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Comparative Study of Knowledge of Urban and Rural Mothers about Neonatal Care

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ABSTRACT

Objectives: The purpose of this study is to assess and compare the knowledge about the neonatal care among the mothers in urban and rural area in district Ajmer province of Rajasthan

Materials and methods: Comparative randomized descriptive study was conducted among mothers who willingly gave consent to participate in the study. A structured questionnaire were framed and mothers were interviewed, the answers were recorded. To judge the knowledge score of the mothers closed ended questions having four alternatives were also framed. One mark was allocated for correct response.

Results: Among 5800 deliveries, 400 mothers (205 mothers were Urban and 195 mothers were from Rural area) were randomly selected. Mothers with Antenatal check-up had knowledge score of 61% compared to 24% who had no regular antenatal checkup. Knowledge about "Exclusive Breastfeeding" was 84.39% and 68.20% urban mothers and rural mothers and regarding adequacy was 73.17% in Urban and 44.61% in rural mothers. Knowledge about Hygiene was 89.75% and 53.33% in Urban and rural mothers. Skin care and baby bath was 28.29% and 18.46% in Urban and Rural mothers respectively. Knowledge about danger signs was 81.95% and 60% in Urban and Rural mothers respectively. Knowledge regarding immunization at birth was 70.7% and 35.89% in Urban and Rural mothers respectively.

Conclusions: Main factors affecting the knowledge score of the mothers about neonatal care were Educational status and Antenatal checkup. Knowledge about adequacy of breastfeeding, Immunization at birth, Danger signs, Temperature maintenance and hygiene was less in rural mothers as compared to urban mothers.

KEYWORDS: Knowledge, Neonatal care, ANC, girl's education

INTRODUCTION

Each year nearly 7.7 million children under five years die around the world; out of which approximately 3.1 million of the newborns die during the neonatal period and almost all these (99%) deaths occur in the developing countries [1]. According to the World Health Organization estimation, neonatal deaths account for 45% of the under-five deaths [2]. More than one-third of these deaths take place in the first 24 h of birth, whereas three-quarter of the neonatal deaths takes place in the first seven days of birth. [3] [4]Neonatal mortality rate (NMR) of India was 23.5/1000 live births. [5] Infant mortality rate (IMR) is regarded as an important sensitive indicator of health status of community, especially maternal and child health. The IMR of India is 32/1000 live birth, of Rajasthan is 37/1000 live birth as per sample registration system (SRS) [6], shockingly 70.7% of all these deaths occur in neonatal period. Among the17 Sustainable Development Goals (SDGs) set by United Nations in 2015, the 3rd goal, target states that all countries aim to put a stop to millions of avoidable deaths of newborns and under-five children by 2030. The targets to achieve are: reduction in neonatal mortality and under-5 mortality to no more than 12 and 25 deaths per 1000 live births respectively [7]. Majority of low-income countries are far behind achieving this goal mainly because of slow progress in reducing neonatal death [8, 9]. In Rajasthan there is poor maternal education, awareness and lack of attitude towards neonatal care. Extensive review of the literature revealed that only a few studies have been conducted to study maternal knowledge about neonatal care. Therefore, the present study is being done to know about mother's knowledge of Urban and Rural mothers regarding neonatal care and their knowledge about danger signs so that appropriate action can be taken within time to seek medical advice, and thereby helping to decrease alarmingly high infant mortality rate of the state of Rajasthan. The components of essential newborn care services as per WHO comprises: promotion of exclusive breastfeeding and start immediately after birth (within

one hour), thermal protection (Kangaroo Mother Care), prevention and early treatment of hypothermia, hygiene, immunization, management of illness and good quality antenatal care, safe delivery and optimal care at birth. [10, 11]

MATERIALS AND METHODS

This study was carried out in Maternity ward, J.L.N. Medical College, Ajmer over a period of one year. Out of 5800 deliveries during this study period, 400 mothers (out of which 205 mothers were Urban and 195 mothers were from Rural area) were randomly selected, who have given birth to a child within 48 hours and who willingly gave consent to participate in study were included, whereas the mothers who were sick or whose baby was admitted in nursery were excluded from the study, merely for the reason of not mentally ready to participate in the study.

Ethical clearance for the study was obtained from ethical committee. A questionnaire for structured interview was formulated in Hindi to assess existing knowledge of mothers about neonatal care. The content areas and items for the same were planned after reviewing literature and senior consultant's advice. After taking the mother into confidence, providing comfortable environment and after explaining the mother about content of the study, we interviewed the mother and the answers were recorded on specially designed pretested proforma for the study.

Knowledge scoring: To judge the knowledge score of the mothers on selected areas of neonatal care, closed ended questions having four alternatives were framed. One mark was allocated for correct response.

The selected content areas were-

1. Breastfeeding- advantages, pre-lacteal feed, colostrum, initiation, frequency, schedule, posture of mother, position and attachment of baby & adequacy of breast milk.

2. Temperature maintenance by clothing and KMC

3. Skin care and baby bath & Hygiene — first bath, care of skin and eyes and dresses.

4. Care of umbilical stump (Keeping dry and clean

5. Common neonatal problems (Neonatal jaundice, Superficial infections(Pustules), Eye discharge, Regurgitation of milk, Not passing urine/ stool, Watering from eyes etc).

6. Immunization at birth — T.T. in mother, vaccines to be given at birth (BCG, OPV-0, Hep. B-0).

7. Knowledge about danger signs (Cyanosis, Convulsion, Resp distress and lethargic and poor feeding

Statistical analysis of data- Collected data were analyzed using informative and descriptive statistics, percentage, mean, standard deviation, analysis of variance (ANOVA), Chi-square test and student't' test as and when required. P-value of >0.05 or z-score > 1.96 was considered to be significant. P-value of >0.05 or z-score > 1.96 was considered to be significant.

RESULT

In this study 205(51.25%) mothers were Urban and 195(48.75%) were Rural. Knowledge score about neonatal care according to age was 59%,61% and 52% in the age group of 19-24 year, 25-30 year and >30 year respectively. Knowledge score in higher educated and higher secondary school was 70% and 71% respectively whereas in illiterate that was only 31%. Mothers who had done Antenatal check-up had knowledge score of 61% whereas that was very less with only 24% in the mothers who had not done. The socio-demographic profile of participants is as presented inTable 1.

Knowledge about "Exclusive Breastfeeding" was 84.46% in Urban mothers and 68.04% in Rural mothers (p-value >0.05, z-score=4.07). Knowledge about early initiation of breastfeeding was 17% and 13% in Urban and Rural mothers respectively (p-value <0.05, z-score=1.86). Knowledge about Necessity to give Colostrum was 87.37% and 76.28% in Urban and Rural Mothers (p-value >0.05, z-score=3.08). 77% (308/400) mothers had knowledge that pre-lacteal feed should not be introduced to their child. 81.95% (168/205) were Urban and 71.79% (140/195) were rural mothers. (P-value >0.05, z-score=2.96). Pre-lacteal feed was given in the form of honey (52%), cow's milk (38%) and sugar water (10%). Knowledge about correct positioning and good attachment during breastfeeding was very less in both the groups with only 26.82 %(55/205) and 16.41 %(32/195) in Urban and Rural mothers respectively. (P-value >0.05, z-score=3.06). Knowledge about adequacy of breast feeding was more in Urban mothers with 73.17 %(150/205) as compare to Rural mothers with only 44.61 %(87/195) and p-value is > 0.05(z-score=6.29). There was not much difference in knowledge about care of Umbilical stump with 72.68% (149/205) and 65.12% (127/195) in Urban and Rural mothers respectively (p-value >0.05, z-score=2.13). Knowledge about Hygiene was 89.75 %(184/205) % in Urban and 53.33 %(104/195) in Rural mothers. (P-value>0.05, z-score=10.81). Knowledge about common neonatal problems was 43.90 %(90/205) and 38.46 %(75/195) in Urban and Rural mothers respectively. (P-value <0.05, z-score=1.70). Knowledge about skin care and baby bath was 28.29 %(58/205) and 18.46 %(36/195) in Urban and Rural mothers respectively.(p-value>0.05, z-score=2.82). Knowledge about danger signs was 81.95 %(168/205) and 60 %(117/195) in Urban and Rural mothers respectively. (P-value>0.05, z-score=6.45). Knowledge about temperature maintenance and Kangaroo mothers care was 65.36% (134/205) and 34.35%(67/195) in urban and rural mothers respectively (P-value>0.05, z-score=8.94). Knowledge about Immunization at birth was 70.7 %(145/205) and 35.89 %(70/195) in Urban and Rural mothers respectively. (p-value>0.05, z-score=9.73). The data is as presented inTable 2.

Variables	Urban Mothers(205)	Rural Mothers (195)	Total(400)
Sex			
Male	98(47.80%)	92(47.18%)	190(47.5%)
Female	107(52.19%)	103(52.82%)	210(52.5%)
Family type			
Nuclear	151(73.65%)	101(51.79%)	252(63%)
Joint	54(26.34%)	94(48.20%)	148(37%)
Antenatal registration			
Yes	195(95.12%)	115(58.97%)	310(77.5%)
No	10(4.88%)	80(40.02%)	90(22.5%)
Age of mothers			
19-24 year	79(38.53%)	104(53.33%)	183(45.75%)
25-30 year	92(44.87%)	70(35.89%)	162(40.5%)
30 year	34(16.58%)	21(10.77%)	55(13.75%)
Educational status of mothers			
Illiterate	8(3.90%)	56(28.72%)	64(16%)
Primary	26(12.68%)	80(41.02%)	106(26.5%)
Secondary	39(19.02%)	36(18.46%)	75(18.75%)
Higher secondary	61(29.75%)	14(7.17%)	75(18.75%)
Higher education	71(34.63%)	9(4.61%)	80(20%)

Table 1: Socio Demographic characters of the study population

s.no	Knowledge about	Urban mothers Total=205	Rural mothers Total=195	z-score	p-value
1. 2.	Exclusive breastfeeding Early	84.39%(173)	68.20%(133)	4.07	>0.05
3. 4.	initiation of breastfeeding	17.07%(35)	13.33%(26)	1.86	<0.05
5. 6.	Necessity to give colostrums No	87.31%(179)	75.89%(148)	3.08	>0.05
7. 8.	Pre-lacteal feed Correct	81.95%(168)	71.79%(140)	2.96	>0.05
9.	positioning and attachment of	26.82%(55)	16.41%(32)	3.06	>0.05
10.	baby during breastfeeding	73.17%(150)	44.61%(87)	6.29	>0.05
11.	Adequacy of breastfeeding	72.68%(149)	65.12%(127)	2.13	>0.05
12.	Umbilical stump care Hygiene	89.75%(184)	53.33%(104)	10.81	>0.05
13.	Common neonatal problems	43.90%(90) 28.29%(58)	38.46%(75)	1.7 2.82	<0.05
	Skin care and baby bath Danger	81.95%(168)	18.46%(36) 60%(117)	6.45	>0.05
	signs Temperature maintenance	65.36%(134)	34.35%(67)	8.94	>0.05
	and KMC Immunization at birth	70.7%(145)	35.89%(70)	9.73	>0.05
					>0.05

P-value of >0.05 or z-score > 1.96 considered to be significant.

Table 2: knowledge about breastfeeding in Rural and urban Mothers

DISCUSSION

In the present study out of 5800 deliveries during one year period, with a total of 400 mothers, 205 mothers were from Urban area whereas 195 mothers were from Rural area. Among the urban mothers 95.12% have taken regular antenatal checkups whereas only 58.97% of the rural mothers have taken regular antenatal checkups. Age at pregnancy among the urban mothers was between 19-24yrs 38.53%, 25-30 yrs 44.87% and more than 30 years were 16.58%. Age at pregnancy among the rural mothers was between 19-24 yrs 53.33%, 25-30yrs 35.89% , and more than 30 yrs 10.77%, Indicating elderly primi gravida were more among the urban mothers.

Knowledge about the neonatal care among the urban and rural mothers with respect to early initiation of breast feeding(17.07%vs 13.33%) and common neonatal problems encountered (43.90vs 38.46%) were statistically significant with p value <0.05. Whereas about the importance of necessity to give colostrum, not to introduce pre lacteal feeds, correct positioning and attachment during feeding, umbilical stump care, hygiene, skin care and baby bathing , identification of danger signs, kangaroo mother care , immunization at birth were higher among the urban mothers compared to rural mothers , though statistically not significant. Table 2 Compared our study, study conducted by Mobolanle R. Balogun et al. showed conflicting results. In the rural and urban areas of south-west Nigeria, respondents with good level of knowledge of breastfeeding in the urban and rural areas were 84.7% and 89.5%, respectively (P = 0.256). The overall positive attitude was 52.4% and 57.3% among the urban and rural respondents, respectively (P = 0.444). More than three-quarters (75.8%) of the respondents in the rural Area and 43.5% of the urban respondents initiated breastfeeding immediately after birth (P < 0.001). The overall good practice was 16.1% and 69.4% among the urban and rural respondents, respectively (P<0.001). [12] In specific areas of knowledge,84.7% of the urban respondents knew the usefulness of colostrum to the newborn which was higher compared to 68.5% of their rural counterparts. This was lower than the 89.3% found in a study among female teachers in Southwestern, Saudi Arabia, but higher than 77% found in a study among women in Dhaka city, Bangladesh. [13, 14]. However, the predictors of good knowledge in this study were professional occupation and hospital delivery. In a study conducted by Kishore MS et al. Hospital delivery most likely exposed women to breastfeeding counseling, which was found to be associated with good breastfeeding knowledge in rural India. [15]. More mothers in the urban area knew of the right time to start complementary feeding compared to the rural women.In our study 28.72% of the rural mothers were illiterate compared to only 3.90% of urban mothers. 41.02 % had completed primary education whereas only 7.17% had completed higher secondary education. Higher proportions of mothers with at least secondary education had better knowledge of breastfeeding as documented in some other studies. [16, 17]This underscores the importance of female education, which is a clearly identified strategy for children's survival and health. [17]

Knowledge about the adequacy of breast feeding up till six months was much higher(73.17%) among urban mothers compared to 44.61% among the rural mothers, which was similar to the finding in a study carried out in Iraq, in which 61.2% of mothers agreed that breast milk is insufficient for babies <6 months. [18, 19]

Limitation of the study:

A limitation of this study is that we assessed mainly maternal characteristics as factors associated with breastfeeding knowledge, attitude, and practices. Future comparative studies should also explore the influence of fathers and other relatives on breastfeeding.

CONCLUSION

There is a significant difference in the Knowledge of Urban and Rural mothers in all content areas except knowledge about early initiation of breastfeeding and Common neonatal problems. Main factors affecting the knowledge score of the mothers about neonatal care were Educational status and Antenatal checkup. Educational standing of girls should be enhanced in order to improve newborn care. To increase moms' understanding of newborn care, we should strive for 100% ANC registration. These ANC visits should mostly be used to teach mothers about the components of basic newborn care. Urgent need for vigorous information, education and communication efforts targeted towards future mothers and lactating mothers about neonatal care so that neonatal morbidity and mortality can be reduced to desired MDG goal.

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