

ORIGINAL ARTICLE

Identification of the traditional methods of newborn mothers regarding jaundice in Turkey

Diler Aydin, Esra Karaca Ciftci and Hulya Karatas

Aims and objectives. To detect traditional methods applied for the treatment of newborn jaundice by mothers in Turkey.

Background. Traditional methods are generally used in our society. Instead of using medical services, people often use already-known traditional methods to treat the disease. In such cases, the prognosis of the disease generally becomes worse, the treatment period longer and healthcare costs higher, and more medicine is used.

Design. A cross-sectional descriptive study.

Methods. The participants of this study were 229 mothers with newborn babies aged 0–28 days in one university hospital and one public children's hospital in Sanliurfa. The study was conducted between March and May 2012. In this research, the Beliefs and Traditional Methods of Mothers for Jaundice Questionnaire, which was formed by searching the relevant literature, is used as a data collection tool. The data are evaluated by percentage distributions.

Results. Mothers apply conventional practices in cases of health problems such as jaundice, and application of these methods is important to mothers. Moreover, mothers reported applying hazardous conventional methods in cases of neonatal jaundice, such as cutting the area between the baby's eyebrows with a blade, cutting the back of the ear and the body and burning the body, which are not applied in different cultures.

Conclusions. Education regarding the effects of conventional methods being applied in families should be provided, and the results of this study should serve to guide further studies in assessing the effects of such education.

Relevance to clinical practice. This approach can support beneficial practices involving individual care and prevent the negative health effects of hazardous practices.

Key words: alternative therapy, neonatal care, nursing

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Introduction

Newborn jaundice is one of the most common problems during the newborn period (Cakmak *et al.* 2009, Acik *et al.* 2010, A. Kavlu, Sadi Konuk Research and Training Hospital, İstanbul, unpublished Master's thesis). Newborn jaundice develops because the blood level of bilirubin, which is the catabolite of haemoglobin's haem group, is over 5–7 mg/dL in newborns and colours the skin and sclera yellow;

it is observed in 60–70% of newborns who are carried to term and 80% of preterm newborns in the first week of life. Although it is a temporary condition, newborn jaundice (19.7%) is among the most common reasons for staying in a hospital in the first week after childbirth (Kilic *et al.* 2005).

If the high bilirubin level cannot be diagnosed and treated early, bilirubin encephalopathy (kernicterus) can develop. The USA (27%), Singapore (19%) and Turkey (16%) report the first-third most cases of kernicterus, respectively. That

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situation shows that medical staff should conduct more research on newborn jaundice in Turkey (Bulbul *et al.* 2005, Acik *et al.* 2010). Several studies have been conducted regarding traditional methods used to avoid and treat newborn jaundice in Turkey and throughout the world (Dinc 2005, Ergin *et al.* 2007, Amirshaghghi *et al.* 2008, Cakmak *et al.* 2009, Isik *et al.* 2010, Boo *et al.* 2011, Z. Caliskan, University Institute of Medical Sciences, Kayseri, unpublished Master's thesis, G. Egri, Cumhuriyet University Institute of Medical Sciences, Sivas, unpublished Master's thesis).

Background

The attitudes and behaviours of mothers/families are of great importance in the avoidance of and treatment for jaundice. Traditional methods are used especially in developing areas and Turkey by mothers and caretakers of babies. While Chinese people tend to use herbs, different traditional methods are used in Malaysia, Turkey and Iran, such as exposure to sunlight and (especially in Turkey) yellow clothing, tinging with kohl, cutting with blades and so on (Fok 2001, Aladag *et al.* 2006, Amirshaghghi *et al.* 2008, Cakmak *et al.* 2009, Boo *et al.* 2011, Sekeroglu *et al.* 2012, H. Ozcelik, University Institute of Medical Sciences, Kayseri, unpublished Master's thesis).

In some developing countries, treatment for newborn jaundice can come late, or traditional methods could cause other diseases (Kilic *et al.* 2005). The health of babies whose mothers are poorly educated is affected negatively, because such mothers tend to care for their babies in traditional ways, from which the mothers derive their knowledge about newborn jaundice. This condition occurs during the newborn period and is one of the most common problems encountered during that period; decisions with respect to treatment methods are very important at that time (Acik *et al.* 2010).

Because of the insufficient training given before and after birth, families/mothers still use traditional cultural methods learned from the people around them to avoid or treat newborn jaundice.

Traditional methods are still accepted as being important for the treatment of newborn jaundice. Instead of using medical services, people often use already-known traditional methods to treat the disease. In such cases, the prognosis of the disease generally becomes worse, the treatment period longer and healthcare costs higher, and more medicine is used. Furthermore, such methods can cause unnecessary pain, delayed treatment and even death (Cakmak *et al.* 2009, G. Egri, Cumhuriyet University Institute of Medical Sciences, Sivas, unpublished Master's thesis).

The purpose of this study is to identify the traditional methods used for newborn jaundice by mothers in Sanliurfa, a city in the south-eastern part of Turkey.

Methods

Sample and setting

Sanliurfa where the research was carried out is a city in the south-eastern part of Turkey, which is home to a culturally diverse population. The children's hospital in which the research was conducted is the largest in Sanliurfa, and the university hospital is the only university hospital in the city. The participants of this cross-sectional, descriptive study were 229 mothers with newborn babies aged 0–28 days in the university hospital and children's hospital. The research data were collected between March and May 2012 to identify the traditional methods used by the mothers to treat jaundice.

Data collection

In this research, the Believes and Traditional Methods of Mothers for Jaundice Questionnaire, which was formed by searching the relevant literature, is used as a data collection tool (Dinc 2005, Amirshaghghi *et al.* 2008, Cakmak *et al.* 2009, Isik *et al.* 2010, Boo *et al.* 2011, Z. Caliskan, University Institute of Medical Sciences, Kayseri, unpublished Master's thesis, G. Egri, Cumhuriyet University Institute of Medical Sciences, Sivas, unpublished Master's thesis). The questionnaire consists of 24 items prepared to identify the socio-demographic features of the mothers and the traditional methods they use to treat jaundice. The first nine questions involve the socio-demographic features of mothers, and questions 10–24 evaluate the mothers' knowledge related to newborn jaundice, their opinions on jaundice, how they feed their babies, the traditional methods they know for jaundice treatment and which ones they use.

The questionnaires were administered to mothers of 0- to 28-day-old babies in a newborn service of a children's hospital and a university hospital after the purpose of the research was explained and their informed consent was received. The questionnaires were fulfilled by the face-to-face interview method. Each questionnaire was completed in approximately 5–10 minutes.

Ethical considerations

To arrange for the conduct of the research, written permission was received from the Chief Physician Department of

Harran University and Sanliurfa City Health Administrative, and verbal permission was taken from the mothers. After the purpose of the research was explained to the mothers, they were asked to sign the consent form. After they agreed to participate in the study and signed the consent form, they fulfilled the questionnaire. The participants were assured of the confidentiality of the information provided by them during the study.

Data analysis

The data were evaluated using SPSS, version 10.0 for Windows (SPSS Inc., Chicago, IL, USA). Data were evaluated using descriptive statistics. The results were presented as frequency tables (number and percentage) used in the study.

Results

The demographic features of the participating mothers are given in Table 1.

Table 1 indicates that 35.8, 56.3, 96.1, 49.8, 65, 57.6 and 40.6% of the mothers are aged 26–34 years, are illiterate, are homemakers, live in the city centre, have a medium level of economic status, are members of nuclear families and are members of extended families, respectively.

Table 2 shows the methods the mothers use first when they encounter health problems like jaundice: 79.0, 16.9, 2.6 and 1.3% talk to a doctor, use traditional methods, consult a doctor and employ traditional methods, and do nothing, respectively. Moreover, the traditional methods used by mothers to avoid or treat health problems are

Table 1 Demographic features of mothers

	<i>n</i>	%
Age		
≤ 20	21	9.2
21–25	77	33.6
26–34	82	35.8
35–40	45	19.7
>40	4	1.7
Education level		
Illiterate	129	56.3
Literate	37	16.2
Primary school	47	20.5
Secondary school and higher	16	7.1
Employment status		
Homemaker	220	96.1
Employed	9	3.9
	229	100

Table 2 Methods used by mothers to treat jaundice

What would you do first if you had a health problem like jaundice?	<i>n</i>	%
Talk to a doctor	181	79.0
Use traditional methods	39	16.9
Consult a doctor and employ traditional methods	6	2.6
Nothing	3	1.3
What is the importance of traditional methods for you to avoid or treat health problems?		
Not important	57	24.9
Important	172	75.1
	229	100

important to 75.1% (but not important to 24.9%) of them.

Of the participating mothers, 90.8% accept the newborn jaundice as a health problem. When answering the question ‘Why does the jaundice occur?’, 14.8, 22.3, 1.3, 3.5, 5.2, 2.6, 37.1, 0.4, 0.8, 0.4, 1.3, 0.4, 0.4 and 9.1% of mothers reported that jaundice is caused by not feeding with breast milk, being sad and scared during pregnancy, medicines taken during pregnancy, malnutrition of the mother, poor hygiene, blood incompatibility, unknown reasons, covering the baby too much, family genetics, premature birth, not feeding the baby properly, septic, diabetes and all reasons, respectively.

Table 3 indicates that the methods used to avoid jaundice are the following: covering the baby’s face with a yellow scarf, washing the baby’s body with egg yolk, incense, making the baby drink sugar water, keeping the

Table 3 Methods used by mothers to protect their babies from jaundice

Methods used to protect baby from jaundice*	<i>n</i>	%
Covering the baby’s face with a yellow scarf	78	34.1
Washing with egg yolk	2	0.9
Incense	2	0.9
Making the baby drink sugar water	2	0.9
Keeping the baby under light	7	3.1
Feeding the baby breast milk	50	22.7
Doing nothing	55	24
Talking to a Muslim clergyman	1	0.4
Cutting the backs of the baby’s ears	1	0.4
Not eating fatty/spicy meals	1	0.4
Eating sweet meals	1	0.4
Being vaccinated	1	0.4
Taking to a doctor	6	2.6
All	20	8.6
	229	100

*Multiple answers are given to one question.

baby under light, feeding the baby breast milk, doing nothing, talking to a Muslim clergyman, cutting the backs of the baby's ears, not eating fatty/spicy meals, eating sweet meals, being vaccinated, talking to a doctor and using all methods, practised by 34.1, 0.9, 0.9, 0.9, 3.1, 21.8, 24, 0.4, 0.4, 0.4, 0.4, 2.6 and 8.6% of mothers, respectively.

Table 4 indicates that the methods used to treat newborn jaundice are the following: cutting the middles of the baby's eyebrows with a blade; cutting the backs of the baby's ears and the body with a blade; washing with water of corn poppy; tying a yellow scarf (e.g. tying a yellow scarf around the baby's face); tinging with kohl; washing the baby's body; keeping the baby under light; unknown; talking to a Muslim clergyman; washing the baby water containing gold; wearing yellow dresses; feeding the baby breast milk; massaging with garlic and salt and cutting the backs of the baby's ears with a blade; praying and cutting the middles of the baby's eyebrows with a blade; cutting the middles of the baby's eyebrows with a blade and keeping under sunlight; consulting a doctor; cutting the middles of the eyebrows, backs of the ears and body of the baby

with a blade; sublingual cutting; and using İkşut herb, practised by 4.8, 20.1, 0.9, 10.9, 2.6, 3.1, 0.4, 27.9, 0.4, 0.4, 0.9, 1.3, 0.4, 0.4, 0.4, 13.5, 6.6, 4.4 and 0.4%, respectively.

Discussion

Newborn jaundice is a common problem during the newborn period. Moreover, if it is not diagnosed and treated early, it can cause death and long-term neurological problems due to bilirubin's neurotoxic effects (Acik *et al.* 2010). That is why newborn jaundice training for families is important today, as in the past. Research around the world has found that mothers and fathers generally need training regarding newborn jaundice and have more difficulties taking care of babies who have jaundice (Madlon-Kay 2002, Amirshaghghi *et al.* 2008, Boo *et al.* 2011, Rodrigo & Cooray 2011).

The methods mothers use when they encounter a health problem like jaundice are the following: talking to a doctor, using traditional methods, consulting a doctor and getting help from traditional methods, and doing nothing, practised by 79.0, 16.9, 2.6 and 1.3% of mothers, respectively. The data obtained for this study show that mothers/families still use traditional methods when their babies become jaundiced. Phytotherapy (Fok 2001, Sekeroglu *et al.* 2012), using sunlight (Aladag *et al.* 2006), wearing yellow dresses (Dinc 2005, Karabudak *et al.* 2009, Z. Caliskan, University Institute of Medical Sciences, Kayseri, unpublished Master's thesis, G. Egri, Cumhuriyet University Institute of Medical Sciences, Sivas, unpublished Master's thesis) and many others comprise the traditional methods used for the treatment of jaundice.

Traditional methods were used to treat jaundice by 21.3, 41.9, 40 and 27.5% of the women in studies by G. Egri (Cumhuriyet University Institute of Medical Sciences, Sivas, unpublished Master's thesis), Cakmak *et al.* (2009), Amirshaghghi *et al.* (2008) and Dinc (2005).

Our study determined that traditional methods to avoid or treat diseases are important to 24.9% of women; however, they are not important to 75.1% of them.

Again, 90.8% of mothers participated in study accept newborn jaundice as a health problem. The mothers stated that jaundice can develop because of not feeding with breast milk, being sad and scared during pregnancy, medicines taken during pregnancy, malnutrition of the mother, poor hygiene, blood incompatibility, unknown reasons, covering the baby too much, family genetics, premature birth, not feeding the baby properly, sectio and diabetes. In the study by Cakmak *et al.* (2009), 83.9% of mothers

Table 4 Methods mothers use to treat newborn jaundice

Methods used to treat jaundice in a baby*	<i>n</i>	%
Cutting the middles of the baby's eyebrows with a blade	11	4.8
Cutting the backs of the baby's ears and the body with a blade	46	20.1
Washing with water of corn poppy	2	0.9
Applying a yellow scarf	25	10.9
Tinging with kohl	6	2.6
Burning the baby's body	7	3.1
Keeping the baby under light	1	0.4
Unknown	64	27.9
Talking to a Muslim clergyman	1	0.4
Washing the baby in water containing gold	1	0.4
Wearing yellow dresses	2	0.9
Feeding the baby breast milk	3	1.3
Massaging with garlic and salt and cutting the backs of the baby's ears with a blade	1	0.4
Praying and cutting the middles of the baby's eyebrows with a blade	1	0.4
Cutting the middles of the baby's eyebrows with a blade and keeping under sunlight	1	0.4
Consulting a doctor	31	13.5
Cutting the middles of the eyebrows, backs of the ears, and body of the baby with a blade	15	6.6
Sublingual cutting	10	4.4
Using İkşut herb	1	0.4
	229	100

*Multiple answers are given to one question.

reported accepting newborn jaundice as an important health problem and stated that it can develop because of fear, sadness or medicines taken during pregnancy. Other studies conducted around the world have also revealed that mothers have insufficient knowledge of the real, basic reasons for jaundice (Boo *et al.* 2011, Rodrigo & Cooray 2011). In the study by Amirshaghghi *et al.* (2008), the participants also had insufficient knowledge of jaundice, and approximately one-third of mothers (35.6%) specified that newborn jaundice is caused by feeding the newborn with colostrum milk instead of breast milk.

In our study, frequent breastfeeding which is an effective method to avoid or rapidly treat jaundice is done by 21.8% of mothers; in G. Egri's (Cumhuriyet University Institute of Medical Sciences, Sivas, unpublished Master's thesis) study, it was done by 4% of mothers. In our study, the rate of feeding breast milk to newborns with jaundice is higher than in others, but the observed rate still shows the necessity of increasing family training and the importance of feeding with breast milk.

Our study determined that mothers use traditional methods to protect their babies from jaundice, such as covering the baby's face with a yellow scarf, washing the baby's body with egg yolk, incense, making the baby drink sugar water, keeping the baby under light, feeding the baby breast milk, doing nothing, talking to a Muslim clergyman, cutting the backs of the baby's ears, not eating fatty/spicy meals, eating sweet meals and being vaccinated. G. Egri's study (Cumhuriyet University Institute of Medical Sciences, Sivas, unpublished Master's thesis) identified that 73.6% of women cover the baby's face with yellow scarf and that 20.0% of women wash the baby with water containing gold. The study by Isik *et al.* (2010) determined that methods such as covering the baby with a yellow scarf, cutting the top of the baby's head and turning on a fluorescent lamp in the baby's room are used to protect newborns from jaundice. The study by Karabudak *et al.* (2009) observed that 38.3% of mothers clothe their babies in yellow dresses and scarves to protect them from jaundice.

Furthermore, mothers reported using traditional methods like washing the baby with water of corn poppy, covering with a yellow scarf, tinging with kohl, keeping the baby under light, talking to a Muslim clergyman, washing the baby in water containing gold, wearing yellow dresses, using herbs and feeding the baby breast milk to treat jaundice; however, in addition to these, they use some dangerous traditional methods that are not used in different cultures, such as cutting the middles of the baby's eyebrows with a blade, cutting the backs of the ears and the

body with blades, burning the body and sublingual cutting. As a result of these dangerous traditional methods used by mothers for the treatment of newborn jaundice in our country, the treatment period becomes longer; the baby may require a hospital stay; and complications like kernicterus, sepsis and so on can develop. More training should be given to the mothers from different ethnic cultures about newborn jaundice and the salubrious effects of breast milk thereon. Medical service staff should also be informed about these traditional methods and conduct research on related issues.

The studies by Z. Caliskan (University Institute of Medical Sciences, Kayseri, unpublished Master's thesis) and Caliskan and Bayat (2011) estimated that 48.9% of mothers dress newborns with jaundice in yellow clothes and gold ornaments after they take them to doctors. The study by G. Egri (Cumhuriyet University Institute of Medical Sciences, Sivas, unpublished Master's thesis) observed that 40% of women tie a yellow scarf to the baby and 32.9% bring water from jaundice lodge, wash the baby in it and then make the baby drink that water. Dinc (2005) found that 47.3% of mothers cut the backs of newborns' ears to treat jaundice. The study by Caliskan and Bayat (2011) noted that when babies become jaundiced, 24.5, 16.3 and 11.4% of mothers make them drink sugar water, use herb teas, and cut the backs of baby's ears and dress the baby in yellow clothes, respectively; the remaining 22.8% perform sublingual cutting, burn-paint the baby's body or expose the baby to sunlight. Aladag *et al.* (2006) stated that sunlight is effective for the treatment of newborn jaundice. Further, Sekeroglu *et al.* (2012) contend that İkşut herb used especially in Mardin, Turkey, is effective for the treatment of newborn jaundice.

Relevance to clinical practice

Nurses should be careful about how families' cultural beliefs and practices reflect upon health to increase social awareness. This approach is important in terms of supporting useful practices, involving individuals in care and preventing the negative effects of harmful practices upon health. Similarly, awareness of conventional beliefs and practices regarding neonatal jaundice should guide the prioritisation of healthcare services to be provided to families during this period. For these reasons, paediatric nurses have great responsibilities in terms of family education. Paediatric nurses should be able to inform families about the effects of hazardous conventional methods applied upon the observation of neonatal jaundice.

Conclusion

Mothers apply hazardous or non-hazardous conventional methods aiming to treat neonatal jaundice in the south-eastern region of Turkey. Families should attach importance to the beneficial effects of conventional methods of jaundice treatment. The results of this study should serve as a guide for further research that will assess the effects of training provided by paediatric nurses.

References

- Acik Y, Devenci SE, Ulutasdemir N & İpekçi N (2010) Neonatal jaundice and family education. *Journal of Fratt Healthcare Services* 5, 61–77.
- Aladag N, Filiz TM, Topsever P & Gorpe-lioglu S (2006) Parents' knowledge and behaviour concerning sunning their babies; a cross-sectional, descriptive study. *BMC Pediatrics* 6, 27.
- Amirshaghghi A, Ghabili K, Shoja MM & Kooshavar H (2008) Neonatal jaundice: knowledge and practice of Iranian mothers with icteric newborns. *Pakistan Journal of Biological Sciences* 11, 942–945.
- Boo NY, Gan CY, Gian YW, Lim KSL, Lim MW & Krishna-Kumar H (2011) Malaysian mothers' knowledge & practices on care of neonatal jaundice. *Medical Journal of Malaysia* 66, 239–243.
- Bulbul A, Okan F, Uslu S, Isci E & Nuho-glu A (2005) Clinical features of hyperbilirubinemia in term babies and research of risk factors. *Turkish Pediatrics Archive* 40, 204–210.
- Cakmak A, Ertem M, Zeyrek D, Atas A & Karazeybek H (2009) Maternal beliefs and attitudes concerning neonatal jaundice in southeast Turkey. *Turkiye Klinikleri Journal of Medical Science* 29, 810–815.
- Caliskan Z & Bayat M (2011) Infant care practices of mothers and the effecting factors: a sample of Cappadocia. *Journal of Anadolu Nursing and Health Sciences* 14, 23–30.
- Dinc S (2005) Conventional practices applied by mothers, who are registered to the health center numbered 4 in the center of Sanliurfa and have a child aged 0–1, in the care of their children. *Journal of Research and Development in Nursing* 1, 53–63.
- Ergin D, Sen N, Tekin F & Altintoprak A (2007) Examination of knowledge levels of mothers with a baby of 0–1 month regarding neonatal jaundice and practices before the application to the hospital. In *Book of Abstracts of 1st National Congress of Pediatrics Nursing*, Izmir, 21–23 June, pp. 102.
- Fok TF (2001) Neonatal jaundice-traditional Chinese medicine approach. *Journal of Perinatology* 21, 98–100.
- Isik MT, Akcinar M & Kadioglu S (2010) Conventional practices in Mersin aimed at mother and newborn during the periods of pregnancy, birth and confinement. *Journal of International Human Sciences* 7, 63–84.
- Karabudak SS, Yavuz B, Yilmaz HB & Basbakkal Z (2009) Conventional practices of mothers regarding children's health. *Journal of Istanbul University Faculty of Nursing* 17, 190–197.
- Kilic S, Tezcan S, Tascilar E, Cakir B, Aydin HI, Hasde M & Gokcay E (2005) Morbidity and mortality characteristics of infants hospitalized in the Pediatrics Department of the largest Turkish military hospital in 2001. *Military Medicine* 170, 48–51.
- Madlon-Kay DJ (2002) Maternal assessment of neonatal jaundice after hospital discharge. *The Journal of Family Practice* 51, 445–448.
- Rodrigo BKNR & Cooray G (2011) The knowledge, attitude & behaviour on neonatal jaundice of postnatal mothers in Provincial General Hospital, Badulla. *Sri Lanka Journal of Child Health* 40, 164–168.
- Sekeroglu N, Koca U & Meraler SA (2012) A conventional public medication: iksut. *Journal of Yüzüncü Yıl University Agricultural Sciences* 22, 56–61.

Contributions

Study design: DA, EKC, HK; data collection and analysis: DA and manuscript preparation: DA.

Conflict of interest

The authors declare that they have no conflicts of interest.

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