Dhandapany and colleagues reported that exclusive breastfeeding was practiced by 78% of the mothers who received antenatal counselling compared to 22% mothers who did not receive antenatal counselling[15].

The current study would determine the frequency of socio-demographic factors responsible for non-exclusive breastfeeding locally. The findings would provide necessary information to the paediatricians, public health professionals and child health programs in Pakistan regarding most prevalent factors leading to non-exclusive breastfeeding, which thus may help in reducing morbidity and mortality associated with non-exclusive breastfeeding.Our objective is to determine the frequency of socio-demographic factors responsible for non-exclusive breastfeeding in children visiting the outpatient department of The Children Hospital, PIMS, Islamabad.

MATHODOLOGY

This Cross sectional study was carried out at the Lactation Clinic, Accident and Emergency Department, and Outpatient Department of the Children Hospital, PIMS, and Islamabad. All children visiting the Children Hospital, PIMS and who were fulfilling the inclusion criteria were included in the current study. The total duration of the study was six months and eleven days from 15-11-2013 to 14-10-2014.The sample size was calculated by using the WHO sample size calculator and total sample size was 353 , Non-probability consecutive sampling technique was used to select children. Both male and female babies having age less than 6 months, Non-exclusive breastfed, and whose parents gave informed consent were included in the study.Children with chronic illness like congenital heart disease, congenital chromosomal anomalies, surgical problems, and chronic renal and pulmonary illnesses - diagnosed on history, Mother with chronic illnesses like heart disease, chronic renal and pulmonary diseases, chronic viral infections like HIV, hepatitis B, C - diagnosed on history, and those whose parents did not give consent were excluded. Data was collected through a structured Proforma especially designed for this study. Permission was taken from the Hospital Ethics Committee before the commencement of the study. Consent in the form of informed verbal consent was taken from all the patients before the enrolment.Each child was allotted a serial number , Demographic features, such as name, age and gender was asked and noted. Baseline information of child and respondent was asked and noted. Data was collected from respondents regarding the practice of exclusive breastfeeding on the basis of a 24 hour recall. The information regarding socio-demographic factors of each respondent was noted included maternal age, maternal and paternal education, mother's working status, father's occupation, family income/ socio-economic class, residential area, milk sufficiency, access to health facility and antenatal clinic (ANC) and postnatal clinic (PNC) visits.

The study outcome was assessed in terms of frequency of socio-demographic factors responsible for non-exclusive breastfeeding practices and significant factors were identified. All this information was collected and noted on the Proforma.

DATA ANALYSIS

Data was entered and analysed by using SPSS version 20 software. Data was analysed and presented according to the type of the variable. In this regard, for contiguous variables like child's age, maternal age, mean with standard deviation, median and range (minimum and maximum) was calculated and reported. On the other hand, for categorical variables like gender, exclusive breastfeeding status, residence, mother's education, maternal working status, father's education, father's occupation, family income per month, ANC visits, mode of delivery, place of delivery, mother's perception of milk quality, breastfeeding counselling during ANC and examination of breast during ANC, frequencies and percentages were calculated and reported.

RESULTS

During the study period a total of 353 infants were enrolled. The age distribution of all the enrolled infants is presented in Table 1. 58.9% infants were males, 41.1% infants were females. The male to female ratio was 1.43: 1,40.5% mothers were less than 25 years of age,33.7% mothers were 25 to 35 years of age, while 25.8% mothers were elder than 35 years of age. 61.8% were resident of urban areas, while 38.2% were living in rural areas .35% mothers were illiterate while 19.0% mothers attained education up to primary level (class 5th) ,16% mothers attained education up to middle (class 8th) whereas 13% had education up to matric (class 10th) and 16% mothers had education up to intermediate and above,71.1% mothers were house wives whereas 28.9% mothers were working mothers. 29% fathers were illiterate, while 9% fathers attained education up to primary level (class 5th), Another 19% fathers attained education up to middle (class 8th), whereas 26% had education up to matric (class 10th) and 17% fathers had education up to intermediate and above.24.6% fathers were government servants, 24.1% had private jobs, 14.4% fathers had their own business

while 28.0% fathers were working on daily wages/ labourers and 8.8% fathers were jobless. A substantial majority of infants, 53.0% belonged to poor class, while 21.2% belonged to upper class. Remaining 17.6% belonged to upper middle class while 8.2% belonged to lower middle class.

Number of ANC and PNC visits and type of delivery assistance during the last pregnancy is shown in table 2. 56.4% mothers had delivery at home,17.6% had delivery at government hospital while 26.1% had delivery at private hospital. Mothers perception of milk quantity ,breast feeding counselling during ANC visit and examination of breast feeding during ANC visit is shown in Table 3.

Table 1: Distribution of age among all the enrolled infants (n=353)

Age (in months)	Number	Percentage
Mean	3.9	
Standard deviation	±1.5	
Median	3.1	
Range (min - max)	(0.0 - 6.0)	
Age categories		
0-2 months	70	19.9%
2-4 months	184	52.1%
4-6 months	99	28.0%

Table 2: Distribution of number of ANC, PNC visits, delivery conducted by among all the enrolled infants (n=353)

No. of ANC visits	Number	Percentage
None	205	58.1%
1-2 visits	54	15.3%
3 and more visits	94	26.6%
No. of PNC visits		
None	212	60.1%
1-2 visits	96	27.2%
3 and more visits	45	12.7%
Delivery conducted by		
TBA	220	62.3%
Doctor	56	15.9%
Dai	77	21.8%

Table 3: Distribution of mother's perception of milk quantity, breastfeeding counselling and examination of breast during ANC among all the enrolled infants (n=353)

Mother's percention of milk quantity	Number	Percentage
Insufficient	251	71.1%
Sufficient	102	28.9%
Breastfeeding counselling during ANC		
Yes	81	22.9%
No	272	77.1%
Examination of breast during ANC		
Yes	45	12.7%
No	308	87.3%

DISCUSSION

Breast milk is the best 'natural' way to feed infants. Although Natural Breastfeeding is superior to infant formula milk in many ways, despite of that infant formula milk has been actively promoted as product equivalent to breast milk. Relationship between breastfeeding and health is difficult to obtain, because it would be unethical to conduct randomised controlled trials of infant feeding methods. However evidences from well-designed cohort and case control studies demonstrated a positive relationship between dose and response, which have contributed to a sound evidence base. In less developed countries breast feeding is responsible for more health benifits particularly decreasing risk of infectious gastrointestinal disease, have long been recognised, however the benefits in developed countries, like Australia, are less accepted[16].

Several socio-demographic factors are associated with non-exclusively breastfeeding practices in developing as well as developed countries. In the current study, we enrolled 353 non-exclusively breastfed infant presenting at the Children Hospital, PIMS, Islamabad. A recently published secondary analysis from Pakistan using a nationally representative data (DHS 2006-07) by Hazir et al[17] reported the rate of exclusive breastfeeding among infants below six months of age as 37.1%. Further they investigated the socio-demographic factors associated with non-exclusive breastfeeding practices in Pakistan. They found that a significantly higher proportion of non-exclusively breastfed infants were those whose mothers were working (73.7%), their mothers had education secondary and above (64.0%), their maternal age less than 19 years (65.5%), they were females (65.0%), their aged was more than 4 months (73.9%), their mothers were delivered at hospitals (63.5%), their deliveries were conducted by TBA (67.0%), their mothers had 4 or more ANC visits (66.6%), their mothers had no PNC visit (69.6%), they belonged to upper social class (71.5%), and they were living in urban areas (64.3%)[17].

Similarly, Patel and colleagues analysed[18] the determinants of non-exclusive breastfeeding in India. The exclusive breastfeeding rate in India was 46.4%.

They found that a significantly higher proportion of non-exclusively breastfed infants were those mothers were working (54.4%), mothers had education secondary and above (56.6%), mothers were younger than 20 years (51.9%), fathers had education secondary and above (59.7%), infants were females (54.1%), infants were elder than 4 months (77.1%), delivered at hospital (56.5%), delivery conducted by health professionals (56.3%), none ANC visit (55.8%), belonged to rich families (65.5%), and living in urban areas (59.6%)[13].

Mihrshahi and co-workers[19] conducted a similar secondary analysis by using the Bangladesh DHS data to evaluate the factors responsible for non-exclusive breastfeeding in Bangladesh. They found that the rate of exclusive breastfeeding in infants younger than 6 months of age was 42.5%. In Bangladesh, the proportion of infants who were not exclusively breastfed was higher in infants whose mothers were working (70.7%), mothers had education secondary or above (60.2%), mothers age more than 35 years (75.5%), illiterate fathers (59.2%), male infants (62.1%), delivered at hospitals (59.2%), deliveries conducted by health professionals (57.2%), seven or more ANC visits (79.9%), belonged to rich family (74.5%) and living in urban areas (65.5%)[19].

In Nepal Pandey et al[20] conducted a secondary analysis of Nepal DHS data and investigated the factors responsible for non-exclusive breastfeeding in infants less than six months. The exclusive breastfeeding rate in Nepal was found as 53.1%. They reported that the proportion of infants who were not exclusively breastfed was higher in those whose mothers were working (57.1%), mothers had attained education up to secondary and above (57.6%), maternal age less than 20 years (51.6%), female infants (51%), delivered at hospital (60.9%), delivered by TBA (64.9%), 1-2 ANC visits (52.9%), belonged to rich families (62.4%), and living in urban areas (54.1%)[20].

Senarath and colleagues[21] conducted analysis of Sri Lankan DHS data in order to evaluate the factors responsible for non-exclusive breastfeeding in Sri Lanka. The reported that the exclusive breastfeeding rate in Sri Lanka was 75.8%. They found that the proportion of infants who were not exclusively breastfed was higher among those whose mothers were working (30.2%), mothers had primary or no education (35.8%), maternal age less than 20 years (34.5%), male infants (24.6%), delivered at private hospitals (37.9%), with 1 - 3 ANC visits (26.8%), with no PNC visit (29.2%), belonged to poor families (34.3%) and living in urban areas (34.0%)[21]

In Nigeria Agho et al[22] conducted the secondary analysis of Nigerian DHS data to determine the factors associated with non-exclusive breastfeeding in infants less than 6 months of age in Nigeria. They found that the exclusive breastfeeding rate in Nigeria was 16.4%. The reported that the proportion of infants who were not exclusively breastfed was higher among infants whose mothers were house wives (85.8%), illiterate mothers (89.0%), mothers elder than 35 years of age (88.5%), illiterate fathers (89.4%), male infants (84.8%), infants aged 3 months and above (89.3%), delivered at home (87.5%), delivery conducted by TBA (87.2%), no ANC visit (94%), belonged to poor families (91.7%) and living in rural communities (85.3%)[22].

Hence, our current study findings and findings from other South East Asian countries with similar culture and health system revealed that there was a higher proportion of infants who were not exclusively breastfed whose mothers were working, younger mothers, with higher education, belong to rich families and living in cities (urban areas). Therefore, government organization as well as non-government organization working in child health should contribute to provide education to those women. Similarly, government should revise its policy for maternal leave and extend it till 6 months after delivery so that working mothers can breastfed their babies.

In order to achieve target of increased rate of exclusive breastfeeding in babies need change of behaviour in mothers and other family members. Profile of mothers who mainly breast feed their babies and those who non-exclusively breastfeed are identical as both occurs mainly in illiterate mothers as shown by demographic and health survey data from Pakistan. As target population for compaign of behaviour change is same so it may be easy to develop public health message to highlight the hazards of giving water and water based liquids before six months. It will significantly increase the rate of exclusive breastfeeding. Similar target has been achieved by programmes in Cambodia[23] where the rates of exclusive breast feeding were increased from 11% to 60% in five years by targeting mothers practising predominant breastfeeding.

CONCLUSIONS

To conclude, our study shows that frequency of non-exclusive breastfeeding was higher among male infants having mothers younger than 25 years, residing in urban areas having illiterate parents and belong to poor socioeconomic class. A detailed strategy should be made to provide awareness about breastfeeding and its benefits to all women during pregnancy, at delivery and soon after delivery.

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