Volume-3, Issue-7, July-2014 • ISSN No 2277 - 8160

Research Paper | Medical Science

Evaluation of Maternal Practice in Infants Care in Zahedan City of Iran

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ABSTRACT

Introduction: At birth a new born baby makes a transition from life inside the womb to an independent existence outside. In this world babies are unable to save themselves against risk factors. Proper practices of mothers in early days of life can save them from many death risks. This study aimed to evaluate maternal practice on the healthy child care in two, nutritional and traditional aspects. Methods: A based population cross-sectional study among 555 women of reproductive age group in Zahedan city belongs to the southeast zone of Iran was operated. Sample size was calculated on the basis of percent distribution of mothers in different health centers. Researchers made questionnaire was used with a total of 23 questions in three parts, demographic, nutritional and traditional practices and developed according to the researcher team experience and after factor analysis was consisted. The data was analyzed in SPSS. Results: mothers in 50.1 % and 49.5 % of having boys and girls respectively were distributed. The means of mother's age at the time of survey and at marriage were 27.1 (5.88) and 17.8 (4.11) respectively. in nutritional cares, colostrums for first feeding of newborns, breastfed for infant feeding, formulae milk for mothers' practice when they have not enough milk, lateral position for baby sleeping position after lactating and six months for onset age to start Complementary foods had the highest percentage of 96.89%, 83.39%, 69.94%, 53.10% and 90.35% respectively in compared to other options in each care. In traditional cares in yes and no options the percentages of mothers who answer yes were 87.27%, 24.35%, 51.59%, 64.08%, 24.71% and 31.33% in swaddling, using pacifier, dragging surme in eyes, given water in hot weather, referred for routine checkup and in having vaccination card respectively. Mother age had significant association with both traditional and nutritional cares (r=0.118, p=0.013 and r=0.120, p= 0.011). Mother age at marriage was associated significantly only with traditional cares (r=0.157, p=0.004). Number of children in household had significant association with traditional and nutritional cares (r= -0.203, p= 0.000) and(r=0.103, p=0.034).Conclusion: Some of practices related to traditional cares may not have any harmful effects on health, while others do so. Therefore, it is required that traditional health care practices should be investigated more and those which are useful should be preserved, but that harmful ones should replaced by useful ones. This replacement could be effect when is according a systematic planning and long term programs.

KEYWORDS : Evaluation, maternal practice, newborns care, Zahedan

Introduction

At birth a new born baby makes a transition from life inside the womb to an independent existence outside. Until this time the placenta has been functioning as the organ for respiration, nutrition, excretion and for the production of various hormones that are necessary for the maintenance of pregnancy. But after birth a new born baby needs specific attentions in care (1). At present, shortage in child care especially newborn babies cause's child health problems in the world especially in developing countries. In a study has been done by Lawn et al. is reported that of all deaths which occur in less than 5 years old, 36% are neonatal deaths. In fact, of the approximately four million global neonatal deaths that occur annually, 98% occur in developing regions (2). In another side, More than half a million newborns are estimated to die each year from serious neonatal infections, accounting for about 15% of all neonatal deaths globally (3). The most vulnerable time for both the mother and newborn is during birth and in the hours and days immediately after childbirth. Around 75 percent of neonatal deaths occur during the first week of life, with the majority in the first 48 hours(4) in which also is a period of the highest risk for mothers(5). In populations with very high neonatal mortality, up to half of neonatal deaths may have an infectious cause (6). According to UNICEF (1990) infant mortality rate was 47 per thousand live births and reduced this figure to 14 per thousand in the year of 2013 (7). Also, the World Bank statistics revealed that, this figure achieved to eleven per thousand live births when in many European countries, the rate is 2.3 and conversely this rate is high in some countries such as Afghanistan, 36 and 31 in India. Therefore, the most critical stages of life is the neonatal life and recognizing the need for accurate and precise care is necessary. World Health Organization (WHO) and United Nations Children's Fund (UNICEF) recommend that all mothers should have good practice related to children care and should breastfeed their children exclusively for the first 6 months. They should continue to breastfeed for as long as the mother and child could and wish. Appropriate and sufficient complementary food should be added after six months of life. In order to achieve the Millennium Development Goal of reduction of child mortality, infant breastfeeding has been identified as one of the major intervention areas both globally and nationally. Many studies like one by Ghosh, S demonstrated and documented that exclusive breastfeeding was practiced in only 30% - 40% of infants, colostrums was discarded in up to 90%, use of prelacteal feeds was almost universal, use of feeding bottles, animal milk, and formulae milk was very common(8). According to the Baltas study cultural values, attitudes, beliefs and behaviours affect life style and health. Therefore, these aspects are considered as dynamic factors which play an important role in health and diseases (9). Traditional child care practices affect children's health. Although they may vary from society to society and culture to culture and Iran is not excluded because of its very old historical record. As reported that the most of the mothers are not equipped with sufficient good practice about child care and using traditional beliefs in many ancient regions around the world. Mothers' practices during illnesses of their children also play an important role in child health (10). Since Zahedan city is located in the most dryness region of Iran, tropical and infectious diseases are serious risk factors for the population especially children and prominently for new born babies. As most births and deaths occur inside health care facility, a reduction in the neonatal mortality may related to interventions involving promotion or adaptation of traditional care behaviours practiced at home. Insufficient knowledge in care during infancy in some regions still causes child health problems in Iran and more strong in Sistan and Baluchistan province. According to the mortality database operated by Child Health Unit (CHU), Deputy of Health (DH), Zahedan University of Medical Sciences (ZaUMS), the Infant Mortality Rate (IMR) was 20.7 in which 68% of them occurred in the first 28 days in

2013-2014 years, in which probably mother's practice has a big role. Therefore this study was done with the aim of evaluation of maternal practice in caring for newborns and infants in the city of Zahedan.

Methods

The present study was a population based cross-sectional among 555 women of reproductive age group in Zahedan city belongs to the southeast zone of Iran. The study was conducted over a period of two months in October and November of 2013 year. The study area with a population about 800,000 had 34 health centers, 23 for urban and 11 for rural area at the time of study. The study population included all women of reproductive age group residing in all districts of the city selected randomly from primary care units of health centers. Sample size was calculated on the basis of percent distribution of mothers on different health centers. Considering a 10 percent of mothers in each health center gave us 500 samples and added 10 percent non response, the sample size came out to be 550; however in the present study 555 mothers were covered in filling out the questionnaire and easy interviewing. Only mothers of with at least one child aged less than first year after birth were eligible for interview. All information pertaining to maternal practices concerning child health was taken in reference to the youngest child only. The interview took place only after informed consent was given with accessible mothers in each health center. A questionnaire was made with a total of 19 questions by researcher team and developed according to their experience and after factor analysis was consisted. The first set of questions asked about demographics factors such as: age, age at marriage, birth order and number of children in household and followed by a set of questions about nutritional practice, including the following questions:

1- first feeding of newborn baby with options of: colostrums, b) sugar water, c) formulae milk and d) others.
2- Infant feeding with options of: a) Breast milk, b) formulae + breast milk, c) formulae milk and d) others.
3- Mother Performance when has not enough milk with options of: a) using formulae milk, b) using cow milk, c) using complementary foods d) using nannies.
4- Baby sleeping position after lactating with options of: a) supine, b) lateral, c) 30 degrees head-up and d) prone.
5- Onset age to start complementary foods with options of: a) 3 months, b) 4 months, c) 6 months and d) first year of age.

Traditional practice, including a set of questions related to: swaddling, using pacifier, dragging surme (eyeliner) in eyes, given water in hot weather, referred for routine checkup and having vaccination cards in referring with yes and no options. For scoring maternal practice in nutritional aspect we used scores of 3 for the best selection and zero for the worst. The total score was calculated to level the practice by using of $SI = (X-X_{min}) / (X_{max}-X_{min})$ mapping, where: $0 <= SI = <1$ is. From 0 to 0.33 coded with poor or weak practice, the range of 0.33 to 0.66 and 0.66 to 1 coded moderate and good practice respectively. In terms of traditional cares, scores one for good response and zero for the bad and then leveled by SI map in the late manner. The analysis was done in SPSS Version 14. For descriptive statistics we used frequency and percentage. And for inferential statistics the correlation coefficient with 95% confidence interval considered.

Results

The results of our study on 555 mothers showed, 50.1 % and 49.5 % of mothers had boys and girls respectively. The mean (SD) age of mothers was 27.1 (5.88) years. The mean (SD) age at marriage was 17.8 (4.11) years. Table 1 shows that, in cares of nutritional practices, colostrums as first feeding of newborns, breastfed as infant feeding, formulae milk for mothers' practice when they have not enough milk, lateral position for Baby sleeping position after lactating and six months, for onset age to start Complementary foods have the highest percentage of 96.89%, 83.39%, 69.94%, 53.10% and 90.35% respectively in compared to other options in each care. Table 2 shows that the cares related to infant nutrition. Mother practices are in different levels. The results show that in the first feeding practice the majority of mothers (91.39%) have good performance. Maternal practice related to nutrition during infancy, Baby sleeping Position after lactating and onset age for complementary food show good practices. The percentages of mothers in the level of good practice are 95.49, 72.03, 64.05 and 96.10 respectively.

Table 1: distribution of mothers' performances on nutritional Child Cares

Nutritional care with options		n	%
first feeding of newborn	Colostrums	464	86.89
	sugar water	24	4.49
	formulae milk	22	4.12
	others	24	4.49
	Total	534	100.00
Infant feeding	Breast milk	462	83.39
	formulae milk	24	4.33
	formulae + breast milk	67	12.09
	others	1	0.18
	total	554	100.00
Mother practice When has not enough milk	formulae milk	335	69.94
	using cow milk	16	3.34
	nannies	118	24.63
	using complementary foods	10	2.09
	total	479	100.00
Baby sleeping Position after lactating	supine	149	27.19
	lateral	291	53.10
	30 degrees head-up	60	10.95
	Prone position	48	8.76
	total	548	100.00
Onset age to start complementary foods	3 months	6	1.11
	4 months	31	5.75
	6 months	487	90.35
	first year	15	2.78
	total	539	100.00

A series of infant cares rooted in the culture and beliefs. Table 3 shows some of these practices on infant cares. In some of these the maternal practice is bad, 87.27 % of mothers like to swaddle their babies. Dragging surme (eyeliner) in eyes shows that 51.59% of mothers do it in favor. Using pacifier somehow is not favor in mothers and the table shows that 75.65% of mothers do good performance. In routine examination and checkup practice, 75.29 % of women had good action when 31.33% of mothers were going to check up their babies with vaccination cards.

Table 2: Distribution of frequency and percentage of nutritional care in practice level

practice level	first infant feeding		Infant feeding		Mother practice When has not enough milk		Baby sleeping position after lactating		Onset age for complementary foods	
	n	%	n	%	n	%	n	%	n	%
weak	24	4.49	1	0.18	118	24.63	48	8.76	6	1.11
moderate	22	4.12	24	4.33	16	3.34	149	27.19	15	2.78
good	488	91.39	529	95.49	345	72.03	351	64.05	518	96.10
total	534	100.00	554	100.00	479	100.00	548	100.00	539	100.00

Table 3: Frequency and percentage distribution of practice levels in the traditional care

Practice level	swaddling	pacifier use	drag surme in eyes	given water in hot weather	referred for routine checkup	having vaccination cards
	n %	n %	n %	n %	n %	n %
yes	473 87.27	132 24.35	275 51.59	339 64.08	127 24.71	167 31.33
no	69 12.73	410 75.65	258 48.41	190 35.92	387 75.29	366 68.67
Total	542	542 100	533 100	529 100	514 100	533 100

Table 4 shows the association between quantities factors and the levels of mothers' practice related to traditional and nutritional cares. Mother age have significant association with both traditional and nutritional cares (r=0.118, p=0.013 and r=0.120, p= 0.011). Mother age at marriage associated significantly only with traditional cares (r=0.157, p=0.004).

Table 4: The association between quantities factors and traditional and nutritional cares

Factors	statistics	traditional care	nutritional care
Mother age	r	0.118	0.120
	p	0.031	0.011
Mother age at marriage	r	0.157	0.058
	p	0.004	0.221
Birth order	r	-0.088	-0.020
	p	0.184	0.737
No. of children in household	r	-0.203	0.103
	p	0.000	0.034

Birth order of the baby doesn't show any relationship with both types of cares when number of children in household have converse relationship and significant with traditional cares (r= -0.203, p= 0.000). It shows that when the number of children in household increasing the level of practice is decreased. This factor also significantly associated with nutritional cares (r=0.103, p=0.034).

Discussion

Consistent with experimental ideas, proper feeding at birth and in specific postnatal care practices can be particularly important and effective in reducing infant deaths. Marsh DR recommended that amending the mother practice at birth to reduce disability and mortality should be performed in the neonatal period. These basic newborns' cares including: care in thermal and early breastfeeding within the first hour after birth (11) and many other aspects. The World Health Organization (WHO) recommends that all mothers should breastfeed their children exclusively for the first 6 months. Thereafter they should continue to breastfed for as long as the mother and child wish, and both appropriate and sufficient weaning food should be added. However, the WHO estimates that worldwide only 35% of children between birth and their fifth month are breastfed exclusively. In our study we resulted that the majority of our mothers (83.39%) do feed their children with breast. In a study conducted by peter, breastfeeding at early hours after birth is reported as 57 percent that is strongly lower than our results (10). In our study concluded that the majority of mothers (90.35%) started complementary feeding to their children after sixth month when khan MI (13) reported 35.8%, of mothers started. In our study, about ninety percent of mothers did the first infant feeding with colostrums in which believe that it is a vaccine for neonates. While Singh et.al in their study found that 47.8 % of mothers were fed their infants colostrums (14) and Prathbha (15) observed that 43.5 % of mothers fed their baby colostrums. In another related study reported that 68.8% of the mothers started breastfeeding two days after birth and 73.4% of the mothers gave sugar water as the first food which is dissimilar with our results (16). A study by Savaş et al. in Turkey (17) revealed that 63% of mothers fed their babies soon after birth and 32.5% gave their babies sugar water. According to the results of present study these traditional practices are still perceived as important in the postpartum period in traditional societies. Feeding with colostrums in the early hours after birth and feeding in infancy period are important factors in health to survive babies during the neonatal period (18).The mother practice related to when they have not enough breast milk is another important performance. In the present study the majority of mothers like to use formulae milk. It is followed with using of nannies. Some studies provide strong evidence for the conclusion that sleeping in the prone position places infants at greater risk for sudden infant death syndrome (SIDS) (19). In prone sleeping position there is less time awake and more quiet sleep. To determine whether the effects of sleeping position on state distribution vary with time after feeding, we studied infants in both the prone and supine sleeping positions with two other options. In the Myers MM1 study, prone sleeping is associated with a 79% increase in quiet sleep and a 71% decrease in time awake. Our study showed that the majority of mothers use lateral position to sleep their baby. The level of these practices varying with the knowledge and awareness of mothers. Rao H (20) found that the majority (83%) of mothers utilized the supine sleep position for infants at least 1-2 weeks prior to discharge, but after discharge, only 38% of the mothers actively discouraged prone sleeping and 17% additionally recommended side sleeping. Compared to our study the majority of mothers interested to side sleeping. Generally, complementary foods are not introduced to infants before four months, with the average age about seven months. In our study we concluded that the majority of mothers (90.35%) started complementary foods after sixth month. In our study we reached to conclusion that 64.08% of mothers gave their children water in hot weather. Almroth SG (21) in the study concluded that because the values for specific gravity were universally low it was concluded that healthy; exclusively breastfed infants living in a hot humid climate will manage well without additional water. Additional water may be desirable during illness. When Sachdev HP (22) resulted that exclusively breastfed infants do not need supplemental water to maintain water homoeostasis; a reduced breast milk intake is a potential disadvantage of this practice. In our study resulted that, positive correlation between maternal practice levels based on nutritional care and mother age, number of children in household is existed and showed a significant association when mother age at marriage and birth order showed that significant association is not existed. Norhan Zeki Shaker et al.(23) in a study reported that, mothers with high age were more knowledgeable about child feeding, had better attitudes toward infant and young child feeding, while mothers ages had high-significant relation with mothers practices of infant and young child feeding in which is similar with our results and this is in contrast to what found by Baisch et al (24) who conducted a study to assess breastfeeding attitudes, and he founded that there is no differences in attitudes by age. Mother's job and prenatal care showed a positive impact on nutritional cares, those who employed had the biggest mean of score and those who tend to have regular prenatal care had the highest average score. The majority of factors in the study not associated with nutritional care practice such as education, place of resident, health giver, type of delivery and baby's sex. Zahedanian mothers either wrapped the whole body of their children or only the waist and legs. According to the costumes and cultural treatments mothers believed that swaddling baby provided comfort and warmth for the babies, alignment of their extremities and joints and allowed them to hold their babies easily and some preferred swaddling just because their parents did so. Swaddling has been used for ages and is still common, which indicates the power of values and traditional practices transferred from one generation to the next. Ayşe Beşer et.al (25) reported that 25% of mothers did swaddling their babies when our result showed that this percentage is 87.27%, Zahedanian mothers swaddle their babies more than Turkish mothers. Pacifiers are related to a shorter duration of breastfeeding. However, it is unclear whether this association is causal, because confounding, reverse causality, and self-selection of mothers may play a role. A study by Victoria CG (26) showed that pacifier use was common with 85% of users at 1 month. However, this was a dynamic process, with many infants starting or abandoning the pacifiers in any age range. Children who stopped breastfeeding in a given period were likely to take up the pacifier during that period. Pacifiers may be an effective weaning mechanism used by mothers who have explicit or implicit difficulties in breastfeeding, but they are much less likely to affect infants whose

mothers are confident about nursing. Breastfeeding promotion campaigns aimed specifically at reducing pacifier use will fail unless they also help women face the challenges of nursing and address their anxieties. Our results showed that 24.35% of mothers using pacifier and this sign is good for our society. In Nelson EA (27) study reported that the rates of pacifier use (12.5%-71%) varied between centers of the study. Pacifier use was negatively associated with breastfeeding. Our study showed that our mothers are similar with this recommendation. Use of kohl (surma) as eyeliner is a popular practice in some part of the world like Saudi Arabia and people firmly believe that it is safe to use. In the study by Al-Ashban RM (28), the blood analyses of regular kohl users revealed a high lead concentration and relatively low hemoglobin levels in which may cause lead poisoning. Due to the health risk, an official public awareness campaign is suggested to encourage the use of lead-free surma (29). In our study 51.59% of mothers use surma for their children's eyes without being aware of lead concentration. Better to warn them before discharging or early days after delivery to use surma with low lead concentration. Although immunizations does not come under the essential newborn care practices, it is crucial that the mothers are imparted the elementary lessons regarding immunization before they get discharged from hospital. Although all the mothers in the present study were of the opinion that vaccines are essential, majority of them did not know all diseases can be prevented with vaccines. They refer to visit doctor just for common morbidity in infants. Various studies have proved that better knowledge and practice about the vaccines would improve the vaccine coverage. Vaccination in Zahedan is an obligatory programme. Despite all effort taken by the health deputy (DH) of Zahedan University of Medical Science (ZaUMS) in which is responsible for the program me still there remains some element of incomplete immunization of the children. One of the causes for this under coverage may be due to mother practice. In the present study we resulted that in referring for the routine check up and having vaccination card at early months after birth, the majority of mothers showed good practice, 75.29% and 68.67% respectively. With didn't observe unimmunized children in contrast to other researchers who reported percentages of children who were immunized of 70% in Karachi in Pakistan (31) our results comparatively is similar.

Conclusion

Culture and religious beliefs have a positive influence on the performance of maternity care on healthy children. Promotion in practices of child care could positively impact nutritional status of children as well disability and morbidity in which related to traditional behaviors in child care. The present study indicated that traditional practices pertaining to maternal and infant health are still popular. The postpartum period is counted as a period when mothers and their babies are more vulnerable to illnesses. The mothers maintain to follow a number of traditional practices in order to protect those illnesses. Some of these practices may not have any harmful effects on health, while others do so. Therefore, it is required that traditional health care practices should be investigated more and those which are useful should be preserved, but that harmful ones should replaced by useful ones. In addition, health workers can develop the level of the maternal practices by a routine educational programs related to their beliefs in the ancient society.

Acknowledgements: The authors thank the mothers who participated in the study for their kind cooperation.

Competing Interests: None of the authors has any conflict of financial or other interest.

Funding: The study has been carried out without external funding

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