International Journal of Contemporary Pediatrics
Prasad KN et al. Int J Contemp Pediatr. 2015 Aug;2(3):208-212
http://www.ijpediatrics.com
pISSN 2349-3283 | eISSN 2349-3291
DOI: http://dx.doi.org/10.18203/2349-3291.ijcp20150528

Research Article

Community based study on initiation of breast feeding and determining factors in rural area of Pondicherry

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Received: 19 May 2015
Accepted: 20 June 2015

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ABSTRACT

Background: Early neonatal mortality is assumed to be less if the breast feeding is initiated within one hour of birth. There are different practices existing due to cultural and place of delivery in initiating breast feeding. Aim and Objective: To analyse the initiation of breast feeding and related determining factors in the rural area of Pondicherry.
Methods: A cross sectional and community based study was carried out in the rural area among 350 babies aged between 6 to 24 months by interviewing mothers at their doorstep. The data were collected on independent and dependent variables which were identified to influence the initiation of breast feeding. Data was analysed using the SPSS statistical software.
Results: The rate of initiation of breast feeding was observed to be 75% of babies within one hour of birth. Maternal age, her educational level and occupation status as dependent variables, sex of the baby, type of delivery and gestational age at the time of birth as independent variables were observed to be determining factors for initiation of breast feeding.
Conclusions: Universal practice of initiating breast feeding should be adopted in order to save little babies and secondly most productive life in the later part.

Keywords: Initiation, Breast feeding, Rural, Variables, Determining, Delivery

INTRODUCTION

Breast milk is considered as a complete food for newborn irrespective of birth weight, sex, race, genetic conditions and health status of the baby. It fulfills the requirements of calories, protein, fats, trace elements and vitamins in sufficient quantity and proportions to meet the demand of growth potential and neuro muscular development of the baby.

Promotion of breast feeding has made an impact on the health status of babies at the global level since the baby friendly hospital and breast feeding initiative started. There are cultural practices in certain communities to discard the first day breast milk (colostrum) and making babies to deny the nutritional benefit of colostrum. Harmful practices like feeding sugar water, cow's milk, holy water, boiled water, honey etc. are sometimes contaminated with bacteria making babies critically ill or fatal in the first few days of life and unfortunately few babies may succumb to death.[1-3]

Globally the trend of decline in breast feeding to babies was started in early twentieth century among the rich and wealthy people in Europe and developed countries. Later, this trend was shifted to other developing and under developed countries.[4-7] The overall rate of initiation of breast feeding in India is 15.8% and in many countries the rate has been very low.[4,6,8,9]

The initiative of breast feeding immediately after birth is improved due to awareness created in the mass media and electronic media in many countries including India. Initiation of breast feeding is a strong predictor of exclusive breast feeding at later months of age.[4]

This study was carried with an objective to analyse the initiation of breast feeding and associated determining factors in the rural area of Pondicherry.

METHODS

This is a cross sectional and descriptive study done during the period of November 2014 to January 2015 three months in the Pillaichavadi a rural area of Pondicherry, which is also a field practice area of Department of Community Medicine. The questionnaire was pilot tested and relevant data were collected from the mothers of the subjects. The sample size was calculated to 350 babies.

The study was undertaken in two steps in the study area. The persons involved in data collection were trained in interviewing for data collection for two days. In the first step enumeration of study subjects aged less than 24 months and data collection at their door steps by interviewing the mothers or reliable informants in the second step.

The average time spent for data collection was 18 minutes for each subject. The response on initiation of breast feeding was recorded as three categories such as less than 30 minutes, 30 to 60 minutes and more than 60 minutes after birth.

Inclusion criteria: Babies should be aged between 6 to 24 months.

Exclusion criteria: Uncooperative mothers, difficult to recollect the events and inconsistency in the data provided.

Definition criteria for variables

Breast feeding initiative: starting of breast feeding within the first hour of birth.

Preterm baby: Gestational age of the newborn was 28 to 37 weeks

Full term baby: Gestational age of the newborn which is equal or more than 37 weeks

Dependent variables: Maternal age, education and occupation.

Independent variables: Babies gender, gestational age at birth, type of delivery

Statistical analysis

Rate of early initiation of breast feeding and distribution by different independent variables was reported as percentage. Chi square test (X^2) were performed to evaluate the association of the independent variable with the early initiation of breast feeding. A p value <0.05 was considered statistically significant. Statistical analysis was performed by using SPSS version 17.

RESULTS

This study analysed the data of 350 babies aged between 6-24 months. There were 193 and 157 male and female babies respectively. Majority of mothers were aged between 21 and 30 years as shown in Table 1.

Table 1: Distribution of subjects according to their sex and maternal age.

Age group of mother in years	Male Num (%)	Female Num (%)	Total Num (%)
≤20	17 (8.8)	9 (5.7)	26 (7.42)
21-25	96 (49.7)	87 (55.4)	183 (52.3)
26-30	75 (38.9)	56 (35.67)	131 (37.4)
≥ 31	5 (2.5)	5 (3.2)	10 (2.85)
Total	193 (55.1)	157 (44.8)	350 (100)

Table 2 shows the influence of dependent variables on timing of initiation of breast feeding. More than fifty percent of babies were initiated on breast milk within 30 minutes and 24.6% of the mothers initiated breast milk after one hour. Nearly 63 percent of mothers aged between 21 to 25 years initiated breast feeding their babies within 30 minutes of delivery and similar observation was noticed among mothers who were studied till higher secondary schooling. Majority of the mothers were home makers and 56% of them initiated breast feeding within half an hour. The differences in the timing of initiation of breast feeding was statistically significant with mothers age ($p<0.05$).

Table 3 shows influence of independent variables on timing of initiation of breast feeding that 52% and 56% of male and female babies were initiated on breast feeding within half an hour of birth. Most of babies born by vaginal delivery (67%) were initiated on breast feeding earlier and nearly 60% of the babies born by Caesarean section were initiated after one hour of birth. It is observed that 60 % of the full term babies were initiated on breast feeding earlier compared to preterm born babies. The differences in the initiation timing of initiation of breast feeding was found to be statistically significant for type of delivery as well for gestational age at birth ($p<0.05$).

Table 2: Influence of dependent variables on initiation of breast feeding after birth.

	Time in initiation of breast feeding			Total Num (%)	p value
	≤30 minutes Num (%)	31-60 minutes Num (%)	>60 minutes Num (%)		
Age group of mothers in years					
≤20	7 (3.7)	9 (12.0)	10 (11.6)	26 (7.42)	0.0001
21-25	114 (60.4)	31 (41.3)	38 (44.2)	183 (52.3)	
26-30	67 (35.4)	33 (44.0)	31 (36.0)	131 (37.4)	
≥31	1 (0.5)	2 (2.6)	7 (8.1)	10 (2.85)	
Total	189 (54)	75 (21.4)	86 (24.6)	350 (100)	
Education level					
Illiterates	59 (31.2)	17 (22.7)	29 (33.7)	105 (30)	0.011
Primary & middle schooling	23 (58.4)	8 (20.8)	8 (20.8)	39 (11.9)	
Secondary schooling	72 (38.1)	31 (41.3)	17 (19.8)	120 (34.3)	
Graduates & above	35 (18.5)	19 (25.3)	32 (37.0)	86 (24.6)	
Total	189 (54)	75 (21.4)	86 (24.6)	350 (100)	
Occupation status					
Home makers	139 (73.5)	51 (68)	57 (66.3)	247 (70.6)	0.244
Daily wagers	14 (7.4)	5 (6.7)	3 (3.5)	22 (6.3)	
Office work Govt./private	23 (12.2)	16 (21.3)	18 (20.9)	57 (16.3)	
Business	13 (6.9)	3 (4)	8 (9.3)	24 (6.9)	
Total	189 (54)	75 (21.4)	86 (24.6)	350 (100)	

Table 3: Influence of independent variables on initiation of breast feeding.

	Time in initiation of breast feeding			Total Num (%)	p value
	≤30 minutes Num (%)	31-60 minutes Num (%)	>60 minutes Num (%)		
Sex					
Male	100 (52.9)	42 (56)	51 (59.3)	193 (55.1)	0.605
Female	89 (47.1)	33 (44)	35 (40.7)	157 (44.9)	
Total	189 (54)	75 (21.4)	86 (24.6)	350 (100)	
Type of delivery					
Vaginal	166 (87.8)	54 (72)	26 (30.2)	246 (70.3)	0.001
Caesarean	23 (12.16)	21 (28)	60 (69.8)	104 (29.7)	
Total	189 (54)	75 (21.4)	86 (24.6)	350 (100)	
Gestational age at birth					
Full term	73 (40.3)	54 (29.8)	54 (29.8)	181 (51.7)	0.001
Pre term	116 (68.6)	21 (12.4)	32 (18.9)	169 (48.3)	
Total	189 (54)	75 (21.4)	86 (24.6)	350 (100)	

DISCUSSION

Globally several measures and programs are implemented to reduce the neonatal mortality rate and morbidity pattern, one of such effort is also addressing the early initiation of exclusive breast feeding.[3,10-12] This study analysed 350 babies with cumulative age of 7378 months during the period of 2 months in the field practice area of department of community medicine. The age of the subject was 6 to 24 months. Seventy percent of the babies were born normal vaginal delivery and 30% of them by caesarean section. Half of the study subjects were having gestational age between 28 to 37 weeks. The average age of the baby was 21.1 months and average age of the lactating mothers was 25 years and they are aged between 18 to 34 years.

Majority of the mothers were aged less than 30 years of age and only small proportion (7.4%) of mothers were aged less than 20 years which is similar to other studies.[1,13] This reflects age at conception and decision to limit their family size to two children in majority of families. In this study less than 5 percent of mothers had babies who were birth order 3 or more and hence analysis was not done in detail regarding the birth order as independent variable.

In the present study area, 98 percent of mothers preferred to give birth in hospitals because the health facilities are available for every two km and their utilization rates are also good. There are five Government maternity hospitals, six Major Private Hospitals in Pondicherry other than nursing homes and Primary Health Centers. These factors maybe influencing on early initiation of breast feeding by the mothers. The similar trends were seen in other studies.[10-12,14]

The overall rate of initiation of breast feeding within one hour of birth is 15.8% in India and it has set a National goal to increase the rate by 50% and the practice of initiation of breast feeding colostrum was 75% within one hour of birth and similar higher rate of observation were noted in other parts in India since last 3 years.[1,3,14,15]

There are beneficial and additional advantages of breast feeding other than nutritional requirement like affection, mental development of the baby, jaw development, emotional bonding between mother and baby, identification of early signs of illness, delay in growth and development, severity of illness of the baby noticed by lactating mother irrespective of her experience in breast feeding as observed by many studies.[1,3,4,12,16] Occupation and education level of the mother plays an important role in initiation of breast feeding. In this study it was observed that as education level is higher and working outside the house showed delay in initiation of breast feeding. It was similar to other studies in some parts of India.[1,3,11,13,15,17]

Gestational age of the baby is not an issue in initiation of breast feeding. It is observed in some of the studies that low birth weight and preterm babies likely to have difficulty in sucking. In this study most of the preterm babies were initiated on breast feeding within one hour of birth.

CONCLUSION

Three fourth of the babies were initiated on breast feeding within one hour of birth. Utilization of health facilities and timely motivation by health staff to mothers in initiation of breast feeding plays a greater role. Universal practice of early initiation of breast feeding within one hour of birth is necessary as a routine practice for all types of deliveries irrespective of health status of the mothers.

ACKNOWLEDGEMENTS

The author sincerely thanks to Dr. Rama, Dr. Ramadevi A, Dr. Roshani, Dr. Ramprashanth, Dr. Reshmi and Dr. Santosh Kumar who helped in the data collection in the community, Ms. Poovitha R for preparation of article and Dr. Harish Bhaskaran helped in the logistic support.

Funding: The study was self-funded
Conflict of interest: None declared
Ethical approval: The study was approved by the institutional ethics committee

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Cite this article as: Prasad KN, Ahamed N. Community based study on initiation of breast feeding and determining factors in rural area of Pondicherry. Int J Contemp Pediatr 2015;2:208-12.