Original article

Evaluation of knowledge and perception of newborn jaundice among parturient mothers in a sec-ondary health care centre in the Niger Delta region of Nigeria

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Abstract:

Background: Newborn jaundice has remained one of the leading causes of neonatal morbidity and mortality in sub-Saharan Africa. It is believed that delays in detection and/or inappropriate treatment may largely be responsible for this. Given that most mothers are now discharged home 24 hours after a normal delivery, the responsibility to detect jaundice in the new-born and take appropriate decision now rest with the mothers. This study therefore sought to evaluate the knowledge and perception of newborn jaundice among parturient mothers. ***Method:*** This study was a descriptive cross-sectional study carried out among 255 parturient mothers at the lying-in ward of Mariere Memorial Central Hospital. A structured, pre-tested, interviewer administered questionnaire was used to obtain information from the mothers. SPSS version 16 was employed in the analysis of the data. ***Results:*** Of the 255 parturient mothers interviewed, only 156 (61.2%) affirmed their awareness of newborn jaundice and only these mothers were further analysed. Their mean age was 30.2±5.4 and a median parity of 2. Thirty-seven (23.7%) of the mothers had tertiary education and just about half (50.6%) of the mothers knew that newborn jaundice presents with yellowish discoloration of the body and sclera. Three (1.9%) of the mothers knew that haemolysis is an underlying cause of jaundice and four (2.6%) mothers each correctly mentioned phototherapy and exchange blood transfusion as treatment modalities. Health talk given at the antenatal clinic was the source of information by 81 (51.9%) of the mothers. ***Conclusion*:** This study showed that the knowledge of risk factors/causes, treatment and complication of newborn jaundice by mothers is unsatisfactory.

Key words: newborn jaundice; parturient mothers; Niger Delta

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Introduction

Newborn jaundice is the yellowish discolouration of the skin, and mucous membrane occurring in a newborn as a result of increase in the level of serum bilirubin.[1] Worldwide, newborn jaundice occurs in about 60% of term newborns and 80% of preterm newborns, the majority of which resolves without any treatment.[2] However, in about 8-10% of newborns, neonatal jaundice can be severe, and is generally diagnosed when total serum bilirubin levels are > 95 percentile for age in hours.[3] The dangers of elevated levels of bilirubin in the newborn have been well documented, and these include amongst others cerebral palsy, mental retardation, dental dysplasia, upward gaze paralysis and hearing loss.[4] For these reasons, newborns that develop jaundice need to be closely observed while those with severe newborn jaundice should have immediate medical intervention.

Newborn jaundice has remained one of the leading causes of neonatal morbidity and mortality in our environment. This is essentially because of delay in seeking appropriate treatment and/or improper treatment often instituted at home.[5,6] These actions or inactions are often borne out of the level of knowledge and perception of newborn jaundice by

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the mothers or older relatives at home. The practice of early discharge of mothers and their infants after delivery results in a situation where the bilirubin levels peak at home rather than in the hospital. The implication is that the primary responsibility for early detection of jaundice is now shifted to the mothers/ relatives. Therefore, it is important that mothers should have correct knowledge of how to recognize newborn jaundice as well as how to respond appropriately.

Previous studies in Nigeria to ascertain the knowledge of newborn jaundice were largely among well-educated mothers seen in the teaching hospitals, and were found to be quite knowledgeable,[7,8] However, given that majority of the people living in semi-urban and rural areas of the country attend either primary or secondary health care facilities; we decided to undertake this study among parturient mothers seen at a secondary healthcare facility to assess their knowledge and perception of newborn jaundice.

Materials And Methods

This study was a descriptive cross-sectional study carried out at the lying-in ward of Mariere Memorial Central Hospital (MMCH), a secondary health care facility in Ughelli, a suburban city in the Niger Delta area of Nigeria inhabited mainly by the Urhobo ethnic group. The hospital provides specialist healthcare and serves as a referral centre for hospitals and clinics in neighbouring towns and villages. The department of Obstetrics and Gynaecology has two consultants, three medical officers, two house officers and 10 nurses with an average of 265 vaginal deliveries and 55 caesarean sections monthly. The lying-in ward is a 20-bed unit where mothers are nursed post delivery or post operatively. The average length of stay after a normal delivery is 24 hours and 72 hours for caesarean delivery. The study was carried out during the period of 1st March 2012 to 30thJune 2012 and the subjects were mothers awaiting discharge following delivery and who agreed to participate in the study. Critically ill mothers and mothers who are medical personnel were excluded. The data collection instrument was a structured questionnaire which was pre-tested with some modification made prior to its use. The information was collected by a trained house-officer under the supervision of the researcher on a range of demographic characteristics, knowledge of newborn jaundice including causes, risk factors, treatment, complications as well as sources of information. The number of times the respondents had delivered babies was assessed as: Primiparous (one delivery), Multiparous (Two to four deliveries) and Grand multiparous (Five and more deliveries).

Ethical clearance was obtained from the Ethics and Research Committee of the Delta State Ministry of Health while permission was obtained from the hospital management before the study was undertaken. Informed consent was obtained verbally from the respondents after the purpose of the survey was explained and confidentiality assured.

All data was entered into the computer after ensuring completeness. Key punching errors were rectified and logical errors corrected. Descriptive statistics namely, means, median standard deviation and percentages was employed in the analysis of the data using Statistical Package for Social Sciences (SPSS) version 16.

Results

A total of 255 parturient mothers participated in the survey. Of these, only 156 (61.2%) affirmed their awareness of newborn jaundice. As a result, subsequent analysis included only 156 parturient mothers. Their age ranged between 17 and 49 years with a mean of 30.2 ± 5.4. Majority of the mothers, 128 (82%) were above 25 years while 88 (18.0%) were 25 years and below. Forty three (27.6%) of the mothers were primiparous and 26 (16.6%) were grand multiparous, a median parity of 2. Seventy-seven (49.4%) of the mothers completed secondary school and 37(23.7%) had tertiary education. Majority of the mothers were in a monogamous relationship144 (92.3%), most of whom 107 (68.6%) are married. Other socio-demographic profiles are as shown in Table 1

The result of this study also showed that about half of the respondents 79(50.6%) knew that newborn jaundice presents as yellowish discolouration of the body and sclera. But, a sizeable number 65 (41.7%) also did not know how to identify a newborn with jaundice. Others features mentioned include jerking movement, not sucking, fever and excessive cry as shown in Table 2.

Only 3 (1.9%) of the mothers knew that excessive break down of red blood cell (haemolysis) is an underlying cause of jaundice. Seventy six (48.7%)

Table 1. Socio-demographic Profile of the Study Population

Maternal Demographic Characteristics	Number of Respondents (n =156)	Percent
Age(years)		
16-25	28	17.9
26-35	106	67.9
36-45	20	12.8
>46	2	1.3
Parity		
Primiparous	43	27.6
Multiparous	87	55.8
Grand Multiparous	26	16.6
Educational Status		
Primary	42	26.9
Secondary	77	49.4
Tertiary	37	23.7
Marital Status		
Married	107	68.6
Co-habiting	47	30.1
Single	2	1.2
Marriage Type		
Monogamy	144	92.3
Polygamy	12	7.7
Place of Residence		
Suburban	144	92.3
Rural	21	7.7
Place of Antenatal Care		
MMCH	128	82.1
Peripheral Hospital	26	16.6
No Antenatal Care	2	1.3
Number of Antenatal Visits		
0-3	27	17.3
>4	129	82.7

of the mothers did not know any cause of newborn jaundice while others incorrectly alluded to maternal fever, cold water intake by the mother, Non immunization of the child, vitamin deficiency and the baby having wrong blood were other risk factors mentioned for newborn jaundice as shown in Table3

On the treatment of newborn jaundice, more than half of the mothers 82 (52.6%) did not know the treatment options for newborn jaundice. Four (2.6%) mothers each correctly mentioned phototherapy and exchange blood transfusion as treatment modalities for newborn jaundice while 28 (17.9%) of the mothers believed that exposure to sunlight is an effective treatment for newborn jaundice. Other treatments mentioned by the mothers in this study included, oral antibiotics, herbal preparations and the use of vitamin drops as shown in Table 4

Table 2. Mothers Responses on how to Identify Newborn Jaundice

Features	Number of Respondents (n = 156)	Percent
Yellowness of the body	79	50.6
Jerky Movement	5	3.2
Fever	4	2.6
Excessive Cry	2	1.3
Don't Know	65	41.7
Not Sucking	1	0.6

The major source of information on newborn jaundice was the health talks given at the antenatal clinic. Twenty two (14.1%) of the mothers got their information from friends while the least source of information was the media. Relatives, neighbours, schools and past experience were other means by which mothers got to know about newborn jaundice as shown in Table 5

On their attitude toward newborn jaundice, 58 (37.2%) of the mothers said there were not worried about a newborn developing jaundice while 98 (62.8%) mothers had a contrary view. When asked

Table 3. Mothers Responses on Causes / Risk Factors for Newborn Jaundice

Causes/ Risk Factors	Number of Respondents (n = 156)	Percent
Maternal Fever	51	32.7
Cold water Intake	22	14.2
Haemolysis	3	1.9
Non Immunization	2	1.3
Wrong Blood	1	0.6
Vitamin Deficiency	1	0.6
Don't Know	76	48.7

Table 4. Mothers Responses on the Treatment Options for Newborn Jaundice

Treatment Options	Number of Respondents (n = 156)	Percent
Exposure to Sunlight	28	17.9
Use of Oral Antibiotics	23	14.7
Use of Herbal Preparations	10	6.4
Use of Vitamin drops	5	3.2
Phototherapy	4	2.6
EBT	4	2.6
Don't Know	82	52.6

Table 5. Mothers Sources of Information about Newborn Jaundice

Source of Information	Number of Respondents (n = 156)	Percent
Antenatal Health Talk	81	51.9
Friends	22	14.1
Relatives	21	13.4
Neighbours	16	10.3
School	9	5.8
Past Experience	5	3.2
Media	2	1.3

about their preferred place of treatment, 101 (64.7%) said, they will take the newborn to the hospital while 55 (35.3%) will rather use traditional approach at home. On what they think could result if newborn jaundice was not properly treated, majority 103 (66.0%) of the mothers knew that death could be the outcome while only 8 (5.2%) mentioned brain damage as a possible consequence and another 45 (28.8%) did not know.

Discussion

This present study showed that a good number of parturient mothers are aware of newborn jaundice; however, their knowledge of important aspects of the condition is poor. It has been established that early detection and prompt treatment are essential in the prevention of mortality and/or lifelong complications often associated with bilirubin encephalopathy.[8] Even though, most of the mothers correctly identified yellowness of the body as one of the earliest clinical features of newborn jaundice, a significant proportion of the mothers either did not know how to identify newborn jaundice or mentioned very late features such as jerky movement and poor suck. In view of the prevailing practice in some hospitals where mothers are discharged 24 hours after delivery, and the likely inability of the mother to correctly adjudge the degree of hyperbilirubinemia, a comprehensive program of prevention, including universal predischarge neonatal bilirubin screening should be instituted. This will help to identify newborn with serum bilirubin in the high risk zone; and also aid decision on therapy to forestall the subsequent development of biliubin levels that are known to place newborns at risk for bilirubin encephalopathy

It is worrisome that only 5.2% of the respondents knew the correct treatment for new born jaundice. While majority of the respondents did not know the treatment for newborn jaundice, some respondents still consider exposure to sunlight, the use of oral antibiotic and use of herbal preparation as treatment options. This finding is similar to what was found in other studies.[7,9] So far, there is insufficient evidence about the benefit of the use of sunlight in the management of newborn jaundice[10] and there are no reports/recommendations about the usefulness of direct sunlight for newborn jaundice in the literature.[11] Nevertheless, especially in low resource countries, it is believed that exposure to sun light and use of oral antibiotics are beneficial, even considered as alternatives treatment modalities for newborn jaundice by some medical staff .[9,12]

This study also revealed that most of the mothers are aware that newborn jaundice is a potential threat, but some of them do not know how serious the threat is. Nearly 36% of the mothers would rather seek treatment for newborn jaundice from unorthodox sources, because they do not think jaundice is such a serious illness that would require hospital treatment. It was also discovered that most of these mothers erroneously believed that jaundice as seen in older children either due to complicated malaria or hepatitis are aetiologically similar to newborn jaundice; as a result, oral medications and/or herbal preparations often used by them to

treat these conditions are also believed to be effective in newborn jaundice.

Ironically, majority of the mothers got to know about newborn jaundice from health care workers either directly or indirectly. Considering the poor knowledge displayed by the respondents, this study thus corroborate the conclusion of a previous study that a knowledge gap exist among some health care workers in our locality concerning newborn jaundice and its management; and that personal opinion and outright misconception are now being passed on to the mothers.[12] It is not uncommon to find health care professionals dispense sometimes conflicting and potentially harmful care advice.[13,14] When mothers receive inappropriate or conflicting infant care advice, neonatal outcomes may be adversely impacted. Providing consistent and accurate education is foundational to the role of the healthcare worker. It is essential therefore; that health care workers caring for women and infants learn the evidence about newborn jaundice, adhere to guidelines from professional bodies and provide their patients with accurate education.

As was reported in other studies, the media was also the least source of information on newborn jaundice.[7] However, it is not clear, whether this is as a result of poor utilization of this medium by both the health care worker and the mothers. Clearly, the media is a tool that if well utilized will definitely complement the existing modes of health information dissemination identified in this study.

Conclusion

It is concluded from this study that the knowledge of risk factors/causes, treatment and complications of newborn jaundice by parturient mothers is unsatisfactory. In addition, the attitude of some of the respondents to newborn jaundice as regards where to seek help and the type of treatment to be administered paints a vivid picture of a possible reason why death and/or disability associated with the condition has continued to be a major contributor to neonatal morbidity and mortality. Again, the near absence of the impart of the health talk given at the antenatal clinic on the knowledge of the mothers concerning newborn jaundice indeed underscores the need for a more holistic approach to information acquisition and dissemination. Health care personnel should be made to go for regular update courses on common diseases. This would ensure that up to date information are passed on to the mothers. The media also has a big role to play in ensuring that a wider audience is reached with accurate information on newborn jaundice.

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