Research article

Rural Jordanian Mothers' Beliefs, Knowledge and Practices of Postnatal Care

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ABSTRACT

In Jordan, despite being one of the most modern countries in the Middle East, postnatal care services are still under-utilized by rural Jordanian mothers. The purpose of this study is to explore, analyse and critique the postnatal cultural health beliefs, knowledge and practices of rural Jordanian mothers.

Design: a critical ethnographic approach was used to critically investigate the cultural health issues of 13 rural Jordanian postpartum mothers from four rural areas in the Northeast governorate which is characterized rural populated governorate. The findings showed that rural Jordanian mothers depended on the cultural health beliefs and knowledge to perform the postnatal care practices. **Conclusion and recommendations:** most of the rural Jordanian postpartum mothers depended on cultural beliefs and practices as a mode of health seeking behavior, in preference to available government health care services for care of their infants. Thus the rural Jordanian mothers are in need of supportive health educational services to increase their level of health knowledge and enhance the recommended health practices.

Keywords: Infant care, cultural health beliefs and practices, cultural health knowledge

Introduction

The mysteries of life, birth and death are heavily entwined with cultural beliefs. At the same time, the reproductive cycle (antenatal, perinatal and postpartum) is accorded special beliefs and practices in many cultures. [1] Where these beliefs are associated with unhealthy practices, during the postpartum period then maternal and infant mortality and morbidity are known to be affected. [2,3] Despite the obvious importance of postpartum and postnatal care Borders (2006) identifies a distinct lack of research in this area. In particular, the consequences of the effects of culture on the well-being of the mother and the child during this time have not been studied in depth.[4]

The main concept of this study is culture that has been defined as "the learned, shared, and transmitted knowledge of values, beliefs, and life ways of a particular group that are generally transmitted inter-generationally and influence thinking, decisions, and actions in patterned or in certain ways" .[6] For the purposes of this study the culture of rural Jordanian postpartum mothers is the culture that will be studied to investigate its influences on postnatal care. This is because rural people have conserved their rural culture despite the influences of urban life.

BACKGROUND

Jordan has become one of the most modern countries in the Middle East. The major cities are Amman, the capital, Irbid, and Zarqa.[7] Although there is a tendency towards urban life in Jordan, the rural population still comprises almost 20% of the total population, distributed mainly in the North and the South parts of Jordan. This concentration gives the rural population the opportunity to preserve their own culture and transfer it to the new generations. Furthermore, the rural population has a higher fertility rate (4.2%) than the urban population (3.5%) and a correspondingly lower percentage of using any family planning method in rural (50.5%) compared with the urban areas where 57.1% use family planning methods.[7] The Mafraq Governorate is located in the North East part of Jordan, and has been chosen as the area of study because the percentage of mothers who use postnatal care in the Maternal and Child Health Care (MCHC) centers is only 6.82%.[8]This raises questions about the postnatal care modalities in this area which means neonate and infant care during postpartum period. However, postpartum care of the mother was not the focus in this study.

Few studies were found discussing other components of holistic infant care such as: sleeping, hygiene (washing and bathing), provision of warmth, close-bond relationships, care of the cord and eyes, protection from infection and calming of the infant. In Jordan, Jarrah and Bond conducted one of the rare studies centred on cultural issues of postnatal care in 2007. This was a descriptive quantitative study aimed at determining the postpartum beliefs among women of the world, generally, and in particular analysed the traditional beliefs held by Jordanian women. The main limitation of this study is the small sample size that prevents its generalization to postpartum women in Jordan, either rural or urban (n= 40 postpartum women in total, half of them were rurally located, and the remaining half was from urban areas). Another crucial limitation is that the questionnaire items focused on the postpartum cultural beliefs only without relating these to the actual cultural practices: these too seem imperative to explore. Finally, the quantitative design of this study is limited and cannot provide the in-depth understanding of cultural beliefs that could be provided by a study of qualitative design. Despite these limitations and the fact that it did not study postnatal care exclusively, Jarrah and Bond's study has nevertheless made a significant contribution to the case for studying in depth the cultural beliefs and practices of postnatal care in Jordan.

Generally, the cultural beliefs and practices of postnatal care have been shown to vary among cultures. For example, found that Ojibwe women valued breast milk highly, viewing it as a gift and medicine from a mother to her baby, and so they feed their babies immediately after birth.[9] Ojibwe people also known

as Chippewa or Anishinabe who live in the Great Lakes region of the USA and Canada, which includes most of northern and central Wisconsin and Minnesota. This comparison between the beliefs of Hmong and Ojibwe women in relation to colostrum demonstrates how different beliefs manifest in different practices, with different consequences for health. Dodgson and Struthers's study (2003) went on to show that the Ojibwe women wrap their baby's immediately after birth and put them in a cradleboard. [9] This relates to their belief that the individual is a whole, and that no separation should exist between mind, body, and spirit. According to this belief, the women consider it essential to wrap their babies securely immediately after birth to prevent their spirits from leaving their bodies. Another advantage of wrapping the Ojibwe babies and putting them in the cradleboard during the day is that it keeps them calm, allows them to view their surroundings and facilitates the mother in feeding her infant. The aim of Dodgson and Struthers's study was to understand the current breastfeeding and weaning patterns of Ojibwe women living in an urban neighborhood within Minneapolis, Minnesota.

Mexican culture has been studied in similar vein. One study by Mennella, Turnbull, Ziegler, and Martinez (2005) aimed to explore the maternal beliefs and practices related to pregnancy, breastfeeding, and infant feeding among Mexican women in four different regions. Mexican infants, at the age of one week, were found to be routinely given tea of different flavors such as mint, or manzanilla whether they were breastfed or not. [10] This comes from the mothers' belief that tea prevents and treats infant colic, abdominal pain, acute diarrhea, respiratory infection, and pediatric asthma.

In New York, black women enrolled in the Women, Infant, Children (WIC) clinic were studied using a qualitative approach by Cricco-Lizza. [11] This ethnographic study explored mothers' experiences and beliefs regarding infant feeding. The findings demonstrated the link between infant feeding beliefs and participants' responses to their life experiences. For example, women who chose breastfeeding reported that they were attracted by the health benefits of breastfeeding and the 'close bond' that was created with their infants. They also believed that breastfeeding would increase the ability of the children to face the stress of the future. On the other hand, women who chose formula feeding viewed breastfeeding as an additional demand on them or another potential source of pain, physical or emotional. [11] Kong and Lee conducted a descriptive survey among 230 primiparous mothers in Hong Kong using both quantitative and qualitative approaches. This survey was then followed by in-depth interviews with 26 breastfeeding mothers to gain more information. Kong and Lee's study found that the more knowledge of breastfeeding that mothers had, the more likely they were to breastfeed. Conversely, mothers who knew less about the benefits of breastfeeding chose to bottle-feed. [12]

As a conclusion, this review of the literature showed that cultural health beliefs, knowledge and practices are considered as a reference base for women during the postpartum period in many different cultures and societies. Cultural health beliefs and knowledge have an impact on the postnatal practices that may influence infants' health either directl, y or indirectly. Few studies were found discussing cultural aspects of postnatal infant care holistically. Although breastfeeding has been studied extensively, it is still not fully practiced according to the universal recommendations of UNICEF and WHO.[13] Therefore there is a gap in the literature about postnatal care from a cultural perspective. So, this study is timely, meeting a need to fill this gap. Furthermore, it contributes to the body of knowledge about postnatal care in the area of maternal and child health. This lack of detailed knowledge in this area is a major driver for this study. Therefore, this study aims to investigate, analyze and critique the cultural health beliefs and knowledge of rural Jordanian mothers and their resultant behaviors and practices with specific regard to postnatal care.

Methodology

A qualitative methodology was applied in this study using a critical ethnographic approach. Critical ethnography aims to change the culture by studying it and it gives the researcher the chance to interact with the members of the culture under study. In addition, *this qualitative approach* is considered to be one of the methodologically creative approaches to health care research generally, and to nursing and midwifery research particularly.[14] Critical ethnographers argued that ethnography is wholly interpretive, and they revealed that ethnography is subjective, reflecting the stance, values, and awareness of the scribe.[15] On the other hand, Savage argued that the critical ethnographer promotes the views of silent or marginalized members of the society, allowing them to be heard when the ethnographer expresses their views.[16] This study was exploring a specific health issue from a cultural perspective and it was exploring a group of rural Jordanian postpartum mothers, part of the rural Jordanian population, who were only a small proportion of the general Jordanian population. Further, women in rural Jordanian communities are marginalized because they are a minority and they cannot present their life conditions and the health needs of both them and their infants. Thus, the health needs of rural Jordanian postpartum mothers would be expressed and speaking on behalf of them can be achieved.

Methods

Informants and setting

The sample comprised 13 postpartum mothers (general informants), who had either complied, or not, with the perinatal care regimes specified by MCHC services for their infants. All the general informants were educated and multiparous. Additionally, three secondary informants were recruited. These were the postpartum mothers' female relatives (mothers and mothers' in- law). Furthermore, key informants, who were very old ladies in the rural Jordanian community, were also interviewed. Only two key informants were accessible. Such ladies were not easily found in the setting because of either death or changing their residency. However, it was important to meet these old ladies, because they know the cultural beliefs of the cultural practices, and they can describe how to perform the cultural practices. Those informants were selected from four rural areas in the Northeast governorate that consists mainly of rural population. To understand the cultural practices from the biomedical dimension, two midwives and three paediatricians were included in the interviews.

Data collection

In this critical ethnographic study, participant observation

and semi-structured interviews were the main methods used to collect data from the informants over a period of five months from October 2005 to March 2006. Since this study was conducted for the purpose of Ph.D study, the first author was the responsible one for data collection procedures. The observations in the rural areas were made firstly while dealing with people. These observations were collected through walking in the areas between rural people to interact, communicate with them, and to observe their life style. The second area of observation was in the health centres. During each visit to the health centre before going to the informants' homes, some time was spent specifically observing the staff, the clients and the services delivered. At the same time observations were obtained during socialising with the staff, talking with them about their work, their clients, problems, needs, and listening to their comments. The last area of observation was at the informants' homes. The observation time was during the interaction with the informants, preparation for the interviews and the course of the actual interviews.

Semi-structured interviews were used as the second method of data collection in this study. The length of each interview varied between one to two hours. The length of each interview depended on the informant's willingness to gives detailed answers or short answers, which was influenced by the informant's experience and personality. The interviews with the informants were arranged at suitable times previously agreed. They were conducted in the informants' homes where infant care would be practiced in their natural setting. At the same time it was easy to identify the informants' health beliefs and knowledge about postnatal care as the interview progressed.

Data analysis

All observations were recorded as field notes and the interviews were audiotape recorded, transcribed, and translated from Arabic into English. Translation step was essential because the supervisory team of the first author were non Arabic speakers. Data was analyzed by using Leininger's Phases of Ethnonursing Qualitative Data Analysis.[17] This method of analysis comprises four phases which, when carefully followed, provides systematic data analysis. Each of these four phases is important and requires clarity in how the data needs to be collected, processed, and analyzed in a systematic, credible, consistent, and accurate way.[17] The first phase of this method is designed to collect, describe, and document raw data. In the second phase, descriptors and components should be identified and categorized. Thirdly, pattern and contextual analysis predominate. Finally, the highest level of data analysis is the phase of synthesis and interpretation.

Trustworthiness

Trustworthiness of the study was verified by applying Leininger's criteria of evaluation of qualitative studies [17]. Credibility was maintained through engagement, observation and participation with informants, and through using the member- check method to some transcripts of the interviews by returning these transcripts to the informants for revision. Conformability was achieved by interviewing key informants and secondary informants who repeated and confirmed what had been learned from the general informants. Recurrent patterning and saturation were obvious and verified when the main themes, sub themes and patterns through the interviews were found between the four rural areas. Furthermore, duplications of similar ideas, practices, beliefs, experiences and descriptions of the informants, verified saturation of the information. Transferability could be verified if a similar study with same conditions was to be conducted in other rural Jordanian areas.

FINDINGS AND DISCUSSION

The total number of postpartum women who were interviewed was fifteen women however two of them were ultimately excluded. The first was excluded because hers was a trial interview and her infant was four months old, which was not consistent with study's objectives in exploring postnatal care. The second one apologised and refused to participate in the study. So the general informants were thirteen postpartum women with their infants.

The common two characteristics between all general informants were: firstly, all of them were housewives; and secondly, all of them were educated. However most of them were educated to a level lower than secondary level, which is classed as the first educational certificate obtained when the student finishes his or her twelve years school education in Jordan. The sample demographics were presented in table 1.

Table 1: The characteristics of the general informants.

Informant No.	Age	Educational level	Total no. of children	Gender of infant	Birth method
1	25 yrs	Tawjehi (12th class)	3	Female	Normal
2	35 yrs	Tenth class	4	Female	Surgery
3	26 yrs	Post Graduate Diploma	3	Male	Normal
4	39 yrs	Tawjehi (12th class)	8	Female	Normal
5	24 yrs	Tenth class	2	Female	Normal
6	27 yrs	Tawjehi (12th class)	3	Female	Normal
7	32 yrs	Tenth class	4	Male	Normal
8	33 yrs	Eighth class	3	Male	Surgery
9	26yrs	Bachelor degree	2	Male	Normal
10	25 yrs	Tenth class	3	Male	Normal
11	37 yrs	Eighth class	10	Male	Normal
12	26 yrs	Eighth class	3	Male	Surgery
13	35 yrs	Ninth class	4	Male	Normal

The main themes of this study were focusing on the basic daily needs of normal infant during postnatal period: infants' feeding, hygiene and clothing. With regard to postnatal care, there is no single direct definition of postnatal care but it is indirectly defined and mentioned in various WHO reports and manuals as covering the infants' needs.[18, 19] The WHO definition was used for the definition of postnatal care in this study, because it consists of the most comprehensive classification of infant needs (physiologically and psychologically) during the postnatal period. Furthermore defined infant's needs with clarification as to how they can be met.[13] These needs are: air: stimulating and resuscitating an infant who is not breathing at birth; warmth: drying the baby at birth, maintaining warmth through skin-to-skin contact, warm ambient temperature, and head and body covering; breastfeeding: within the first hour after birth and continuing exclusively for six months; care: keeping the new born close to the mother, father, or other caregiver, and keeping the mother healthy; infection control: maintaining cleanliness when handling the infant, keeping the cord clean, providing prophylactic eye care, promoting early and exclusive breastfeeding, maintaining an immunization schedule, and treating infection promptly; and lastly management of complications.

First theme: Cultural patterns of infants' feeding

Breastfeeding was accepted as a normal social behaviour among the informants and they believed in the importance of feeding colostrum to keep the breast milk production later. Furthermore, they believed in the colostrum giving advantages such as a type of immunity to protect the infants from diseases in the early months of life. However, the majority of the informants did not mention the psychological advantage of breastfeeding. The informants in this study referred to colostrum as 'Leba'a'.

(PW3): "Leba'a is very good for the baby. Other mothers told me that this milk is beneficial and must be fed to the baby as it will give the baby health protection so baby will become less at risk to the diseases, diarrhoea and catching cold".

The informants believed that colostrum is not secreted from the first day after birth, but colostrum will be secreted in the second or third day afterbirth and the minimal amount of milk was useless. So they gave their infants sugary water or formula milk to calm their infants' crying on the first day because the informants thought that their breast milk was insufficient to satisfy their infants.

(PW6): "I started breastfeeding from the second day after birth. On the first day, there was no milk and because she was crying we gave her water and sugar. On the second day, there was a substance which came before milk, they said it is very useful, I do not know its name, but I gave to my daughter".

The idea of insufficient breast milk production in the first day was found to be the most common cause of delaying breastfeeding until the second or third day after birth. Using sugary water or formula feeding in the first day afterbirth has the possible adverse effect of causing 'nipple confusion' to the infant later when breastfeeding is started. This late initiation of breastfeeding among the informants is inconsistent with recommendations of the American Academy of Pediatrics and the WHO who call for immediate initiation of breastfeeding afterbirth.[20] These findings, in relation to not exclusively breastfeeding, are consistent with findings of DoS and ORC Macro.[21] It has been reported that despite high breastfeeding prevalence in Jordan (almost all 91% of infants under six months of age were breastfed six or more time a day), the majority of infants are not fed exclusively, despite WHO/ UNICEF recommendations. However, the findings of valuing breastfeeding were consistent with the findings of Duong, Binns, and Lee's study where rural Vietnamese mothers believed positively in colostrum and breastfeeding. Moreover, Vietnamese mothers in Sydney, Australia believed that by breastfeeding they are providing the best food for their infants. Therefore, although rural Jordanian mothers in this study were found to practice breastfeeding, and valued it, it was not exclusive breastfeeding as recommended by WHO.[22]

Second theme: Cultural patterns of infants' hygiene

During the infant's first week of life, he or she would be bathed in salty water. After that, he/ she would be bathed normally as any other bathing.

Infants' bathing (salty and ordinary)

Salt water bathing of the infant in the first week after birth was commonplace amongst all the informants of this study. 'Salty bathing' expression is synonymous with the expression 'salting the infant'. This expression means bathing the infant with salty water three times in his/ her first week or so after birth. The salting practice was described as:

(PW8): "In the first day after birth grandmothers bathed my son with water alone. Second day, they bathed him with salt. In the afternoon of the second day, they wiped the baby's body with oil to cool him because salt is hot, and then in the third day they bathed him with water just to remove the salt. This process was repeated another two times, to be in total three baths with salty water during the first forty days after birth".

The beliefs about salting were acquired from the older generations of the informants' female relatives. The main cultural beliefs for salting the infant were: to prevent bad odors from sweating when the infant grows up or from his/ her feet; to prevent skin disorders during childhood such as skin redness, infection and nappy rash; to protect the skin from dryness during life; to be polite in his/ her speech; and to gain respect from people. Key informants stated the same beliefs with more explanation regarding salting the infant. When asking the key informants about the importance of salting the infant, they answered

(KI): "Salt is good for everything, and the human body must be salted. For example if you put a piece of meat in a warm place (not cold), and without salt, what will happen to it? It will have a bad smell. One of my sons I did not salt him at his birth because I was tired, now when he sweats, his body has bad odor".

The beliefs regarding salting infants are contradicted by the chemical facts about salt which will lead to skin dryness when it is applied to the infant's body because of its high osmolarity. Moreover, bad odor from human skin after sweating is a matter of personal hygiene practices and is not related to salt baths in infancy. [23] Additionally, the healing process of wounds or bone strength is related to the dietary regimen and immunity

factors but not related to salty bathing. Although scientific knowledge changes over time this knowledge has been reliable for thousands of years in the biochemical sciences. The elder mothers influenced the new mothers' childcare practices because of their social position demanding respect from their experience in rearing children. They were considered as a reference source for any questions about or problems with infant care. Most of the informants reflected this through the interviews by referring to their mothers and mothers-in-law as sources of information and problem-solving. This was consistent with the findings of other Jordanian studies that reported similar findings regarding the traditional Jordanian practice of supporting the postpartum mother in postnatal care. [24, 25] On the other hand, the Jordanian pediatricians highlighted the possible harmful consequences of the salty bathing.

(Pediatrician 2): "The most common side effects are dehydration and dryness of the skin then cracking skin. Hypernatremia can occur if the concentration of salt is too high and this condition may lead to brain damage".

The serious side effects from salty bathing such as hypernatremia were not well known amongst the mothers. Tracking the incidence of hypernatremia due to salty bathing was not the focus of this study. However, all possible harmful effects of the salting were explored mainly dryness, cracking of the infant's skin and dehydration. Cultural belief and practice of salty bathing in this study was consistent with the Jordanian study of Jarrah and Bond.[26] Further the cultural practice of bathing newborn infants with salty water was found in Turkey but with a different underlying belief. The purpose for Turkish mothers is to ensure that their infants will grow into beautiful people.[27] Salty bathing of the infant might interfere with infant's skin functions. Thus, the incidence of infant's skin problems or infection may increase. The general informants did not have enough health knowledge about the proper way to bath infants in order to protect them from skin problems or to avoid the consequences of salty bathing.

Cord care

The umbilical cord requires special care and careful dealing with the stump. Normally, the umbilical cord and skin of infant becomes colonized at birth with flora derived from the mother's vagina or from the hands of caregivers.[28] The umbilical bacterial colonization may occasionally lead to umbilical infection (omphalitis).[29] Care of the umbilical cord is important to prevent or minimize the incidence of infection and to accelerate the stump separation without any complications. Most of the informants in this study reported that the stumps of their infants dried and were separated from the infants' umbilica within the first week after birth. The informants referred to the stump of the umbilical cord at birth as 'belly button' and the separation process as 'drop down'. The most common practice between the informants was buying Sulpha Transseptrine as powder from the pharmacies then putting it over the stump. The main ingredient of this medication is Septrin, an antibiotic, as described by one of the pediatricians of this study. However, the majority of informants did not know that it is an antibiotic; they considered being a powder which would enhance the healing process of the infant's umbilical cord. The informants preferred using Sulpha powder to dry the infants' stumps quickly without infection or exudates.

(PW5): "I put on the belly button powder, I do not know what it is exactly, but I used it until it got dry and dropped down".

(PW12): "I used sulpha powder and put it on the belly button to make it dry and drop alone, I have not used anything else".

The informants built their knowledge based on their personal experiences but not based on health knowledge or evidence. They did not know that sulpha is an antibiotic and that its application to the stump would protect the cord from infection. In Jordan, it is well known that antibiotics can be bought from any pharmacy with or without a medical prescription. The practice of abusing antibiotics shown by the informants of this study is not a different or unfamiliar practice from the practice of the general Jordanian population regarding buying antibiotics. There are no regulations or restrictions that prevent the abuse of antibiotics like those of addictive drugs. Furthermore most of the Jordanian people's awareness about the effect of abusing antibiotics is not sufficient, and the efforts of the health institutions to increase this awareness are inadequate or ineffective. In addition, the consequences of the abuse of antibiotics are not well known among the Jordanian population in general and the rural population in particular. The majority of the informants in this study were abusing antibiotics that can be bought from pharmacies. This may harm the infant from the first year of life by altering the immune system and developing an antibiotic resistance as the pediatrician noted:

(Pediatrician 1): "Now, the mothers are using sulpha which is an antibiotic. This practice is also wrong because they abusing the antibiotic. Either there is a need or not. The mother can leave the cord for a week or two and just sterilise around it and then the cord will drop alone without using sulpha. If parents come to the doctor because their infant is ill, and the doctor prescribes an antibiotic for the baby, they will refuse the treatment because the baby is too young to take medication. However, they use sulpha habitually without knowing that it is an antibiotic".

Another practice of cord care that has been found in this study, either in combination with using antibiotic or as a separate practice, was wiping the umbilical cord and the stump with alcohol. The informants noticed that alcohol is as useful as sulpha in hastening the cord healing process. Thus it became a common belief amongst the informants that they should use sulpha or alcohol

(PW4): "… For this daughter I did not use powder but I wiped the belly button with alcohol for a week, it then dried and clamp dropped alone".

(PW11): "By using sulpha and alcohol, the belly button will dry and will not get infected and then the clamp will drop alone".

Vural and Kisa studied three different umbilical cord caring practices in Turkey.[30] The researchers compared the topical application of povidone-iodine, or mother's milk twice daily, with keeping the cord dry and clean. The study found that the dry care and topical human milk were associated with a shorter cord separation time than that with povidone-iodine application. In addition to that, the study findings suggested that the application of human milk was not associated with any obvious side effects. However, there were no significance differences

between the three groups in terms of omphalitis occurrence. Fikree, Ali, Durocher, and Rahbar reported that low socio-economic mothers in settlements applied different substances to the cord such as surma, ghee and powder (not known what is this powder), which might cause a tetanus infection. These findings were similar to other studies either in Pakistan.[31, 32] According to Trotter's guidelines, the cord of a healthy full-term infant can be maintained clean and dry according to her advice: "leave the umbilical area alone. After the first bath in plain water, pat dry with a clean towel and fold back the nappy, at each change, until the cords separates.[33] Wet cotton wool can be used if the area becomes soiled, otherwise, leave it alone. No need for wipes or powders. If the cord or the surrounding area becomes red or smelly, notify a member of staff" (p. 155).

Infants' eye care

The purpose of infants' eyes care which is recommended by health care professionals during the postnatal period is to prevent eye infections.[34] However the informants in this study have different beliefs and practices. The most common practice of eye care amongst most of the informants was using Kohla in the infant's eyes during the postnatal period or longer. Kohla is powdered antimony used as a cosmetic that is applied to the lower eyelid, similar to modern eyeliner, or it is a mixture of ground lead and other ingredients. In Jordan, traditional Kohla is a hand-made mixture of ground lead with the powdered stones of olives or dates. Traditional Kohla is used as an eye cosmetic with a specific tool called a Mekhala which is composed of a container with a scroll cover. Both parts of Mekhala are made from copper metal, the cover is in the shape of pencil with a handle at one end but the other end is like a pencil end. However, the modern Kohla is the eye pencil which is put on the lower eyelid. The most common belief for using Kohla was that it would clean, strengthen, widen and beautify the infant's eyes. This belief was transmitted from grandmothers to the new, young mothers. This belief has been found amongst most of the informants

(PW11): "My mother and mother-in-law said that using Kohla in the baby's eyes would make the eyes more beautiful".

On the contrary, some of informants were satisfied with Kohla but they then became less satisfied with the belief and the practice of Kohla because of some pediatricians' advices. For example during check up visits for the infants, the pediatricians advised the mothers to abandon using Kohla for infants because it might harm the infant. The pediatricians focused on the bad consequences of Kohla because they know of the strong beliefs about using Kohla for infants. Therefore they presented a stronger justification than the beliefs, which was the matter of damage to the infants' eyes.

(PW8): "I used Kohla with my daughter and my new son, but with my daughter I stopped putting Kohla in her eyes because she has deviation in her eyes so the doctor advised me not to use Kohla any more. Also, because Kohla contains lead which may affect the baby's eyes or reach to his stomach".

The strong beliefs and practices of using Kohla with infants and its possible harmful effects were one of the main concerns of the pediatricians. Many harmful effects were explained to the mothers.

(Pediatrician 2): "Using Kohla in infant's eyes will cause nasolacrimal duct obstruction and this is a common problem due to this practice. I have not seen cases of lead poisoning, because the mothers used Kohla in the first days, and lead needs time to accumulate and cause poisoning".

As it is clear, lead poisoning may develop if Kohla is used extensively as a treatment for some problems. However, there is a higher probability of nasolacrimal duct obstruction occurring as a result of putting Kohla in the infants' eyes. The belief about the effectiveness of Kohla gave the informants the idea that it will treat any eye problem. These findings were consistent with Fatmi, Gulzar, and Kazi.[32] Moreover, Geçkil, Şahin, and Ege found similar cultural practice in making up Turkish infants' eyes for beauty purposes. Otherwise, a sticky eye is one kind of infantile eye infection. It occurs in the first one or two days of life due to chemical irritation and it heals spontaneously. The treatment is to wipe the secretions with cooled boiled water when they accumulate.[34] Routine eye care with cooled boiled water is not a practice amongst the mothers who apply Kohla to the eyes. In contrast, Trotter recommended leaving the delicate area around the eyes untouched. If it becomes sticky, the mother has just to notify a member of health staff for advice.

Third theme: Cultural patterns of infants' clothing

In rural Jordanian communities, infants' wrapping and swaddling are culturally strictly acceptable and nothing else is acceptable especially in the first two months after birth. Wrapping the infant from his or her first day after birth with a cover over his/ her clothes and then swaddling him/ her tightly were the most common cultural practices in this study. The informants referred to swaddling as tying (noun), and swaddle as tie (verb). To wrap and swaddle the infant, special cloth and a tie were prepared for him/ her or bought before the birth. It was noticed that:

"The infant was placed in the middle of a square, white, cotton piece of cloth called 'Kofaleyah'. The area of this cloth was around one meter square. The infant's arms and legs would be extended straight then wrapped with Kofaleyah. After that a narrow, long (2m), white piece of cloth will be put around the infant's body. The middle of this cloth was wider (10cm x 5cm) than the two tails. This is culturally called 'Qmat' which was used for swaddling. It was observed that the mother put the wide area of Qmat over the infant's chest at the level of his shoulders, then crossed the two tails of it at the back of the infant, after that crossed them again at the infant's tummy over his extended, adducted arms, and finally circled the tails around his ankles which were in the adduction position. At the end, the infant could not move his/ her limbs totally, then, he/she would be as one piece. The infant remained swaddled during the day and night. He might not be swaddled for a short period at the time of nappy change". (Field notes, p. 21)

When the informants were asked why they wrapped and swaddled their infants in this way, they gave many cultural beliefs about the advantages of these practices. The most frequent belief was that swaddling would strengthen and straighten the infant's limbs and body.

(PW1): "Tying makes the child's body straight, stretched and strong. The period of tying is different between mothers; it may last as much as two years".

The duration of wrapping and swaddling was different between the informants, however all of them wrapped and swaddled the infants in winter more than in summer to keep the infants warm. Swaddling continued for the first two to four months after birth, but wrapping continued longer for the purpose of infant sleeping and calming. The informants understood that if the infants were not swaddled then they would keep waking or crying. The beliefs and practices relating to wrapping and swaddling were acquired from the older generations as with the other practices described. The informants' beliefs were consistent with their mothers' and grandmothers' beliefs who described wrapping and swaddling as being 'good for the baby'. The health care professionals in this study hold an opposing view. They reinforced the view that swaddling can cause harmful effects.

The midwife said: "As the mothers said: tying will stretch the baby more, and strengthen him, also the baby is small so we do not know how to carry him. I advised the mothers to wrap the baby with a cover and use a safety pin to keep it tidy. But the mothers are not satisfied with this, and they believe that swaddling is better".

One of the pediatricians explained in more details the harmful effects of strict swaddling on Congenital Hip Dislocation (CHD), she said:

(Pediatrician 3): "By swaddling the mothers partially or sometimes fully adduct the hips. When there is suspected CHD, there is limited abduction, and we need to abduct the hips. We say to the mothers: put two nappies on in order to abduct the hips, because these infants have limited abduction, or sometimes we put them in an apparatus to abduct the hips. The effect of wrapping and tying is causing limited movement of the lower limbs and if the infant has a problem of CHD, it may get worse, because by swaddling the mother is doing the wrong thing, opposite to the recommended position of CHD treatment".

Little is known through the literature about wrapping and swaddling the infant as has been described earlier. For example, Jarrah and Bond found similar findings about wrapping and swaddling the infant in their study. Further, Franco et al. [26, 35] found that swaddling increases sleep efficiency and reduces the frequency of spontaneous awakenings through studying sleep behavior. These findings were gained from monitoring sixteen healthy infants over one night using polygraphic recording. The infants were recorded both swaddled and unswaddled. Swaddling has been reported as decreasing infants' crying and pacifying them (1-7 weeks of age) in the Netherlands.[36] The researchers noticed calming infants is considered one of the advantages of swaddling by the informants of the current study but the method of swaddling was different. Van Sleuwen et al.[36] instructed the mothers in their study to swaddle their infants in a specific way that allowed normal leg flexion and abduction. The method also allowed normal chest excursion. While the method of swaddling among rural Jordanian postpartum mothers prevented the normal flexion or abduction of the legs and it might affect the chest excursion during breathing. Geçkil, Şahin, and Ege reported that newborn infants in Turkey are often tightly wrapped and swaddled that may lead to them develop hip dislocation.

Conclusion

In this study, most of the rural Jordanian postpartum mothers depended on cultural beliefs and practices as a mode of health seeking behavior, in preference to available government health care services for care of their infants. Cultural health practices that depended on the cultural health beliefs and knowledge of the rural Jordanian postpartum mothers influenced the care of their newborn infants. This influence can interfere with health practices in a way that may harm the baby, such as swaddling and salting the infant. However, this influence can also have a positive impact as breastfeeding, but it is not exclusive breastfeeding. So the useful cultural practices should be emphasized to the rural mothers during health education programs in order to increase their health knowledge and enhance recommended practices.

RECOMMENDATION

It is recommended that health care professionals should be prepared during their undergraduate study on how to deal with the health cultural beliefs and practices of their clients, and should be able to understand how to deal with the mothers in the rural Jordanian community. Further, similar studies should be conducted in other rural areas of Jordan to prove the transferability of the findings of this study. Further, rural areas should be the focus for future health studies and projects. Additionally, future research should be conducted to investigate the incidence of side effects of the harmful cultural practices using other approaches, such as quantitative or longitudinal studies, as these were not looked at in this study.

ETHICAL APPROVAL

The appropriate human subject approvals were granted from both the participating university and governate to recruit a suitable sample and read the health records of the sample. The study was explained to potential informants prior to obtaining their consent to participate in the study. The confidentiality and anonymity of the informants were maintained throughout this study.

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