

Knowledge and Practice for Prevention of Hepatitis B among Practicing Midwives in University of Calabar Teaching Hospital, Calabar Nigeria.

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Abstract: Globally it is estimated that about 400 million individuals are chronic carriers of hepatitis B virus (HBV) and that more than a million people die annually from HBV related causes. The high carrier rate and hepatitis B being an endemic disease in Nigeria reveal the associated risk of infection among nurses and midwives. If the midwife is infected, the life of the mother and the baby stands the risk in this one infection. This study, investigated midwives knowledge and practice for the prevention of Hepatitis B infection in University of Calabar Teaching Hospital, Calabar Nigeria.

Method: A descriptive design with a sample of 120 midwives selected through purposive sampling was used. A self-structured questionnaire with content validity index of 0.79 and a test-retest reliability coefficient of 0.81 was used to elicit information. Data was analyzed using simple proportion and parametric test-chi-square (X^2) at $p < 0.05$.

Results: Majority of the respondents 58 (48.4%) were between ages 25 and 34 years; 38 (31.6%) were between ages 35 and 44 years, 16 (13.3%) 45 years and above, only 8(6.7%) were between 20-24 years. 83 (69.2%) had 6-20 years experience, while 21 (17.5%) and 16 (13.3%) had 1-5 years and above 21 years experience respectively, Majority, 96 (80%) were diploma holders. All respondents were females. The results further revealed that 78 (65%) respondents had good knowledge of hepatitis B virus, 83 (69.2%) respondents practiced universal precautions while 37 (30.8%) did not. 117 (95.5%) respondents had never contracted hepatitis B infection, while 3 (2.5%) had contracted through practice. 96 (63.3%) had received hepatitis B vaccine while a high minority 44 (36.7%) had not. Further results highlighted a statistically significant relationship between knowledge regarding prevention of hepatitis B infection and practice of universal precaution (cal $X^2 = 15.6$; $p < 0.05$). Conclusion, This study has shown that midwives have high knowledge of HBV and its prevention but with a little gap of poor knowledge which calls for concern. It is recommended that deliberate programmes of continuing education and training should continuously be designed for the target population and other health care workers, vaccines are continuously provided to enhance compliance.

Keywords: Prevention, Hepatitis B, Midwives

I. Background

Globally it is estimated that about 400 million individuals are chronic carriers of hepatitis B virus (HBV) and that more than a million people die annually from HBV related causes (Hazmi, 2015). Hepatitis B Virus (HBV) is the blood-borne communicable disease and the ninth leading cause of death worldwide (Bhat, Ghali, Deschenes and Wong, 2012). Though, a major public health issue, the prevalence is higher in the developing countries than the developed. There is an average carrier rate of 10 - 20% in sub-Saharan African general population and 9 to 39% in Nigeria (Emechebe, Emodi, Ikefuna, Ilechukwu, Igwe, Ejiofor and Ilechukwu, 2009).

According to Kesieme, Uwakwe, Irekpita, Dongo, Bwala & Alegbeleye (2011) hepatitis B infection is an important occupational hazard for HCWs, and that it is generally easy to assume that health workers by virtue of their proximity to the health facility should have adequate knowledge about the disease and its mode of prevention but that does not seem to be the case. The high carrier rate and hepatitis B being an endemic disease in Nigeria reveal the associated risk of infection among nurses and midwives who have frequent contact with infected blood through invasive procedures. The most frequent route of transmitting Hepatitis B Virus is through needle stick injury. HBV is a hospital acquired infection which could be transmitted from an infected health-care provider to patients or vice versa which calls for precautionary measures to be put in place to reduce the mortality associated with this disease. However, if the midwife is infected it becomes more precarious

because the life of the mother and the baby that she comes in contact with on a daily basis stands the risk in this one infection.

The study of Yassi, Nophale, Dybka, Bryce, Kruger and Spiegel, (2009), on knowledge, awareness and practice of Health care worker on HBV support the view that good knowledge is associated with confidence in adoption of safe practice among practicing midwives thus poor knowledge about hepatitis B transmission is associated with increased level of exposure. Okaro, Eze and Chagwle (2009) study on knowledge, attitude and practice among Health care workers on HBV in Enugu revealed that good knowledge of hepatitis B reduces the risk of exposure. Thus, Amoo, Makinde and Tijani, (2008), opined that measures such as more training, formulation of rules and standing orders, outlining precautionary measures, conducting educational talks would reduce the rate of contraction of hepatitis B.

Universal precautions in the health care setting include correct usage and disposal of disposable syringes, needle and lancets; less introduction of needles, intravenous infusion, disinfecting work areas, wearing of gloves and protective cloths (Halton, Bourle, Pol, Benhamou, Smelzer and Bare 2008). Studies reveal that Nigerian obstetricians and midwives knowledge, attitude and practices regarding the wearing of gloves during drip insertion and blood/fluid procedure was very low (Okaro et al 2009., and Amoo et al., 2008). Another study on 'exposure to blood, what Health care workers should know', revealed that midwives perceived washing of hands before procedure as time wasting (Chao, Chang, So, 2010). A study in South Africa on knowledge, attitude and practices regarding prevention of HBV among nurses showed that midwives were not sure when to use sterile/unsterile gloves gowns and apron (Kotzee, Pronyle, Vardas, Heger, Martinson, 2006). However, Amoo et al (2008) study in Ibadan revealed that midwives always use universal precautions when caring for patients.

A report from the USA on midwives attitudes towards vaccination found that they were reluctant to be vaccinated as they feared plasma derived vaccine which contained attenuated HBV virus (Twitcheel, 2003). There is a positive correlation between increased knowledge and uptake of HBV vaccination. For example OKaro et al (2009) found that most vaccinated midwives acquired knowledge of HBV from working in high risk area that exposed them to HBV. Many years of working experience was another source of high level of knowledge of HBV which also influenced the uptake of vaccination. (Samuel, Aderibigbe, Salami, Babatunde 2009). Contrary to these findings, a study conducted by Setia, Gambhir, Kapoor, Jindal, and Garg (2013) on Attitudes and Awareness Regarding Hepatitis B and C Amongst Health-Care Workers of a Tertiary Hospital In India, revealed that 14% (6/43) of the nursing interns vaccinated against hepatitis B had received only a single dose for the vaccine against HBV, which actually consists of three doses given at 0, 1, 6 months. Further results revealed that most of the interns who did not receive the vaccine gave a reason of being too careful while handling patients and did not feel the need to be vaccinated against this infection

HBV co-infection is very common in HIV positive individuals, and since such a high HIV related bed occupancy rate has been observed in UCTH, it is clear that practicing midwives have an increased risk for exposure to HBV. If a practicing midwife is exposed to the blood of HIV/HBV infected patient, she is 100 times more likely to be infected with HBV than HIV. The risk of acquiring HBV infection from occupational exposure is at least 30% from percutaneous or mucosal exposure to blood and body fluids from a patient with acute or chronic HBV infection (Zimmerman and Middleton, 2007). To better target HBV detection and prevention programs, it is necessary to assess HBV knowledge, and preventive practices among practicing midwives at the UCTH. This study, therefore, assesses midwives knowledge and practice towards the prevention of Hepatitis B infection in University of Calabar Teaching Hospital (UCTH), Calabar, Nigeria

The general objective of this study was to determine the knowledge and practice for prevention and control of hepatitis B among practicing midwives at the University of Calabar Teaching Hospital, Calabar, Nigeria.

The specific objectives were to:

- assess the level of knowledge of practicing midwives regarding the prevention of HBV infection,
- determine the proportion of practicing midwives who practice universal preventive and control measures of hepatitis B,
- determine the proportion of practicing midwives that have had HBV through practice
- determine the proportion of practicing midwives that have been vaccinated against HBV.

II. Materials & Methods

The study setting was Cross River State which is one of the thirty six States 36 states of the Federal Republic of Nigeria. The State has eighteen (18) Local Government Areas (LGAs) including Calabar Municipality. Calabar Municipality houses the study site which is University of Calabar Teaching Hospital and is the only tertiary institution in the state for training Nurses and Doctors and other health workers. The University has facilities and is well equipped and therefore accepts referrals from primary and secondary facilities in the state.

Population

The target population consisted of all midwives working in UCTH from July to November 2013, totaling 250 from the hospital records. However only the midwives working in Labor, postnatal, gynecological wards and antenatal wards were included, midwives working outside these units were excluded. The accessible population of 120 midwives on each of the morning and afternoon shifts was used. Questionnaires were not administered to midwives on night shift and to respondents who had earlier on responded even if they were found on duty. 100% of the 120 questionnaires were retrieved.

Research Instrument

A self developed structured questionnaire was used to elicit information. Positive comments by psychometric experts were suggestive for the face validity of the instrument. A measure of stability overtime was established by using a test-retest procedure which yielded a reliability coefficient of 0.81 after an interval of two weeks.

III. Data Analysis

Data generated was analyzed using simple descriptive statistics and parametric tests statistics.

Ethical Considerations:

Ethical approval was obtained from the University of Calabar ethics committee, informed consent was received from the subjects who participated in the study. The subjects were chosen according to the study criteria and questionnaires were administered by the researchers to the respondents after informed consent was obtained. The purpose of the study was explained to all participants. Participation in the study was entirely voluntary. Anonymity and confidentiality was ensured and maintained.

Sample and Sampling technique

A cross sectional descriptive survey design was used to obtain information on midwives' knowledge and practices for the prevention of Hepatitis B. Purposive sampling technique guided the recruitment of 120 practicing midwives who work in labor, ante-natal, post-natal and gynecology wards of the University of Calabar Teaching Hospital from July to November 2013. A self-developed structured questionnaire with content validity index of 0.79 and a test-retest reliability coefficient of 0.81 was used to elicit information from respondents. Data was analyzed using simple descriptive statistics and parametric tests.

IV. Results And Discussion

4.1 Demographic Data n=120

Table1: Showing Frequency Distribution and Percentages Socio-Demographic Data of Midwives in Ucth.

VARIABLES	FREQUENCY	PERCENTAGES
Age		
20 - 24 years	8	6.7
25 -29 years	32	26.7
30 -34 years	26	21.7
35 - 40 years	22	18.3
41 -44 years	16	13.3
45 years and above	16	13.3
Total	120	100.00
Sex		
Male	0	0.0
Female	120	100.0
Total	120	100.00
Highest Educational Qualification		
RN/RM	96	80.0
B.Sc.	24	20.0
M.Sc	0	0.0
PhD	0	0
Total	100	100
Unit of Practice		
Labour ward	29	24.2
Ante-natal ward	32	26.7
Post -natal ward	28	23.3
Gynae ward	31	25.8
Total	120	100.00
Years of Working Experience		
1 -5years	21	17.5
6 -10 years	35	29.2
10 - 20 years	48	40.0

21 years and above Total	16 120	13.3 100.00
Religion		
Christianity	120	100.0
Islam	0	0.0
Others	0	0.0
Total	120	100.00

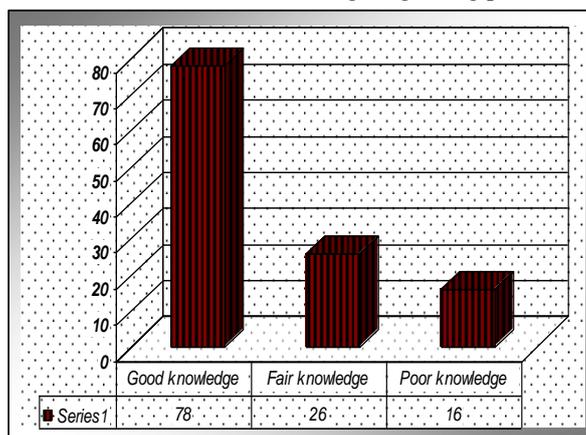
The result as shown in Table 1 on respondents' socio-demographic data revealed that majority of the respondents 58 (48.4%) were between ages 25 -34 years. and most 96 (80.0%) had RN/RM as their highest educational qualification. 29 (24.2%) and 32 (26.7%) respondents worked in labour and Ante-natal wards respectively; 48 (40.0%) had 10 - 20 years working experience, All the respondents used for the study were Christians and all were females,.

4.2 Results for Research Questions

Research Question One

What is the level of knowledge of practicing midwives regarding the prevention of hepatitis B infection at the University of Calabar Teaching hospital, Calabar? Descriptive statistics was used for data analysis. The result of this analysis is presented in Figure 1.

Figure 1 Midwives' level of Knowledge regarding prevention of HBV

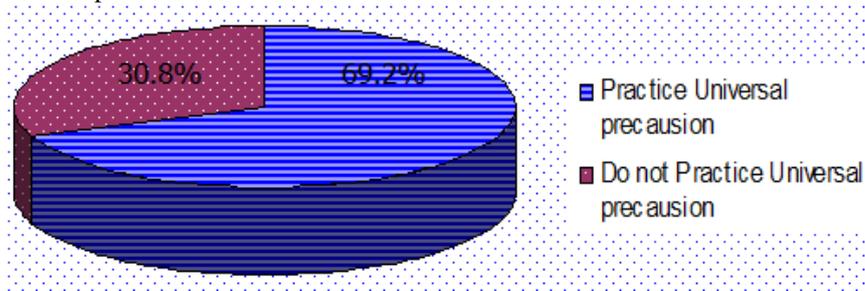


The result obtained from analysis of research question one revealed that majority 78 (65.0%) of the respondents have good knowledge of hepatitis B virus, its mode of transmission, ways and ways in which HBV can be prevented, while 26(21.7%) and 16(13.3%) had fair and poor Knowledge respectively.

Research Question Two

What is the proportion of practicing midwives who practiced universal precaution measures of hepatitis B in University of Calabar Teaching Hospital, Calabar? Descriptive statistics was used for data analysis. The result of this analysis is presented in Figure 2.

Figure 2: Proportion of Midwives who Practice Universal Preventive and Control Measure



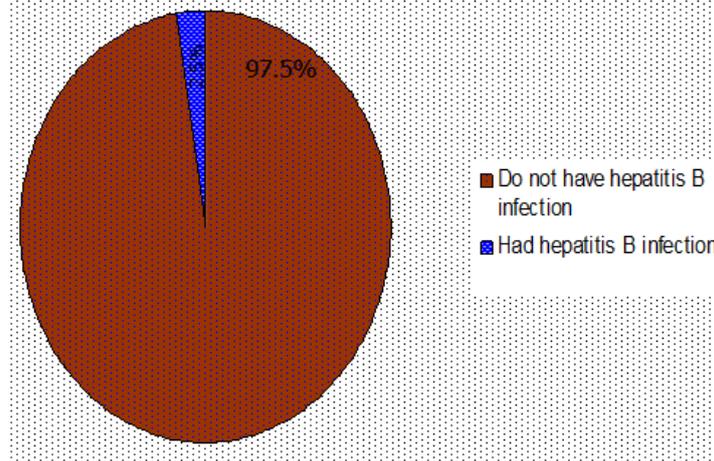
The result obtained from analysis of research question two revealed that among the 120 respondents 83 used for this study, (69.2%) reported that they practiced universal precaution against the spread of Hepatitis B

virus (69.2%) While 37 (30.8%) respondents reported that they did not practice universal caution against hepatitis B virus.

Research Question 3

What is the proportion of practicing midwives who have had hepatitis B infection through practice in University of Calabar Teaching Hospital, Calabar? Descriptive statistics was used for data analysis. The result of this analysis is presented in Figure 3.

Figure 3: Proportion of Midwives who have had HBV through practice

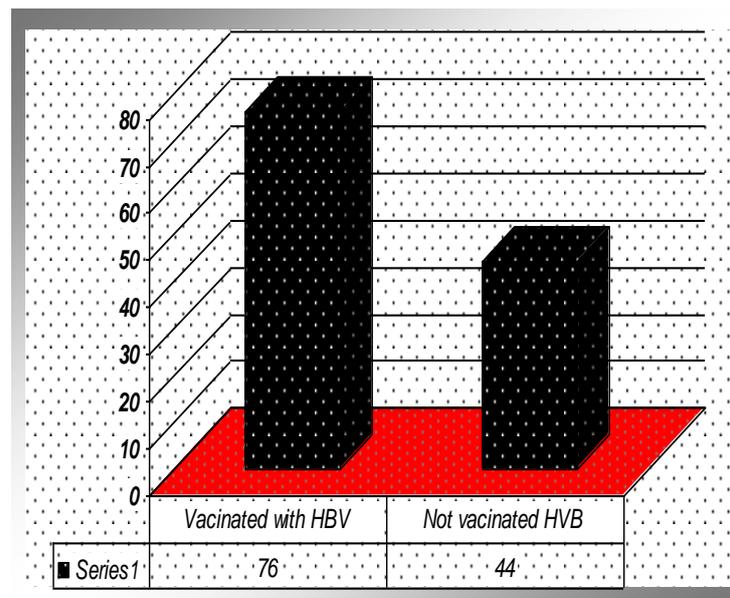


The result of analysis presented in Figure 3 showed that of the 120 respondents used, 97.5 percent reported not to have had hepatitis B infection through practice while 2.5 percent reported on the contrary stating that they have had hepatitis B infection through practice at the University of Calabar teaching hospital, Calabar.

Research Question 4

What is the proportion of practicing midwives who have been vaccinated for hepatitis B in University of Calabar Teaching Hospital, Calabar? Descriptive statistic was used for data analysis. The result of this analysis is presented in Figure 4.

Figure 4: Proportion of Midwives who have been vaccinated against HBV



The result of analysis of research question four revealed that majority 76 (63.3%) of the midwives used for the study reported to had received hepatitis B vaccine, while 44 (36.7%) respondents reported not tom have been vaccinated against hepatitis B infection in the University of Calabar, Calabar.

4.3 Test of Hypothesis

HYPOTHESIS: There is no significant relationship between knowledge regarding the prevention of hepatitis B infection and practice of universal precaution measures of hepatitis B among practicing midwives in University of Calabar Teaching Hospital.

Table 4.2: Respondents Level of Knowledge on the Practice of Universal Precaution

Knowledge	Practice		Total
	Practice universal precaution	Do not practice universal precaution	
Good knowledge	62 (54.0)	16 (24.1)	78
Fair knowledge	16 (18.0)	10 (8.0)	26
Poor knowledge	5 (11.1)	11 (4.9)	16
Total	83	37	120

Significant at 0.05; df=2, X² calculated 15.6, X² tabulated 5.991

Using the X² statistical test analysis, the result in table 4.2 showed a statistical relationship between level of knowledge and the practice of universal precaution measures, when the calculated of 15.6 was greater than tabulated of 5.991 at 0.05 level of significance with 3 degrees of freedom. Therefore the null hypothesis of no significance was rejected, meaning there is a significant relationship between knowledge regarding the prevention of hepatitis B infection and practice of universal precaution measures among practicing midwives in University of Teaching Hospital, Calabar.

V. Discussion

The result is encouraging considering the fact that knowledge is usually the first step towards the modification of desirable behavior. The result is also not surprising because midwives acquire a lot of knowledge about various blood borne infection, their mode of transmission and prevention during their training programme. The result is supported by Yassi, et al (2009) and Okaro, et al (2009) that good knowledge is associated with confidence in adoption of safe practice among practicing midwives thus poor knowledge about hepatitis B transmission is associated with increased level of exposure, therefore high level of knowledge about hepatitis B will reduce the risk of exposure.

The result also showed that majority of the midwives practiced universal precaution measures; this is also not surprising because having acquired a lot of information during the course of training about hepatitis B, it is easy to practice preventive measures having in mind the implications of contracting the infection. The study further revealed that majority of the respondents had never had hepatitis B infection. This finding might also be associated with the high level of knowledge exhibited by practicing midwives and the fact that they practice universal precaution during practice. This report is supported by Okaro et al., (2009) who pointed out that good knowledge of hepatitis B reduces the risks of exposure to hepatitis B.

The study also showed that majority of the respondents had received hepatitis B vaccine. This might be due to the fact that midwives know the importance of the vaccine and the permanent damage that hepatitis B virus has on the liver. This findings support that of Okaro et al., (2009) which revealed that most vaccinated midwives acquired knowledge of hepatitis B vaccine from working in area that exposed them to hepatitis B infection.

The result of the X² also revealed that a significant relationship between knowledge and practice implying that the higher the Knowledge the higher the practice of universal precaution measures and the lower the knowledge the lower the practice of these measures. This supports the view of Yassi, et al (2009) and Okaro et al (2009) that good knowledge is associated with confidence in adoption of safe practice and reduces the risk of exposure among practicing midwives whereas poor knowledge about hepatitis B transmission is associated with increased level of exposure. Therefore continuous education to increase knowledge through seminars and workshops is of utmost importance in UCTH..

However despite the respondents' high knowledge of the infection and practice of universal precautions, 42 (35.0%) had fair and poor knowledge of infection while 37% did not practice universal precaution. Kesieme, et al (2011) opined that though it is generally easy to assume that health workers by virtue of their training and proximity to the health facility should have adequate knowledge about hepatitis B infection and its prevention but that does not seem to be the case. Setia et al (2013) findings that 14% (6/43) of the nursing interns vaccinated against hepatitis B received only a single dose which actually consists of three doses given at 0, 1, 6 months; this attitude portrayed the interns reluctance for the uptake of the vaccine, is also supportive of this result. The researchers also found that most of the interns who did not receive the vaccine gave a reason of being too careful while handling patients and did not feel the need to be vaccinated against this infection, this still portrays some level of ignorance and lack of knowledge.

The above gaps of poor knowledge of the infection, non practice of universal precautionary measures of prevention of hepatitis B, and reluctance to complete the prescribed dosage of the vaccine and particularly refusal to take the vaccine by some nursing interns calls for concern seeing that the only way to prevention of hepatitis B infection among practicing midwives is through increase awareness for informed decisions, effective vaccination and adherence to universal precautions which often times cannot be guaranteed.

VI. Conclusion And Recommendations

The result of the study affirms a significant relationship between knowledge and practice of universal precaution. Therefore continuous education to increase midwives knowledge through seminars and workshops is of utmost importance. Deliberate programmes of continuing education and training should be designed for the target population and other health care workers in general and vaccines should be continuously provided to enhance compliance to universal precautions and to prevent Hepatitis B in the clinical areas.

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