



Research Article

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Knowledge, attitude & practices about infant feeding among mothers of urban & rural areas of Ajmer district

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Abstract

Objective: To study and compare knowledge (K), attitude (A) and practices (P) about breastfeeding and weaning among urban and rural mothers. **Study design:** cross-sectional study. **Study setting:** outdoor department of pediatrics of a Medical College Hospital. **Material:** 60 Mothers (30 rural & 30 urban) having at least one child below 2 years of age. **Methods:** Structured interview through questionnaire to assess knowledge, attitude and practice of subjects on breastfeeding and weaning. **Result and Conclusion:** Rural mothers had poor knowledge about choice of milk for newborn, duration of exclusive and total breastfeeding. Janam ghutti, diluted animal milk were commonly used by rural mothers. Only 20% rural mothers knew about correct age of weaning. Knowledge and practice scores of urban mothers were better than that of rural ones. The average knowledge score of urban mother in breast feeding and weaning was 61.6% and 64.0% respectively as compared to 45% and 44% respectively of rural mother. Attitude scores on breastfeeding among the groups were 81.8% which was better in rural mothers whereas attitude scores about weaning among the groups was average 50%. The average score 83.3% of breast feeding practices among urban mother was for more that of rural mother 58.3%. Again similar observation was made for weaning practices in which average score of urban mother (86.8%) was ahead of rural mother (68.0%).

Keywords: Breast feeding, KAP Study, Urban and Rural mothers, Weaning.

INTRODUCTION

IMR is regarded as a sensitive indicator of health status of community. IMR of India is 47/1000 live births, of Rajasthan is 55/1000 live births as per sample registration system (SRS 2010). A UNICEF 2007 report states that roughly 1.4 million babies die just within one year in India, mainly due to poor care and inappropriate infant feeding practices.

Breast feeding is well recognized since ancient age to be the best feeding for a neonate. Early breastfeeding within one hour and for first 6 months are key interventions to achieve Millennium Development Goals (MDG) 1 & 4, related to child malnutrition and mortality respectively [1]. In India effective implementation of these interventions is yet to be achieved. National Family Health Survey (NFHS-3) data show proper initiation & continuation of breast feeding in children under 6 months is only 46.4% [2]. To formulate any effective strategy to improve infant nutrition it is imperative to have an insight into existing knowledge, attitude and practices about infant feeding practices prevailing in the community.

METHODOLOGY

The present study was conducted from April 2012 to June 2012 in OPD of Department of Pediatrics, At a Tertiary care centre in Rajasthan. Informed consent was obtained from all mothers. 30 urban and 30 rural consenting mothers who fulfilled the criteria of having at least one child less than 2 years were included by purposive sampling technique. Urban mothers were defined as those residing within municipal corporation area of Ajmer city. Rural mothers were defined as those residing in adjoining geographical areas. Ethical Clearance was obtained from the institutional ethics committee for this study (Figure 1).

Development of tool: A questionnaire for structured interview to assess existing knowledge, attitude and practice of subjects on breastfeeding and weaning was formulated. Total 24 questions were included: questions of knowledge- 9, attitude-8 and practice-7 on areas of breastfeeding and weaning.

Formulation of questions and scoring: Knowledge was assessed using questions with 4 alternatives (1- correct answer and 3- distracters). Correct answer was scored 1 and incorrect as 0. To assess attitude a summation attitude scale (Likert type) was formulated. The 5 points constituting the scale of responses

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were given in the form of strongly agree (SA) that scored 5, agree (A) scored 4, undecided (UD) scored 3, disagree (D) scored 2, strongly disagree (SD) scored 1 and reverse scoring for wrong attitude. Practice was assessed using close ended questions having 3 alternatives as always, sometimes, never that scored 2, 1 and 0 respectively and reverse scoring for wrong practice.

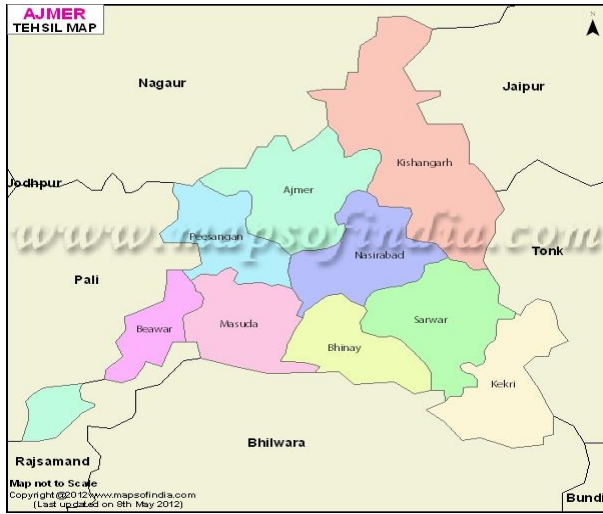


Figure 1: Urban and rural distribution of Ajmer district

STATISTICAL ANALYSIS

The collected data were analyzed using descriptive and inferential statistics. Percentage, standard deviation, chi-square test and student 't' test were commonly used.

RESULTS

A total of 60 mothers, 30 from urban and 30 from rural background participated in this study. The general characteristics of the participants are given in Table 1. 56.5% of urban mothers were in the age group 25-29 years whereas 53% of mothers in rural group were in younger age group of 20-24 years. There was wide variation of education among the urban and rural mothers as 63% or urban mothers were educated up to higher secondary or graduation but none of the rural mothers had this education status, rather 43.3% of rural mothers were illiterate. Majority of the urban mothers were having one (56.6%) or two (36.6%) children while 33% rural mothers had two children and 36.6% of them had more than 2 children (Table 1).

Majority (93.3%) of urban mothers knew that human milk is the best food for newborn while only 56.7% rural mothers knew the same. The

difference was statistically significant. None of the mothers in our study advocated formula feeds. About half of total mothers (50% urban and 46.7% rural) knew that breastfeeding should be initiated within one hour of birth. Only 63.3% urban and 40% rural mothers had correct knowledge that the baby should be exclusively breastfed up to 6 months of age. Forty percentage of urban and 36% of rural mothers knew that baby should be breastfed up to 2 years of age. Only 20% of the total subjects (23.3% of urban and 16.7% of rural) were knowledgeable about correct age (i.e. 6 months) for the start of complementary feeding. A large majority of urban (90%) and 63.3% of the rural mothers knew that one food item should be started at one time. Majority (76.7%) of urban and 70% rural mothers knew about the safe use of utensils to give complementary feeding. Again a majority (90%) of urban mothers knew that an infant at 1 year of age should be taking family pot feeding whereas only 56.7% of rural mothers knew this fact. The difference was statistically significant. Only 1/3rd of the total respondents (26.7% urban and 40% rural mothers) had correct knowledge that a well nourished infant should triple its birth weight at 1 year age. The difference was statistically significant (Table 2).

The questions related to attitude about breastfeeding included following aspects- feeding of colostrum, schedule, mother infant bonding, maternal advantage, maternal nutrition and mental disposition. Except for two aspects there was no significant difference in the attitude of urban and rural mothers. The two areas were i) strengthening of mother-infant emotional bonding due to breastfeeding and ii) happy and relaxed mental disposition helping in increasing lactation (Table 3).

Rural mothers were using janam ghutti more frequently than urban mothers and the difference was statistically significant. Both urban and rural mothers were commonly burping the babies after giving breastfeeding. The questions related to weaning practices included personal hygiene, use of vegetables or fruits, use of oil/ghee, dilution of top milk, use of utensils. Except for practice of dilution of animal milk, there was no statistically significant difference between urban and rural mothers (Table 4).

The knowledge of urban mothers about breastfeeding and weaning (Urban 61.6%; 64% and Rural 45%; 44% respectively) was better than that of rural mothers. Similarly average score for attitude about breastfeeding was 81.5% and 82.2% respectively in urban and rural mothers. The average score for attitude about weaning among urban and rural mothers was 51% and 49.3% respectively. The average score of breastfeeding practices among urban mother (83.3%) was more than that of rural mothers (58.3%). Again similar observations were made for weaning practices in which average score (86.6%) of urban mothers was far ahead of rural mothers (68%) (Figure 2).

Table 1: General information of Subjects

Detail	Demographic Variable		Total
	Urban	Rural	
A) Age Group (yrs)			
<20	3(10%)	1(3.3%)	4
20-24	4(13.3%)	16(53.3%)	20
25-29	17(56.6%)	10(33%)	27
30-34	6(20%)	0	6
≥35	0	3(10%)	3
B) Education Status			
Illiterate	3(10%)	13(43.3%)	16
Primary	2(6.6%)	9(30%)	11
Secondary	6(20%)	8(26.6%)	14
Higher Secondary	7(23%)	0	7
Graduate	12(40%)	0	12
C) No of Children			
One	17(56.6%)	9(30%)	26
Two	11(36.6%)	10(33%)	21
More than two	2(6.6%)	11(36.6%)	13

Table 2: Statistical Analysis of knowledge about breastfeeding and weaning

Attribute	Urban		Rural		Chi-square	df	Significance
	correct	incorrect	correct	incorrect			
Choice of Milk	28	2	17	13	11.689	2	Yes
Initiation of Breastfeeding	15	15	14	16	3.301	3	NO
Exclusive Breastfeeding	8	22	6	24	7.266	3	NO
Duration of Breastfeeding	12	18	11	19	5.449	3	NO
Initiation of Complementary feeding	7	23	5	25	6.06	3	NO
Schedule of Complementary feeding	27	3	19	11	6.629	3	NO
Use of Utensils	23	7	21	9	0.491	3	NO
Feeding at 1 year age	27	3	17	13	8.622	2	Yes
weight at 1 year age	8	22	12	18	13.451	3	Yes

Table 3: Statistical Analysis of attitude about breastfeeding and weaning

Attribute	Urban		Rural		t-test		
	Mean	S.D.	Mean	S.D.	t	df	Significance
Use of Colostrum	4.47	0.819	3.93	1.285	1.917	58	0.060
Mother-infant bonding	4.67	0.479	4.17	1.020	2.43	58	0.018 (Y)
Maternal Advantage	3.27	1.048	3.00	1.147	0.941	58	0.351
Maternal Nutrition	4.67	0.479	4.33	0.922	1.756	58	0.084
Schedule of Breastfeeding	4.50	0.509	4.57	0.504	0.510	58	0.612
Mental Disposition	2.90	0.923	4.57	0.504	8.681	58	0.000 (Y)
Diet at 1 year age	4.57	0.568	4.7	0.466	0.994	58	0.325
Change in diet during diarrhea	2.33	0.802	2.37	0.850	0.156	58	0.876

Table 4: Statistical Analysis of practices about breastfeeding and weaning

Attribute	Urban		Rural		t-test		
	Mean	S.D.	Mean	S.D.	t	df	Significance
Use of Janam Ghutti	1.60	0.770	2.43	0.728	4.307	58	0.000(y)
Burping	2.93	0.254	2.77	0.504	1.618	58	0.111
Personal Hygiene	2.97	0.183	3.00	0.000	1.917	58	0.321
Use of Vegetable/Fruits	2.60	0.621	2.27	0.691	2.43	58	0.054
Use of Oil/Ghee	2.70	0.466	2.50	0.509	0.941	58	0.118
Dilution of Top Milk	1.40	0.724	2.20	0.887	1.756	58	0.000(y)
Use of Utensils	2.80	0.407	2.83	0.461	0.510	58	0.768

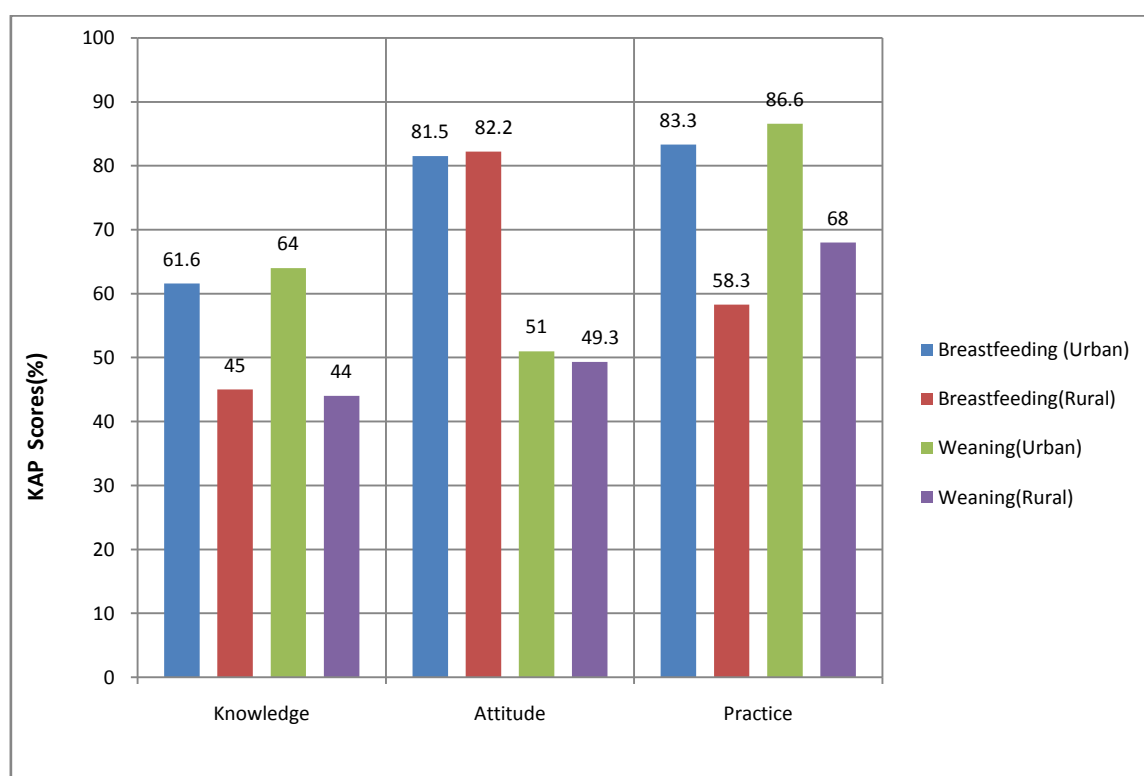


Figure 2: Comparison of KAP scores about infant feeding among urban and rural mothers

DISCUSSION

Optimum nutrition is essential for proper growth and development of infant. Review of literature revealed that there are wide variations in infant feeding influenced by various social and demographic variables. There are only few studies available from India which highlights infant feeding practices among mothers belonging to urban and rural areas.

Knowledge about infant feeding

a) Breast feeding

Exclusive breastfeeding is recommended worldwide as the ideal feeding for first six months of life. For successful lactation, timely initiation of breastfeeding i.e. within ½ hr of normal delivery and within 4 hrs of caesarean delivery is essential. In fact a recent study from Ghana found that 22% death among newborn can be prevented if they are given breastfeeding within one hr of birth^[3]. In present study only half of the total mothers knew about this fact (57% urban and 46.7% rural). Likewise only 63.3% urban and 40% rural mothers knew about correct period of exclusive breastfeeding. As far as maximum period of breastfeeding (i.e. up to 2 years) is concerned, only 40% of urban and 36% of rural mothers were knowledgeable about it.

This dismal picture about breastfeeding is reflected in other studies also. Karnawat *et al* (1987) did a study on knowledge and attitude of hospital employees of Jodhpur (Rajasthan) regarding infant feeding practices which revealed that nearly 66% doctors favored to initiate breastfeeding on first day while 60% paramedical and 96% class IV wished to start it on 2nd or 3rd day whereas in our study all mothers initiated breastfeeding on first day^[4].

Taneja *et al* (2003) conducted a study on rural health centre in Delhi and found that most of the infants (90.6%) were breastfed up to 6 months of age but exclusive breastfeeding was uncommon (26.4%) whereas in our study it was 53.3%^[5].

Yadav *et al* (2004) conducted a KAP study about breastfeeding in Bihar. About 29% of mothers started breastfeeding within 24 hours. They also reported that most of the mothers in their study, breastfed their child up to more than 1 year of age^[6].

Mehdi & Mahanta (2004) in their study on breastfeeding and weaning practices reported 100% breast feeding rate was maintained throughout 0 to 12 months. Exclusive breast feeding rate was 69.35% up to 6 months of age^[7].

Kumar *et al* (2006) studied socio-economic correlates of breastfeeding in urban slums of Chandigarh and reported that 58.9% of the respondents initiated breastfeeding within six hours of birth^[8].

Similar findings have been reported from other developing countries. Oomen *et al* (2009) did a longitudinal study on prevalence of exclusive breastfeeding and factors influencing it in urban and rural settings. They reported very high (55%) use of formula feeds in urban mothers during hospital stay while none of the mothers in our study advocated formula feeds^[9].

Ben Slama *et al* (2010) in their study in Riyadh, Saudi Arabia reported that 48.5% preferred mixed feeding followed by exclusive feeding (36.8%) and 40% did not initiate breastfeeding in the recommended time^[10].

Yesildal *et al* (2012) in their study in Turkey reported that rate of exclusive breastfeeding was 22.4% and the rate of continued breast feeding up to 2 years was 10.0%^[11].

b) Complementary feeding

Institution of complementary food is recommended at six months of age to meet the increased physiological requirements of the growing infant. Current study revealed that only 20% of total mothers (23.3% of urban and 16.7% of rural) were knowledgeable about correct age (i.e. 6 months) of start of complementary feeding. While a large majority (90% of urban mothers) knew that an infant at 1 yr of age should be taking family pot feeding whereas only 56.7% or rural mothers knew this fact.

Taneja *et al* (2003) in their study found that 40.6% infant's top milk or semisolids were started before 4 months of age in addition to breast milk whereas in our study only 23% started complementary feeds by 6 months of age. They also reported that semisolid foods were started in only half the children at 6 month of age and even at 9 months of age, one-fourth of the infants were not receiving appropriate semisolid feed^[5].

Yadav *et al* (2004) in their study found that only 55% mothers introduced supplements to their infants between 6-12 months. Similar observation was also made by Mehdi & Mahanta (2004)^[6,7].

Attitude about infant feeding

It is a well established fact that during the first 2-4 days of lactation, small quantities of colostrum which is rich in proteins and immunoglobulins should be fed to the baby. Karnawat *et al* (1987) in their study reported all class IV wished to discard colostrum which doesn't match to our study in which more mothers gave colostrum. Clock feeding was preferred by doctors (62%) and nurses (53.3%) while demand feeding was liked by 77% of Class IV and 55% auxiliaries^[4].

Yadav *et al* (2004) in their study found that about two-third of mothers discarded the colostrum. About one-third of mothers discarded colostrum on the advice of others^[6].

Kumar *et al* (2006) reported that only 15.9% discarded colostrum and 40% mothers gave prelacteal feeds. Illiterate mothers who delivered at home were found at significantly higher risk of delay in initiation of breastfeeding which were similar to our study.8

Oomen *et al* (2009) in their study reported that the factors associated with continuation of exclusive breastfeeding were mother's knowledge regarding breastfeeding and reinforcement by health professionals whereas the factors associated with cessation were perceived insufficiency of milk and cultural practices which match our study^[9].

Ben Slama *et al* (2010) reported that 43% of mothers did not know about colostrums^[10].

The causes of delayed initiation of breastfeeding included the practice of discarding colostrum, waiting for appropriate time (muhurta) for initiation of breastfeeding or anchal kholna ceremony where the family awaits the arrival of relatives for initiation of breastfeeding and the practice of giving prelacteal feeds to cleanse the gut^[4].

Practices related to infant feeding

Present study highlights more frequent use of janam ghutti and animal milk dilution by rural mothers as compared to urban ones.

Similarly Karnawat *et al* (1987) reported in their study that 79% of class IV employees gave janam ghutti and jaggery as prelacteal feed. Ideally we should discourage the use of janam ghutti, gripe water or any other

prelacteal feeds because evidently they affect successful lactation and are potential source of infection^[3].

Corroborating with our findings on dilution of cow milk, Taneja *et al* (2003) reported that the practice of diluting milk was nearly universal (95.3%)^[5]. Most of the mothers resort to dilution of animal milk thinking that it will make milk easily digestible. Ideally mothers should not follow the practice of diluting animal milk because it will decrease the nutritional value of milk as well as increase the chances of contamination.

CONCLUSION

It is evident from above results that there is lack of knowledge, wrong attitude and faulty practices among both urban and rural mothers in some vital aspects of infant feeding. Poor knowledge of mothers about universal need and importance of human milk, timely initiation of breastfeeding, duration of exclusive breastfeeding and total duration of breastfeeding and negligent attitude about maternal nutrition and mental disposition during lactation and unnecessary practice of using janam ghutti specially by rural mothers is a matter of great concern; because these practices substantially contribute to lactation failure and subsequent man-made malnutrition. Likewise lack of knowledge about correct age of initiation of complementary feeding among all mothers and poor knowledge of rural mothers about diet of one year old child and common practice of diluting animal milk again lead to perpetuation of malnutrition.

This study suggests an urgent need for honest efforts to increase girl child education, female literacy and dissemination of information through mass media and education of mothers during antenatal visits and immunization sessions about optimal breastfeeding and complementary feeding practices. Exclusive breastfeeding up to six months as recommended by global health agencies and advocated by BPNI in India should become universal practice. It will also require co-ordinate efforts from community medicine and pediatrics along with strong political will to successfully implement the measures to curb ignorance in breast feeding practices.

AUTHOR'S CONTRIBUTION

B S Karnawat was involved in review of literature and in manuscript writing. Avadhesh Joshi helped in manuscript writing and statistics. Divya Karnawat was involved in taking details of patient and review of literature. G. Kalsi Kohli assisted in study design and manuscript writing. B S Karnawat shall act as a guarantor.

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