

Study of awareness and knowledge of mothers of under five children regarding immunization, feeding practices and health seeking behavior in Central India

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Abstract

Introduction: The role of the mother is pivotal for good health of an under 5yr child. In developing countries the gap in their knowledge and consequently the ability to initiate health promoting activities remains as a chronic challenge.

Materials and Methods: A descriptive cross sectional study was carried with 400 participants (mothers with at least one under five child) of which 200 were from rural and 200 from urban locations between 2012- 2013.

Result: Most mothers preferred feeding colostrums to the child (90% in rural and 100% in urban) and kept their child away from prelacteals (75% rural and 94.5% urban). Advantages of exclusive breastfeeding were known to 74.5% rural and 94.5% urban mothers, but mothers were grossly negligent about duration per feed (15-20 minutes); only 11.5% urban and 6.5% rural mothers were aware of this. Acknowledgment of the signs of good attachment of the child to breast was significantly positive in urban mothers ($p \leq 0.001$). Urban mothers were well informed about burping as an important component of breast feeding ($p \leq 0.001$). High percentage of mothers practiced breast feeding during child's illness (83% rural and 97% in urban areas). Anganwadi workers were the main informants about vaccines and vaccination related activities ($p \leq 0.001$). Knowledge of optional immunization was higher in urban participants (76.5% Vs 30%). Lack of money and distance from health facility in rural areas and mother's perception about severity of disease in urban areas were influential factors for seeking child health care ($p \leq 0.001$).

Conclusion: We observed better knowledge, attitude and practices in urban mothers about breast feeding and immunization. Financial constraint and distance of health care delivering centers were significant deterrent in seeking health for rural community.

Keywords: Immunization, Feeding practices, Health Seeking Behavior, Under 5 child.

Introduction

Under five mortality is still a burning issue in developing world. In spite of some notable gains still much need to be done in India, especially in low performing areas. The under five parameters in Ujjain block in the North West province of Madhya Pradesh, India is moderate. An in depth analysis of the underperforming parameters from this block are inconspicuous. This was the basis on which this study was carried out to estimate mother's perception to factors like immunization, feeding practices and health seeking behavior for under 5 children.

Review of underlying factor can give some insight to the issues in question. The estimated infant mortality rate (IMR) in India is 47.57 deaths/1000 live births for males and 49.14 death/1000 live birth for females it is.¹ Thousands of children still die from Vaccine-Preventable diseases each year.² Present scenario indicates Madhya Pradesh reports an IMR 70 the 3rd highest in India.³ One out of fourteen children still die within 1 year of life and 1 in 11 die before attaining the age of 5. Figures show IMR is 61% higher in rural area.³ As per NFHS-3 data vaccine coverage for infants is only 43.5%³ the prima fasciae elements for under performance are identified as poor vaccination activities and inadequate community participation.⁴ Low literacy level of mothers is a matter of great concern.⁵ For children aged 12-23 months; 2 out of 5 are fully immunized against 6 major childhood illness and 5% not receive vaccine at all.

For under 5 children; 52% for ARI (acute respiratory infection), 70% for fever and 58% diarrheal cases sought

medical advice. 60% are under weight and 44% of urban children suffer from chronic under nutrition.⁵

Breast feeding more so the 'exclusive' one, is being accepted as the most vital intervention to reduce infant mortality and ensure optimal growth and development of children.⁶ It is projected that over 15% of child deaths could be averted in India by optimal breastfeeding practices.^{7,8} On the contrary, sub-optimal breastfeeding, especially non-exclusive pattern in the first 6 months of life, results in 1.4 million deaths and 10% of the disease burden in children younger than 5 years of age. Unfortunately in Madhya Pradesh only 22% children under 6 months are exclusively breast feed.⁹

Health seeking behavior an important and integral element in addressing health problems of community has come to lime light rather late.¹⁰ The decision makers in the health sector are recognizing the needs for understanding the health seeking behaviour of the community and its acceptance and usage of traditional and modern methods.¹¹

Materials and Methods

A cross-sectional community based study was done in Ujjain block during 2012-2013. The Study subjects were 400 mothers comprising of 200 rural and 200 urban. Mother having children less than five years of age and giving written consent for participation were included in the study and non consenting ones were kept away from it. The research had institutional ethical committee's approved.

Data Collection Procedure: All anganwadi's of Ujjain block were enlisted and 10 anganwadi's from rural and 10

anganwadi's from urban areas were selected by purposive sampling. A house to house survey was conducted to locate mothers having children under 5 year of age. Before obtaining consent study purpose and data confidentiality was explained. The semi-structured pretested questionnaire was in local vernacular for trouble-free of interpretation and participant's ease. Face to face interview by single observer was carried out. For Socio economic status estimation Kuppuswamy's scale for urban and modified Prasad scale for rural areas was adopted.¹²

Data was expressed as percentage, proportion and chi square test used for inferential analysis by SPSS software - version 15.0.

Results

Demographic Profile: The age range for rural participants was 20 to 35 years with a mean and standard deviation of 25.67(\pm 3.34) and that for urban ones was 21 to 34years with mean and standard deviation of 25 (\pm 3). Majority of mothers from rural (67%) and urban (66%) settings belonged to nuclear family. Description of socio-demography variables are presented in table 1.

Table 1: Socio demographic status of study participants

Variables	Rural	Urban
Mean Age with SD	25.67 \pm 3.34)	25(\pm 3)
Mean Income with SD	4099(\pm 1999)	13005(\pm 3955)
Occupation		
semi profession	0	2 (1%)
clerical,shop owner, farmer	5 (2.5%)	11 (5.5%)
skilled worker	4 (2%)	39 (19.5%)
semi skilled worker	19 (9.5%)	16 (8%)
unskilled worker	83 (41.5%)	20 (10%)
unemployed	89 (44.5%)	112 (56%)
Education		
Graduate or post graduate	1 (0.5%)	22 (11%)
Intermediate or post high school diploma	4 (2%)	20 (10%)
high school certificate	10 (5%)	68 (34%)
middle school certificate	48 (24%)	45 (22.5%)
Primary school certificate	62 (31%)	20 (10%)
illiterate	75 (37.5%)	25 (12.5%)
Family composition		
Nuclear	134 (67%)	132 (66%)
Joint	65 (32.5%)	68 (34%)
3rd generation family	1 (0.5%)	0
No. of children under five		
1	167 (83.5%)	161 (80.5%)
2	30 (15%)	35 (17.5%)
More than 2	3 (1.5%)	4 (2%)
Total no. of children		
1	64 (32%)	62 (31%)
2	99 (49.5%)	102 (51%)
More than 2	37 (18.5%)	36 (18%)

(The figures in parenthesis denote percentages)

The knowledge to avoid prelacteal feeds was significantly higher in urban mothers ($p \leq 0.001$). 100% mothers from urban and 90% from rural community knew that colostrums should be administered to newborn babies. The knowledge regarding ideal duration of breast feeding per feed i.e.15-20 minutes was found positive in meager 11.5% urban and 6.5% rural mothers. Awareness relating exclusive breastfeeding was positive in 87% rural and 99% urban mothers. Acknowledging the signs of good attachment of the child to breast was significantly positive in urban mothers ($p \leq 0.001$). Only 22.5% rural and 21.5%

urban mothers had knowledge to breast feed the child for two years. Awareness to Initiating breastfeeding immediately after birth was found positive in 49.5% rural and 66% urban mothers.

Complementary feed meant dal or rice water to 64.5% rural and 84.5% urban mothers, whereas 22% rural and 11% urban mothers considered top up milk/tea & biscuits as complementary feeds. Knowledge for sound complimentary food was significantly better among urban mothers ($p \leq 0.001$). About initiation of complementary feeds 4.5% rural and 6.5% urban mothers had the misconception of starting it within 4 months whereas 78% rural mothers and

69.5% urban mothers knew to initiate it after completion of 6 months. But 3% rural mothers and 7% urban mothers said it should be started after 12 months. 17.5% rural and 19.5% urban mothers felt breastfeeding can lead to disfigurement. Knowledge and practice about burping after breastfeeding was significantly higher in urban mother ($p \leq 0.001$). During summer months 75.5% of mothers in rural and 63.5% in urban areas gave water to children less than 6 months of age. Practice of giving exclusive breastfeeding for 6 month was 80.5% in rural and 98% in urban. 47.5% mothers in rural and 11% in urban area gave topmilk/top feed to baby in first six months.

Most mothers from urban (96%) and rural (94%) community knew that immunizing children can prevent diseases but knowledge regarding immunization of low birth weight and very low birth weight baby was grossly

lacking in both communities (.83.5% in rural and 89% in urban). Mothers from urban backdrop had better knowledge regarding optional immunization and the next scheduled date for vaccination ($p \leq 0.001$). Both in rural and urban areas Anganwadi workers were the main informants about vaccines and vaccination related activities ($p \leq 0.001$). 97% mothers in rural and 100% in urban areas had immunization card. 100% mothers administered OPV under pulse polio activities. 84.5% in rural and 97% in urban babies were fully immunized as per age. Adverse effects from immunization were 4% in rural and 3% in urban children. Pain and fever related to immunization were main cause for avoiding it (30% in rural and 26.5% in urban locality. Fig. 1 presents information regarding sources and sites of immunization activities in the present study.

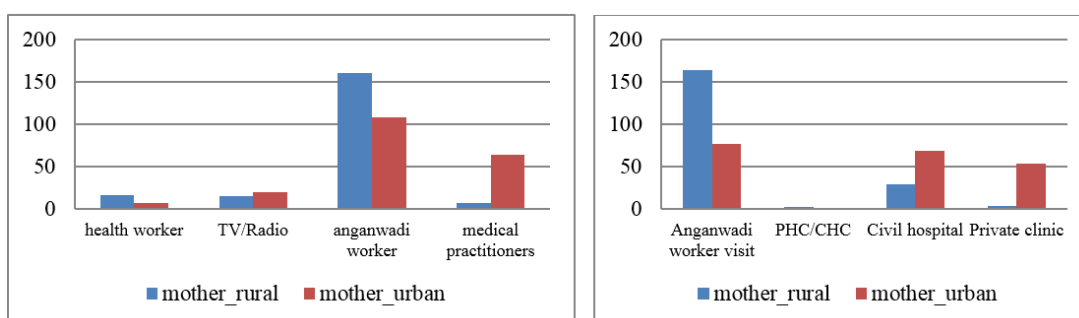


Fig. 1: Site of immunization for the child, Source of informants for vaccination

67.5% mothers in rural and 69.5% in urban area visited a doctor when the child is ill. The frequency of regular health check-up for the child was 30% in rural and 29.5% in urban locations. Visit to quakes in case of child's illness was 9% in rural and 3% in urban locations. Visiting health setups for seeking health information was 2.5% in rural and 1% in urban area. Consulting ANM/health worker for child's sickness was 10.5% rural and 1.5% urban area. 55% rural and 33.5% urban mother take their children to government hospital. As per disease perception list 62.5% rural and 74.5% urban mothers felt that ARI, Diarrhea and

Fever as serious childhood illnesses. Perception for breastfeeding during illness was significantly higher in urban mothers ($p < .001$). 84.5% rural and 78% urban think that injectables are more effective than oral medication during child's illness. For rural mothers significant causes for not seeking health care was lack of money and distance of health care delivery centers ($p < .001$). But for urban mothers significant reasons for not seeking health care were mothers perception of non seriousness of illness and lack of family support ($p < .001$). Fig. 2 presents disease profile and mothers reasoning for seeking health care for under five.

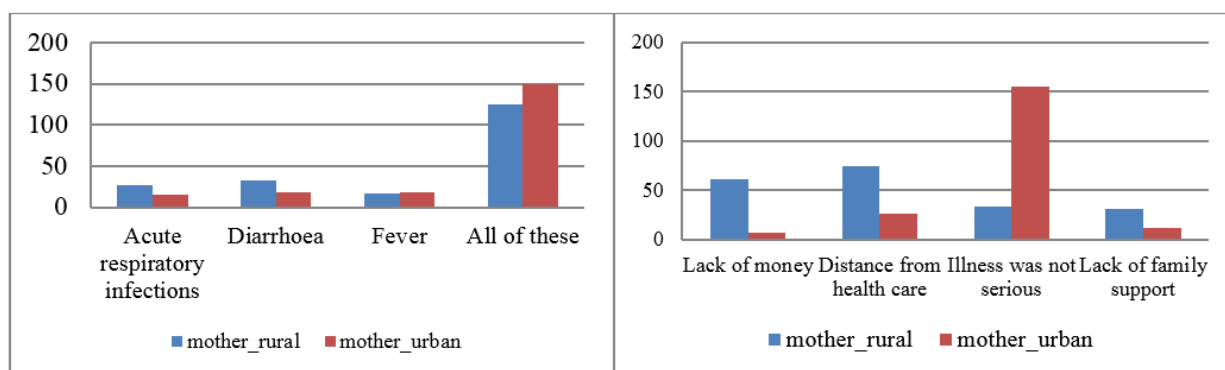


Fig. 1: Diseases for which mothers seek health care for children/ Mother's perception for not seeking health care

Table 2 presents the chi square analysis for major study variables.

Table 2: Estimation of associations for major studied factors

Knowledge of prelacteals feeds given		Rural	Urban	Total	chi-square & p-value
Knowledge of prelacteals feeds given	Yes	50	11	61	29.42,p<.001
	No	150	189	339	
	Total	200	200	400	
Knowledge of complementary feeding	Top milk/tea and biscuits	44	22	66	21.70,p<.001
	Dal or Rice	129	169	299	
	Cereal based diet or fruits	27	9	36	
	Total	200	200	400	
Knowledge of Burping	Yes	182	199	381	15.96,p<.001
	No	18	1	19	
	Total	200	200	400	
Baby should suckle nipple with areola while breastfeeding	Yes	107	142	249	13.03,p<.001
	No	93	58	151	
	Total	200	200	400	
Knowledge of next schedule date of immunization	Yes	162	189	351	16.95,p<.001
	No	38	11	49	
	Total	200	200	400	
Knowledge about optional immunization	Yes	60	153	213	86.85,p<.001
	No	140	47	187	
	Total	200	200	400	
Information regarding vaccine preventable diseases	health worker	17	8	25	57.60,p<.001
	TV/Radio	15	20	35	
	Anganwadi worker	160	108	268	
	medical practitioners	8	64	72	
	Total	200	200	400	
Mothers continued breastfeeding during illness	Yes	166	194	360	21.78,p<.001
	No	34	6	40	
	Total	200	200	400	
Injectables are more effective than oral medications	Yes	169	156	325	2.77,p>.05
	No	31	44	75	
	Total	200	200	400	
Mothers reasons for not seeking health care	Lack of money	61	7	68	154.22,p<.001
	Distance from health care	75	26	101	
	Illness being not serious	33	155	188	
	Lack of family support	31	12	43	
	Total	200	200	400	

* Test of significance was calculated by using (chi-square) test.

Discussions

Breastfeeding in proven scientific manner confers short-term and long-term benefits to the child like protection from variety of acute and chronic disorders.¹³ One such habit is giving colostrums to the new born, avoiding prelacteals and burping the child after each feed.

Present study reported good responses against prelacteals feeds both in rural and urban settings (75% and 94.5% respectively) and encouraging result for colostrums administration (90% in rural and 100% in urban). The knowledge to burp the child after breast feeding that prevents post feed vomiting was also very encouraging. 91% of rural and 99.5% of urban mother knew about

burping. Similar results are reported by other Indian researchers.¹⁴

Adequate time allocation per feed and attention to good attachment to breast are key factors for successful feeding. But the present research reported poor response on both fronts. Breast feeding the baby within ½ hrs of birth is also vital. Breast feeding for an optimal period of 2 years is reported to contribute to improved immunity. The present study reported lower responses on these fronts too. These factors are detrimental in preventing under nutrition in children (<5yrs). A study conducted in Kalaburagi, Karnataka and other studies showed seminar results.¹⁵⁻¹⁷

Complementary feeding at right composition and adequate frequency after 6 month is meant to wean the child from mother's breast, maintain child growth and initiates the

process of getting the child back to home cook foods. It is a significant process in child nutrition and development. Though the reporting study recorded good percentage in terms of initiating weaning (78% in rural and 69.5% in urban) but disappoints on frequency (4-5 times/day) of food administration (14.5% in rural and 17% in urban). These are the hidden determinants to high prevalence of under nutrition in our country (17). The habit of administering water to the child < 6 months in summer days was highly prevalent in studied population (75.5% of rural and 63.5% of urban). This can expose the child to gastro intestinal infections and dampen growth.

Immunizing the child for vaccine preventable diseases is an important player in reducing < 5 mortality and morbidity. The study reported very healthy rates in this regard. 100% of rural and urban mothers thought that immunization can prevent diseases and 96% of rural and 94% of urban mother's ensured complete infant immunization. Immunization for sick and under developed / weight child is even more significant as their health risks are significantly higher in comparison to their normal counterparts. But unfortunately this study recorded that a high percentage of mothers (83.5% of rural and 89% of urban) are against immunization in such scenario. Further more knowledge of optional/ additional immunization was also low, more so in rural community (30%).

The main informant regarding immunization related benefits were anganwadi workers (80% in rural and 54% in urban community). Mothers in present study showed improved skill in maintaining documents. 97% of rural and 100% of urban mothers had the immunization card with them. Similar observations were reported from studies conducted at Kamla Nehru Hospital Bhopal emphasizing the role of anganwadi workers in immunization activities.¹⁸ Reasons for skipping the schedule dates for vaccination in present study were mainly fever and death due to immunization in rural community (46% and 30% respectively). Pain and fever related to vaccinations were major reported factors that encouraged mothers to avoid vaccination (30% in rural and 26.5% in urban participants).

The participants recorded fair percentages in terms of health seeking. 67.5% of rural and 69.5% of urban mother went to doctor when the child was ill. Illness considered severe by respondents were fever, diarrhoea and acute respiratory infections. Rural respondents used anganwadi services more frequently where as private practitioners were preferred by urban mothers. Main reasons of rural mothers for not seeking healthcare is lack of money (30.5%) and distance from health care centers (37.5%) where as in urban location mothers perception of seriousness of diseases was the detrimental factor (77.5%). Similar observations were reported by other researchers.¹⁹⁻²¹

Conclusions

Multipronged efforts have made significant inroad in uplifting child health in India. This is being reflected by improved parameters. Still there are areas which if attended

to can contribute to further improvement. A handful of these as reported by present study are

1. The presence of 'rural urban divide' which was significant for most studied parameters.
2. Paying attention to more technical issues like mothers training on breast feeding techniques like; recognizing good attachment of child to breast, attention to duration of each breast feed, and feed frequency per day in case of complimentary feeding. Continuation of breast feeding up to 2yrs of age should also be emphasized.
3. More efforts have to be put to expel the myths souring immunization like avoiding immunization in low birth weight babies and for side effects like mild to moderate fever. Awareness and availability for optional immunization are other areas which needs attention.
4. Health seeking can improve by making health care more affordable and assessable for rural lots. For urban masses mother's perception of severity of child illness need to be worked upon.

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