

Assessment of Knowledge, Attitude and Practice of Management of Neonatal Jaundice Amongst 4th Year Nursing Students at Unam, Main Campus

Turkie Ellis, Hilde Nashandi, Joseph Galukeni Kadhila*

School of Nursing and Public Health, Faculty of Health Sciences and Veterinary Medicine, University of Namibia

*Corresponding author

Joseph Galukeni Kadhila, School of Nursing and Public Health, Faculty of Health Sciences and Veterinary Medicine, University of Namibia.

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ABSTRACT

Background: Neonatal jaundice (NNJ) is the yellowish discoloration of the sclera, skin and mucous membrane in a baby of 0- 28 days of life due to accumulation of bilirubin in the body. NNJ is one of the most common problems in newborns and contributes significantly to neonatal morbidity and mortality.

Aim: This study aimed at assessing the knowledge, attitude and practice of NNJ among 4th year Nursing students at UNAM main campus.

Method: This study used quantitative approach and employed a cross-sectional study design. Sixty-six (66) 4th year nursing students were enrolled in the study between July 2022 and August 2022. A questionnaire was used to collect data from the participants. The data was analysed descriptively using SPSS. Frequency distributions, percentages and frequency tables were used to summarize and relate variables which were attained from the study. Data was summarized using figures and tables.

Results: The findings indicate that all participants had knowledge on jaundice. The majority (91%) of the participants in the present study indicated that disparity between blood groups can cause jaundice. However, some of the participants have indicated poor knowledge regarding NNJ. Some students (9%) have indicated that breastfeeding can lead to NNJ. All participants indicated phototherapy as treatment modality for NNJ. However, some (3%) of the participants also believe that constant fasting and prayers can cure it. The majority of participants indicated the eyes and gonads of the baby must be covered when initiating phototherapy, and that the distance of the phototherapy unit is an important factor to consider when initiating phototherapy.

Conclusion: The majority of students showed satisfactory knowledge, attitude and practice on NNJ. However, there is still a need for the Nursing students to have continuous education, reminder and exposure on NNJ so they will be able to teach the mothers when they graduate to prevent the severe morbidity and mortality associated with improper and late treatment of NNJ.

Keywords: Neonatal Jaundice, 4th Year Nursing Students, Knowledge, Attitude, Practice

Introduction

According to Shehu Neonatal jaundice (NNJ) is the yellowish discoloration of the sclera, skin and mucous membrane in a baby of 0- 28 days of life due to accumulation of bilirubin in the body. NNJ occurs worldwide and contributes significantly to neonatal morbidity and mortality [1]. Unique means of improving neonatal care and reducing potential mortality associated with NNJ in resource-limited settings is to create awareness among healthcare providers, which also includes nursing students. Therefore, this study assessed the knowledge, attitude and practice of NNJ among 4th year Nursing students at UNAM.

Background

NNJ due to unconjugated bilirubin is a serious condition that may result in fatal complications if not treated properly and

in a timely manner. NNJ is caused by an excess of bilirubin in the blood, a yellow substance created from the degradation of red blood cells [1]. An imbalance between the rate of bilirubin production and bilirubin excretion will lead to increased levels of unconjugated bilirubin in the blood of the new-born [2].

In most infants, with jaundice due to unconjugated bilirubin, the serum bilirubin concentration is low and resolves spontaneously and causes no harm. However, in some babies, significant unconjugated hyperbilirubinemia can develop. If high levels of unconjugated bilirubin are not detected and treated early, acute and chronic bilirubin encephalopathy or kernicterus may develop, leading to irreversible brain damage which may cause major disabilities in babies such as cerebral palsy, mental retardation and deafness [3].

Egube indicates that NNJ is a major reason babies are frequently re-admitted after hospital discharge [4]. Globally, about 60% of term infants and 80% of preterm infants develop jaundice within

the first week of life and about 25% of these babies will require phototherapy to avoid the effect of high serum unconjugated bilirubinaemia [3,5]. According to Shilongo et al., in Namibia little is known on the risk of NNJ and the extent of its contribution to neonatal disease and death.

Literature confirms that the rate of complications associated with NNJ are relatively low in high income countries due to access to optimal quality management, adequate number of trained staff and access to advanced technology and equipment [6]. However, rates of complications are higher in low-income countries due to a lack of access to advanced medical equipment. Furthermore, the lack of knowledge of NNJ amongst healthcare staff and a lack of adequate number of staff is a contributing factor to the rate of complications associated with NNJ.

Aim

To assess the knowledge, attitude and practice of NNJ amongst 4th year Nursing students at UNAM main campus.

Method

This research employed a quantitative study design following a cross sectional descriptive quantitative approach about knowledge, attitude, and practice of 4th year nursing students regarding NNJ at UNAM main campus. The target population of this study included 4th year degree Nursing students registered for the 2022 academic year at UNAM main campus. The total population was 91 students. The researcher used a non-probability convenient sampling method to select participants for the study and employed a self-administered questionnaire in English language, consisting of the same set of questions presented to respondents. The questionnaire was divided into four sections as follows: SECTION A: The participant's socio-demographic data, SECTION B: were questions on knowledge regarding neonatal jaundice, SECTION C: were question on attitude regarding neonatal jaundice, SECTION D: were questions on practice of 4th year nursing students regarding neonatal jaundice.

Ethical Approval

Written informed consent was obtained from all the participants prior to data collection to partake in this study. Ethical clearance was obtained from the School of Nursing and Public Health at the University of Namibia Health Research Ethics Committee to conduct the study **SoNEC 13/2022**. The following ethical principles, respect for a person, justice, maleficence and beneficence were adhered and respected throughout the study according to guidelines.

Data Collection

After receiving ethical approval from the UNAM Research Committee, the researcher informed the respondents, those who consent to participate were handed a self-administered questionnaire by the researcher for data collection at UNAM main campus, and the state hospitals within Windhoek, Khomas region. The questionnaire with attached consent that participants needed to read and sign before answering questions was distributed to the participants and the instructions were explained in order to cater for all participants to understand the questions.

Data Analysis

Data analysis links with the research question, objectives and design of the questionnaire. The data collected in the research was edited, coded, classified based on similarity and then tabulated. To permit quantitative analysis, data were converted into numerical codes representing attributes or measurement of variables. Descriptive statistics such as frequency distributions, percentages and frequency tables were used to summarize and relate variables which were attained from the study.

Results

Socio-Demographic of Participants

Out of 66 students 84.8% are females, 13.6 % male and 1.5% preferred not to say. The majority (39.4%) of the participants were between the age of 18-22 years and 23-27 years, 12.1% (28-32 years) and 9.1% are 33 years and above. Most of the participants (92.4%) are single, 6.1% are married and 1.5% are co-habiting.

Table 1: Socio-demographic of participants (n=66)

	Frequency	%
Gender		
Male	9	13.6
Prefer not to answer	1	1.5
Age		
18-22 years	26	39.4
23-27 years	26	39.4
28-32 years	8	12.1
33 years and above	6	9.1
Nationality		
Namibian	66	100.0
Religion		
Christian	65	98.5
Other	1	1.5
Marital Status		
Single	61	92.4
Married	4	6.1
Co-habiting	1	1.5
Highest level of Education Completed		
Grade 12 Certificate	56	84.8
Certificate in Health Science	8	12.1
Diploma in Health Science	1	1.5
Other	1	1.5
Were you previously enrolled as a nurse?		
Yes	9	13.6
No	57	86.4

Knowledge of the 4th year Nursing students regarding NNJ.

All the participants have indicated that neonatal jaundice is the yellowish discoloration of the skin and eyes. Majority (91%) of the participants have indicated that disparity between blood groups can cause jaundice whilst 9% have indicated that it does not. About 9% of the participants have also indicated that feeding the baby with breastmilk can cause jaundice. These findings are presented in Figure 1 and Figure 2 below.

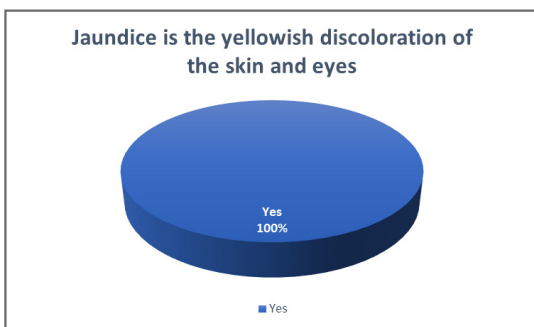


Figure 1: Definition of Neonatal Jaundice

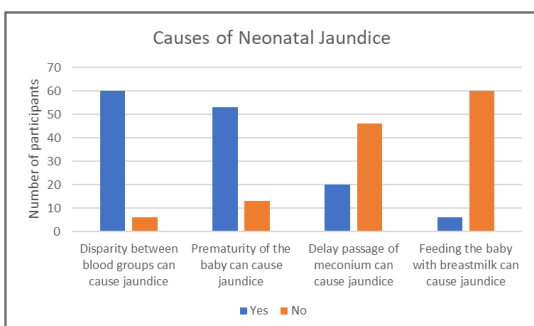


Figure 2: Causes of Neonatal Jaundice

Majority (71%) of the participants have also indicated that jaundice can cause baby brain damage, 67% have indicated that the baby with jaundice can die and 64% have also indicated that jaundice can cause convulsion in babies. About 24.2% of the participants have indicated that the babies with jaundice do not feed poorly and 28.8% of the participants have indicated that high pitch cry is the danger sign of jaundice. Figure 3 and Figure 4 below presents these findings.

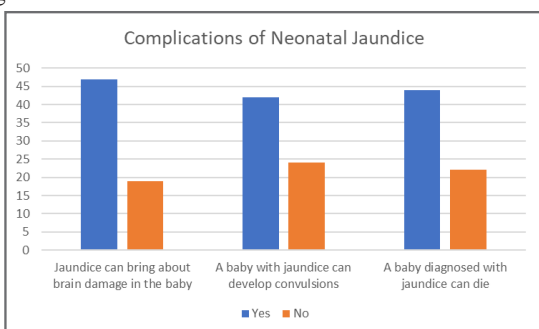


Figure 3: Complications of Neonatal Jaundice

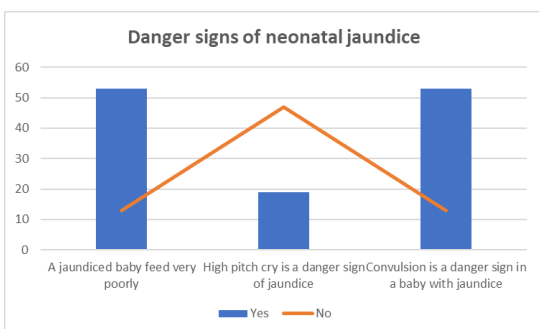


Figure 4: Danger Sign of Neonatal Jaundice

The participants have also indicated that phototherapy can be used to treat jaundice. However, some of them (3%) have indicated that going to church with frequent fasting and prayers are the only ways jaundice can be treated. The findings are presented in Table 2 below.

Table 2: Knowledge of the 4th year nursing students on some parameters regarding NNJ

	Yes (%)	No (%)
Sites for checking neonatal jaundice		
The skin and eyes	65 (98%)	1 (1%)
The palms	52 (79%)	14 (21%)
The urine	42 (64%)	24 (36%)
Treatment of neonatal jaundice		
Phototherapy	66 (100%)	0
Going to church with frequent fasting and prayers are the only ways of treating neonatal jaundice	2 (3%)	64(97%)
Exchange blood transfusion is also a method of treating neonatal jaundice	52 (79%)	14 (21%)
Prevention of neonatal jaundice		
Neonatal jaundice is a common problem in new-borns so there is no need to prevent it	14 (21%)	52 (79%)
Neonatal jaundice can be prevented	43 (65%)	23 (35%)

Attitude of UNAM 4th year Nursing students towards NNJ

The attitude of the UNAM 4th year Nursing students was also assessed. The findings revealed that majority (75.8%) of the participants believe that poor personal and environmental hygiene is not the cause of jaundice. Whilst 95.5% of the participants believe that giving proper education during antenatal care (ANC) can help reduce complications of jaundice. The findings on the attitude are presented in Table 3 below.

Table 3: Attitudes of 4th year students regarding neonatal jaundice

Variables	YES (%)	NO (%)
1. Jaundice in early life can be treated in the hospital?	100	0
2. Breastfeeding is a means of treating my baby’s jaundice?	61.1	37.9
3. Jaundice in early life is caused by evil spirits?	0	100
4. Poor personal and environmental hygiene causes jaundice?	24.2	75.8
5. Exclusive breastfeeding helps reduces the risk of jaundice?	72.7	27.3
6. Giving proper education during ANC on the symptoms recognition of jaundice can help reduce severe complications of the condition?	95.5	4.5

UNAM 4th year Nursing students practice regarding NNJ (n=66)

All the students have indicated that they have nursed a neonate diagnosed with neonatal jaundice. About 95.5% of the participants have also indicated that they were given lectures on neonatal jaundice and its management, however, 4.5% of the participants have indicated that they have not. Table 4 below presents the findings.

Table 4: Students practice regarding neonatal jaundice

Variables	Yes (%)	No (%)
1. Lectures on neonatal jaundice and management thereof were given to the student in the past year / years?	95.5	4.5
2. Have you nursed a neonate diagnosed with neonatal jaundice?	100	0
3. All babies with neonatal jaundice require phototherapy?	83.3	16.7
4. When initiating phototherapy, ensure patient is fully clothed to avoid hypothermia?	7.6	92.4
5. Mothers are not allowed to breastfeed babies or interact with babies, therefore only expressed breast milk or infant formula milk should be given to babies who are receiving phototherapy?	9.1	90.9
6. When initiating phototherapy, cover eyes and gonads only?	90.9	9.1
7. Nurse / student nurse should not allow babies to be removed from phototherapy for the duration of treatment in order to optimize on the phototherapy exposure?	60.6	39.4
8. The distance of the phototherapy unit/lights to the baby is not important, as long as there is skin exposure to the light?	6.1	93.9

Discussion

A total of sixty-six (66) 4th year nursing students from the UNAM main campus were enrolled in the study, of which 84.8% are females, 13.6 % male, 39.4% of the participants were between the age of 18-22 years and 23-27 years, 12.1% (28-32 years) and 9.1% are 33 years and above. These findings differs from that of Alfouwais et al. which included a total of (4413) participates, females were more than males (79.4%) and most of the age group were between 20-30 of years old (46.6%). There are more females studying nursing, hence there is a larger population of females than males [1].

The current study has revealed that all the participants knew the definition of jaundice; unlike in a study that was conducted by Shehu where only 98% of the students knew the definition of jaundice. Most (91%) of the participants in the present study indicated that disparity between blood groups can cause jaundice. However, some of the participants have indicated to have poor knowledge regarding NNJ. Some students (9%) have indicated that breastfeeding can lead to neonatal jaundice. The findings are comparable to that of Mohammed et al. whose study revealed that most participants have a poor knowledge regarding neonatal jaundice and only 8.9% had good knowledge about neonatal jaundice. Moreover, the present study revealed that 83.3% of the participants indicated that all babies with neonatal jaundice require phototherapy. According to Mohammed et al. the implication of good knowledge in the identification of jaundice is that caregivers will detect jaundice immediately after birth and take appropriate steps towards seeking prompt treatment in the hospital.

Majority (95.5%) of the participants also indicated that giving proper education during ANC on the symptoms recognition of jaundice can help reduce severe complications of the condition. However, some of the participants have a believe that neonatal jaundice is caused by evil spirits and going to church with constant prayers and fasting can help in the healing. These findings were in keeping with those of a study conducted. The negative attitudes needs to be discouraged through appropriate education as these are inimical to the survival of the babies and may lead to delays in early care-seeking at the hospital which may result in complications and even death.

Conclusion

The study showed that knowledge, attitude and practice of 4th year Nursing students regarding neonatal jaundice care was generally fair. However, there will be need for the nursing students to have continuous teachings, reminder and exposure on NNJ so they will be able to teach the mothers when they graduate to prevent the severe morbidity and mortality associated with improper and late treatment of neonatal jaundice. Hence, some of the participants showed a bad practice and attitude towards neonatal jaundice and this can pose a serious risk that may lead to high neonatal mortality and morbidity.

Limitation

According to Burns and Grove, limitations are restrictions or problems in a study that may decrease the generalizability of the findings [7]. The findings of this study are limited due to time, since the study only assessed the knowledge, attitude and practice of 4th year Nursing students at UNAM, main campus only and did not include other campuses or institutions. In addition, delimitation refer to the boundaries that you have set to the study, unlike limitations that are beyond the researcher's control, delimitation is often within the control boundaries of the researcher [8]. Therefore, the results of this study cannot be generalised to other students at other campuses or institutions, as the study only focused on 4th year Nursing students at UNAM, main campus [9].

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Ethics Approval and Consent: Written informed consent was obtained from all the participants prior to data collection to partake in this study. Ethical clearance was obtained from the School of Nursing and Public Health at the University of Namibia Health Research Ethics Committee to conduct the study SoNEC 13/2022. The following ethical principles, respect for a person, justice, maleficence and beneficence where adhered and respected throughout the study according to guidelines.

Competing Interest: The authors declared no conflict of interest.

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