

A cross-sectional study to assess the breastfeeding practices and to compare the rural-urban differences in the Post-Natal Ward of Tertiary Care Hospital Gwalior, Madhya Pradesh

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Abstract:

Background: Breastfeeding is the natural vaccination provided to infants during infancy from the mother. This is essential to ensure growth, development of children to their full potential and protecting the child from various infections and reducing the infant mortality. The present study was conducted to assess the breastfeeding practices and position of baby and mother, attachment and effective suckling of infants admitted in tertiary care hospital i.e. Kamla Raja Hospital (KRH) within Jaya Arogya group of Hospital Gwalior.

Material and Methods: The present study was done in the post-natal ward of the Department of Obstetrics and Gynaecology, Kamla Raja Hospital, Jaya Arogya Group of Hospital Gwalior. The study was carried over a period of six months in which 100 mothers were interviewed by a predesigned structured questionnaire. The mothers were also observed for their breastfeeding practices. The Statistical test as frequency, percentage and chi square were applied.

Results: In the present study 37% were females residing in rural while 63% were residing in the urban areas. 75.68% of mothers from rural areas fed their babies on demand while among urban it was 61.90%. In the present study 72.97% and 68.25% of mothers did not have their back straight during breastfeeding in rural and urban areas respectively. In terms of status of baby, among rural residents 8.11% mothers followed three K's during breastfeeding wherein urban mothers it was 15.87%. The study showed that the signs of attachment during breastfeeding as mouth wide open observed in 86.49% of the babies born to mothers of rural areas and 88.89% of babies born to mothers of urban areas. The Present study shown 27.03% babies of mothers of rural areas were well attached wherein it was only 23.81% among babies of mothers of urban areas.

Conclusion:

In the present study finds there were no significant differences in breastfeeding practices among the mothers living in rural areas than those who lived in urban areas. The study showed that the norms of baby friendly practices in health care system were good for the mother and infants health.

Keywords: Attachment, Breastfeeding, Rural, Urban.

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I. Introduction:

The best start to life is breastfeeding; is the normal way of providing young infants with the nutrients they need for healthy growth and development. The natural vaccination starts from here. Virtually all mothers can breastfeed adequately; if they have provided accurate information and the support of their family, the health care system and society at large. Exclusive breast feeding is recommended up to 6 months age, with continued breast feeding along with appropriate complementary feeds up to two years of age or beyond as per WHO.¹ Breastfeeding is the feeding of an infant or young child with breast milk directly from female human breast (i.e. via lactation) rather than from a baby route or other containers. Babies need appropriate nutrition affection; stimulation and protection against infection. Breastfeeding meet those needs and gives them the best start in life. Breast milk is the ideal food for new-born's and infants. It gives infants all the nutrients they need for healthy development. It is safe and contains antibodies that help protect infants from common childhood illnesses such as diarrhoea and pneumonia, the two primary causes of child mortality worldwide. Breast milk is readily available and affordable, which helps to ensure that infants get adequate nutrition. A lack of exclusive breast feeding during the first six months of life contributes to over a millions avoidable child births each year.² Globally about 44% of infants under 6 months of age are exclusive breastfed. ¹Breastfeeding is a good nutrition and essential for survival, physical growth, mental development³, performance, productivity, health

and wellbeing across the entire life span: from the earliest stages of foetal development at birth and through infancy, childhood, adolescence up to adulthood.

Analysis of a large cohort of almost 100,000 new-borns from three large trials conducted in India, Ghana and Tanzania has shown that the risk of neonatal death was 41% and 79% higher among children in whom breastfeeding was initiated between 2-23 hours and 24-96 hours after birth, respectively as compared to infants in whom breastfeeding was initiated within the first hour of life.⁴The result of a study in Ghana showed that breastfeeding babies within the first hour of birth can prevent 22% of neonatal deaths.⁵Improved health outcome in young children have a long lasting health effects throughout the life span, including increased performance and productivity and reduced risk of certain non-communicable diseases.⁶ Effective breastfeeding is a function of the proper positioning and attachment of the child to the breast.⁷Good positioning and attachment of the baby during breastfeeding facilitates milk production and milk release and it helps in preventing sore nipples, engorgement and mastitis⁸. The information on the skills of lactating mothers with respect to the proper positioning and attachment of the infant during breastfeeding was lacking.Breast feeding is therefore a key aspect of self-relevance and primary health care. Considering all these aspects the present study has been undertaken.

II. Objectives:

1. To assess the knowledge regarding type of delivery and birth weight of child
2. To assess time of start of breastfeeding to made, other things accompanied, number of times of breastfeeding in 24 hours and especially for feed given at night, duration of feeding.
3. To assess the posture of mother during feeding, status of mothers and baby, signs of attachment, suckling of baby and also any assistance given to breastfeeding.
4. Based on the above status compare them with rural and urban performance and then counsel the mother for the effective breast-feeding practices.

III. Material and Methods:

The present study is a hospital-based, descriptive cross-sectional study which was conducted on mothers admitted in the Post-Natal Ward of the Department of Obstetrics and Gynaecology, Jaya Arogya Group of Hospital (J.A.H.) Gwalior. The hospital caters to patient inflow from an extended catchment area. This study was conducted for the period of 6 months from July 2019 to December 2019. Considering the prevalence of correct breastfeeding practices 50 % (Bashir et al)⁹ and at 95% confidence interval with 10% absolute error. The sample size was estimated by using formula; $N = 4PQ/d^2$. So the required sample for the present study was 100. The Sample was taken using purposive sampling procedure. The mothers who gave their informed consent to participate in the study were included in the study. The study was approved by Institutional Ethical Committee. A predesigned structured questionnaire was used for the collection of data with the help of previous literature available and interview guide were used to fulfil the objectives of the study. The mothers were asked about the knowledge regarding the general information as age, education, occupation, socio-economic status as per modified BG Prasad classification, type of family, gravida and parity. They were also enquired regarding the type of delivery and the birth weight of the child, initiation of the breastfeeding and the mode. They were also enquired regarding giving of any other substance feed as tea, honey, ghutti, gangajal before the breastfeeding. They were also asked about the total number of feeds given during 24 hours and also especially regarding the feeds given at night. The duration of feeding was also asked. The mothers were observed for the posture during feeding and the status of back of mother and baby. The signs of attachment and the suckling status were also observed. They were asked regarding the initiation or at the time of breast feeding some assistance is being given by their relatives or others. If the baby's position is well that is close to the mother and also baby's shoulder, ear and pelvis are all in one straight line while we use three K's (Three K's specifies Kandha, Kolha and Kan all) then the attachment is good and long lasting. Similarly in the mother posture if the back is straight and the mother if feeding in sitting posture, the baby is attached properly and the mother could feed for a longer duration till the child desires. The frequency distribution was shown and chi square test was applied. The Data was collected until the required sample size was reached. The data entry was done on Microsoft excel software and data analysis was performed on SPSS -16 software. Statistical significance was seen at 5% level of significance.

IV. Result:

Table 1: Showing the socio demographic profile of respondents:

Socio Demographic Variables		N
Age	18-25	82
	>25	18
Religion	Hindu	88
	Muslim	12

Area of residence	Rural	37
	Urban	63
Education of Mother	Illiterate	12
	<=5 th	13
	6 th -12 th	67
	Graduate and above	08
Education of Father	Illiterate	07
	<=5 th	04
	5 th -12 th	66
	Graduate and above	23
Occupation	Housewife	96
	Working	04
SES	III	42
	IV	31
	V	27
Type of Family	Nuclear	15
	Joint	85
Parity	1	53
	2	35
	>=3	12

The present study was done in 100 postnatal mothers delivered at Kamla Raja Hospital, Gwalior. The Majority of mothers were in the age group of 18-25 years which constitutes 82% and were Hindus regions i.e. 88% .In terms of place of residence 37 % mothers were residing in the rural areas while remaining 63% were residing in the urban areas. The majority of parents were educated in the range of 5th -12th standard and were involved in household activities (96%). As per BG Prasad Modified Socio economic classification the majority of mothers were in the class III (42%) followed by class IV (31%) mothers. 96% mothers were found to be housewife. Single parous mothers were seen more in numbers (53%). (Table 1)

Table 2: Showing the type of delivery, birth weight and rural urban differential:

Variables		Total	Rural		Urban		Chi Square, p value
			N	N	%	N	
Type of Delivery	Normal	73	26	70.27	47	74.60	0.222, 0.637
	LSCS	27	11	29.73	16	25.40	
Birth Weight	<2.5 KG	15	05	13.51	10	15.87	0.102, 0.749
	>=2.5 KG	85	32	86.49	53	84.13	

73% mothers delivered normally and 85 % of neonates were of normal birth weight (≥ 2.5 kg). A total of 70.27% of rural mothers normally delivered while 74.60% percent urban mothers respectively. 86.49 % of babies of mothers residing in the rural area were having normal birth weight (≥ 2.5 kg) while 84.13% of babies of mothers residing in the urban area were having normal birth weight. Though the differences among residence of mothers for type of delivery and birth weight of child was not found statistically significant. (Table 2)

Table 3: Showing the breast feeding practices and rural urban differences of mothers:

Variables		Total	Rural		Urban		Chi Square/Fisher Exact chi Square, p value
			N	N	%	N	
Breastfeeding started (within hours)	≤ 4	74	25	67.57	49	77.78	1.404, 0.495
	8	14	06	16.22	08	12.70	
	>8	12	06	16.22	06	9.52	
Mode of 1 st feed	Breast feeding	92	34	91.89	58	92.06	1.753, 0.416
	Spoon feeding	5	01	2.70	04	6.35	
	Finger	3	02	5.41	01	1.59	
Total feeds given per day	6 times	15	06	16.22	09	14.29	3.9103, 0.141
	8 times	18	03	8.10	15	23.81	
	On Demand	67	28	75.68	39	61.90	
Duration of feeding	05 min	69	28	75.68	41	65.08	2.077, 0.354
	6-15 min	18	04	10.81	14	22.22	
	As long as baby wants	13	05	13.51	08	12.70	
Total feeds/night	Once	3	02	5.40	01	1.59	2.3722, 0.305
	Twice	32	14	37.84	18	28.57	
	Whenever baby needs	65	21	56.76	44	69.84	

The present study found that 67.56% of the mothers were from rural areas who initiated breast feeding within 4 hrs ,16.21 % started within 8 hrs while 77.78% of mothers from urban areas initiated breast-feeding within 4 hrs ,12.69 % started within 8 hrs ,9.52 % started after 8 hours.91.89% of the mothers from rural areas practised breastfeeding as the mode of 1st feed ,5.41 % used finger for the first feed and 2.70 % practised spoon feeding .Among urban mothers 92.06 % practised breast feeding as mode of first feed ,6.35% practised spoon feeding. 2.71% of mothers from rural areas gave honey as first feed to baby.No such practice was seen among mothers in urban areas.75.68% of mothers from rural areas fed their babies on demand, 16.22 % fed them 6 times a day and 8.10 % fed them 8 times a day whereas 61.90% of mothers from urban areas fed their babies on demand, 14.29 % fed them 6 times a day and 23.81% fed them 8 times a day.75.68 % of the mothers from rural areas fed their babies for five minutes ,10.81% fed for five to fifteen minutes and 13.51 % fed their babies as long as he wanted per breastfeed. 65.08 % of the mothers from urban areas fed their babies for five minutes, 22.22% fed for five to fifteen minutes and 12.70 % fed their babies as long as he wanted per breastfeed. In the present study 56.76% of mothers from rural areas fed their babies whenever baby needed ,37.84% fed twice ,5.40% fed once per night .69.84% of mothers from urban areas fed their babies whenever baby needed , 28.57 % fed twice ,1.59% fed once per night .(Table 3)

Table 4: Showing the posture of mothers, status of mothers back and baby, signs of attachment to mothers, suckling status, assistance given:

Variables		Rural		Urban		Chi Square/Fisher Exact chi square, p value
		N	%	N	%	
Posture of mother during feeding	Lying	08	21.62	04	6.35	3.735,
	Sitting	29	78.38	59	93.65	0.053
Status of Mother's back	Straight	10	27.03	20	31.75	0.247,
	Not Straight	27	72.97	43	68.25	0.619
Status of Baby	3 K's	03	8.11	10	15.87	1.499,
	Baby close to mother	29	78.38	43	68.26	0.472
	Baby well supported by hand	05	13.51	10	15.87	
Sign of Attachment	Chin touching to breast	18	48.65	35	55.56	0.446, 0.504
	Mouth wide open	32	86.49	56	88.89	0.127, 0.721
	Lips turned outward	21	56.76	24	38.10	3.279, 0.070
	More areola visible upwards	08	21.62	17	26.98	0.357, 0.549
Attachment of baby	Not attached	0	0.00	0	0.00	0.128,
	Poorly attached	27	72.97	48	76.19	0.719
	Well attached	10	27.03	15	23.81	
Suckling status	No suckling at all	02	5.41	01	1.59	1.985,
	Not effective suckling	02	5.41	07	11.11	0.371
	Effective suckling	33	89.19	55	87.30	
Assistance to breastfeed given by	Sister in law	06	16.22	01	1.59	9.948,
	Mother in law	12	32.43	25	39.68	0.041
	Other family members	04	10.81	11	17.46	
	Others	01	2.70	06	9.52	
	No assistance	14	37.84	20	31.75	

In the present study 78.38% of mothers from rural areas breastfeed their babies in sitting posture and 21.62% breastfeed in lying posture ,93.65% of mothers from urban areas breastfeed their babies in sitting posture and 6.35% breastfeed in lying posture. In the present study 72.97% of mothers from rural areas did not have their back straight during breastfeeding and among urban 68.25% of mothers did not have their back straight during breastfeeding. In terms of status of baby 78.38% of the babies born to mothers from rural areas were close to their mother, 13.51% were well supported by hand and 8.11% had three K's during breastfeeding. 68.26% of the babies born to mothers from urban areas were close to their mother, 15.87% were well supported by hand and 15.87% had three K's during breastfeeding. The study showed signs of attachment as; 86.49% of the babies born to mothers of rural areas had mouth wide open, 56.76% had lips turned outward, 48.65% had their chin touching to breast and in 21.62% subjects more areola visible upwards and 88.89% of babies born to mothers of urban areas had mouth wide open, 55.56% had their chin touching to breast, 38.10% had lips turned outward and in 26.98% subjects more areola visible upward. The present study quoted 27.03% babies of mothers of rural areas were well attached and 23.81 % babies of mothers of urban areas were well attached with baby. The effective suckling was present among 89.19 % rural and 87.30 % urban mothers. It was observed that in maximum number of cases the assistance to breastfeed was given by mother in law i.e. 32.43% among rural

mothers and 39.68 % among urban mothers. 74% mothers were counselled for good breastfeeding practices. (Table 4)

V. Discussion:

In the present study 82% mothers were in the age group of 18-25 years and 63% were residents of urban areas. In the present study the prevalence of low birth weight among mothers of rural area was 13.51% and among urban area was 15.87 %. The prevalence of low birth weight (<2.5 kg) was nearly the same in urban and rural areas, similar findings were reported by Gao et al.¹⁰ The study findings of current study reported that 67.57% rural mothers and 77.78 % urban mothers started breastfeeding within four hours. Obulareddy et al in their study finds 70% rural and 78.33% of urban mothers started before 12 hours¹¹ According to WHO recommendations, a newborn child should be breastfed within 60 minutes after birth¹² Lubala et al found in his study that the breastfeeding initiation rate as 99.8% (99.4% in urban areas versus 99.9% in rural areas)¹³ Senanayake et al in their study reports that the proportion of mothers who initiated breastfeeding within the first hour of birth for children aged 0–23 months was 41.5% and the prevalence of early initiation of breastfeeding was 41.0% in the rural population and 42.9% in the urban population.¹⁴ Baby-Friendly Hospital Initiative (BFHI) indicates that all pregnant women and their families should be informed of the importance and management of breastfeeding in ANC sessions and a global breastfeeding strategy to promote, protect and support optimal lactation among new mothers is essential for improvements. Breastfeeding beyond 6 months (even up to 24 months) is extremely important because maternal milk provides the child with micronutrients, vitamins and polyunsaturated fatty acids that are in lower concentration in cereal based preparations for children particularly in rural areas¹⁵ In the present study found that 27.03% babies of mothers of rural areas were well attached and 23.81 % babies of mothers of urban areas were well attached with baby. A study which was done in the rural areas of North India reported that significantly more numbers of mothers of the babies with feeding problems had problems in the attachment of the baby to the breast as well as in the positioning of the infant to the breast.¹⁶ The positioning of the baby's body is important for maintaining good attachment and successful breastfeeding. Most difficulties of breastfeeding could be avoided altogether if good attachment and positioning could be achieved at the first and early feeds. The word "attachment" describes how the baby's mouth takes the breast and "positioning" describes how the baby's body is put near the mother's body¹⁷ No significant difference was observed in the supporting of the baby by both the hands by the mother in the urban and rural combined sample. Other authors have also reported similar findings.^{16,18& 19}

Since the present study was conducted at baby friendly centre and it is under control of well-trained medical staff, also in our study mostly female's participants were literates irrespective of the area of residence. So this literacy also helps to create better understanding of the importance of breastfeeding among them. The Rural urban differences among mothers were not seen significant, this may be due to; mothers were demonstrated with skills of proper attachment and positioning and they were also observed by the healthcare provider while they breastfeed their baby on immediate postnatal care. Since the post-natal wards were long hall type so many mothers were presents in the same hall and observe their own side bed so as to acquire early initiation of breastfeeding and also by timely counselling.

VI. Conclusion:

In the present study there were no disparities in initiation of early breastfeeding between urban and rural areas. Information, education and communication activities were important to encourage breast feeding. The practice of effective breastfeeding was mainly affected by educational status, presence of previous breastfeeding experience, mother's access to educational counselling immediately after delivery about breastfeeding and prior information about breastfeeding. All the hospitals should aim to become baby friendly and promotion of institutional deliveries would have a positive impact on early breastfeeding behaviour and the post-natal visits by health workers will go a long way in establishing healthy feeding practices including complementary feeding.

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