

2)

ASSESSMENT OF KNOWLEDGE, ATTITUDE AND PRACTICES OF
HEALTH WORKERS TOWARDS HEPATITIS B VIRUS INFECTION
PREVENTION IN HEALTH CENTERS OF BUSHENYI DISTRICT

BY

BYAMUKAMA JULIUS

15/A/BEHS/1073/W

A RESEARCH REPORT SUBMITTED TO RESEARCH COMMITTEE

KABALE UNIVERSITY IN PARTIAL FULFILMENT OF THE

REQUIREMENTS FOR THE AWARD OF BACHELOR OF

ENVIRONMENTAL HEALTH SCIENCES DEGREE OF

KABALE UNIVERSITY

AUGUST, 2018

4))

DECLARATION

I **Byan:mkama Julius**, hereby declare that to the best of my knowledge this work is as a result of my own original work and has never been presented to any university or any academic institution for any award or grant.

Date 09/08/2018

Signature ..

A handwritten signature in blue ink, appearing to read 'Byan:mkama Julius', is written over a dotted line.

BYAMUKAMA JULIUS

REG. NO: 15/A/BEHS/1073/W

5)

APPROVAL

This project research report entitled "Assessment of knowledge attitude and practices of health workers towards hepatitis B virus prevention in health centers of Bushenyi district." has been written under my supervision and guidance and is therefore submitted with my approval for bachelor award

Signature.~.:Date: 11/08/2018

MR. KAMUKAMA ROBERT
.....

University Supervisor

ACKNOWLEDGEMENTS

I am greatly indebted to GOD the almighty who has been the sole provider of all my life.

Special thanks goes to the staff of Kabale University especially the Head of department health sciences Mr. Runyoyozi Johnson for coordinating the activities of the course and all the staff school of medicine for their support in lecturing, advising and guiding me throughout the course.

I thank my supervisor Mr. Kamukama Robert for his commitment, efforts and time spent which made this research report preparation possible.

I thank my dear family for all the wonderful words of encouragement and all kind of support given to me during the course.

I appreciate my friends' cooperation Ahabwe Philmon, Mugabi Pafra, and entire class for the support offered to me throughout my three years of study.

TABLE OF CONTENTS

DECLARATION	i
APPROVAL	ii
ACKNOWLEDGMENT	iii
TABLE OF CONTENTS	iv
DEFINITION OF TERMS	vi
ABBREVIATIONS	vii
ABSTRACT	!
CHAPTER ONE	3
1.0 Introduction	3
1.1 Background of the study	3
1.2 Problem statement	4
1.3 Significance of the study	4
1.4 Main objective	5
1.5 Specific objectives	5
1.6 Research questions	5
1.7 Justification of the study	5
1.8 Scope of the study	6
CHAPTER TWO: LITERATURE REVIEW	7
2.1 Introduction	7
2.2 Knowledge of health workers on Hepatitis B virus prevention	7
2.2.1 Knowledge on Hepatitis B virus prevention and control.	7
2.2.2 Knowledge on Hepatitis B virus modes of transmission	9
2.3 Attitudes of health workers towards Hepatitis B virus prevention	13
2.4 Practices of health workers towards Hepatitis B virus prevention	15
CHAPTER THREE: METHODOLOGY	16
3.1 Introduction	16
3.2 Research Design	16

3.3 Scope of study area	16
3.4 Study population	17
3.5 Sampling procedure	17
3.6 Sample size determination.....	17
3.7 Data collection methods	18
3.8 Data collection Instrument.	18
3.9 Data quality control	19
3.10 Data processing	19
3.11 Data Analysis and presentation	19
3.12 Ethical consideration	19
3.13 Anticipated limitations of the study	20
CHAPTER FOUR: RESULTS	21
4.0 Data presentation	21
4.1 Social- demographic data.....	21
4.1.1 Characteristics of the study participants	21
4.2 Knowledge level of respondents on HBV	23
4.3 Attitudes towards HBV prevention and risk perception.....	24
4.4 Practices and measures for HBV prevention	26
CHAPTER FIVE: DISCUSSION, CONCLUSION AND RECOMMENDATION	29
5.1 Discussion	29
5.2 Conclusion	30
5.3 Recommendations	31
REFERENCES	32
Appendix I: Questionnaire	34
Appendix II: Estimated Budget	38
Appendix III: Work Plan	40
Appendix IV: Consent Form	41
Appendix V: Map of Bushenyi district showing location of health centers	43

DEFINITION OF TERMS

Attitude: This is an individual's opinion or feeling towards something.

HEP B: This is a vaccine for preventing Hepatitis B virus infection among individuals.

Hepatitis B: It is a serious liver disease caused by the Hepatitis B virus.

Knowledge: This is the information; facts or data an individual possesses about something and gained from learning or experience.

Practices: These are daily acts or activities carried out by an individual

Risk: The probability that a person may acquire a certain infection or be subjected to a harmful situation.

Vaccination: It is defined as the process of injecting or immunizing an individual to receive active protection against a particular illness.

ABBREVIATIONS

CDC	Centre for Disease Control
EPI	Expanded Program on Immunization
HBV	Hepatitis B virus
HCW	Health Care Worker
HIV	Human Immunodeficiency Virus
NGO	Non- Governmental Organization
• PCV	Pneumococcal Conjugate Vaccine
PNFP	Private Not For Profit
SPSS	Statistical Package for Social Scientists
UBOs	Uganda Bureau of Statistics
UDHS	Uganda Demographic and Health Survey
UNICEF	United Nations Children's Fund
WHO	World Health Organization
MoH	Ministry of Health

ABSTRACT

Background

Hepatitis B virus (HBV) infection in the health setting is a global public health problem. The risk of occupational exposure to HBV among health care workers is a major concern, especially among students in health professions and health workers in health centres. In Uganda Bushenyi district, very little is known about the knowledge, attitude, and practices (KAP) of health workers in the health centres towards Hepatitis B virus prevention. Thus, the purpose of this study.

Objective

Assessment of Knowledge, Attitude and Practices of health workers in the health centres towards Hepatitis B virus infection prevention.

Methodology

A cross-sectional study technique was used from April 2018 to June 2018 and a total of 246 health care professions from health centres of Bushenyi district were included into the study using a systematic random sampling technique. Data were collected using self-administered structured questionnaire and analysed by using **SPSS** version 20, that presented tables and charts in this report.

Results

Majority of the study participants, (>80 %) had an adequate knowledge on risk factors for HBV, its mode of transmissions, and preventions. 83.3 % participants had positive attitude towards 1

12)

following infection control guidelines, and 201 (81.7 %) respondents believe that all health care workers should take HBV vaccine. However, only 5 (2 %) health workers had completed the three doses schedule of HBV vaccination. Whereas, a significant number of health workers, 66 (26.8 %), had been exposed to blood/body fluid through needle stick injuries at least once since they started their duties in the health facility.

Discussions

Despite the wide professional background of the study, my results showed that overall knowledge regarding HBV prevention, and its mode of transmission was high at (86.2 %). Most respondents knew that exposure to infected blood or body fluid, contaminated needles, contact with non-intact skin or unsafe sexual contacts are risk factors for HBV infection.

This finding was consistent with the previous study from Cameroon that reported a good knowledge of the study participants on HBV infection. But, it was higher than the 56.2 % knowledge levels at Haramaya University Ethiopia, 59 % from Iraq and 14.5 % from Lao DPR. Nevertheless, I found that relatively lower proportion of health workers knew that HBV has treatments (52.4 %) and post-exposure prophylaxis (67.1 %). This indicating that there is a need to alleviate the gaps as these might affect behaviours in seeking medical attention.

Conclusions

In conclusion, my study found that health workers are at a very high risk of contracting HBV infection during their trainings owing to the low HBV vaccine uptake rate and high rate of accidental exposure to blood. Thus, we recommend that all health workers in the health centers should be vaccinated prior to their entry into health professional practices.

CHAPTER ONE: INTRODUCTION

1.0 Introduction

Hepatitis B is a serious liver disease caused by the Hepatitis B virus (HBV) and is highly infectious and causes serious health problems including liver cancer, liver scarring and failure, liver cirrhosis, hepatocellular carcinoma and even death.

HBV is spread primarily by percutaneous or mucosal contact to infected blood and a number of **body** fluids, including saliva, menstrual, vaginal, and seminal fluids (WHO, 2014). Transmission **of** the virus may also result from accidental inoculation of minute amounts of blood or fluid during medical, surgical, and dental procedures or from razors and similar objects contaminated with infected blood, use of inadequately sterilized syringes and needles, intravenous and percutaneous drug abuse, tattooing, body piercing and acupuncture (Ziraba et.al 2014).

1.1 Background of the study

Worldwide, approximately 2 billion people have been infected with HBV and of these; 240 million are chronically infected persons and an estimate of 650,000 people die annually due to chronic Hepatitis B virus infection (WHO, 2014).

The varying prevalence geographically shows the highest infections in Africa with 45% of worldwide infections and Asia at 38%. (WHO report 2014). 250,000 people were estimated to **be** living with hepatitis B virus infection (carriers) in Uganda according to Ministry of health survey report 2014.

The prevalence of hepatitis B virus infection among health care workers study in a tertiary hospital in Tanzania revealed that health care workers are at high risk of contracting HBV infection (8.1%) through their occupation and thus vaccination of health workers against HBV

was recommended. The study also established that the training of Health care workers about the preventive measures against HBV was reported to be at 34.3% and thus made them lack enough knowledge about it (Mueller et al, 2014).

In a related development, the study about the prevalence of hepatitis B virus among health care workers in Uganda have showed that more than half of them had incidence of hepatitis B virus exposure , with more than 60% of the health personnel said having evidence of current or previous infection. Prevalence of hepatitis B exposure rose with age and duration of service and a history of blood transfusion were among the most predisposing factors in the study. The higher risk of HBV infection among Health Care Workers in developing countries was believed to be attributed to the prevailing lack of knowledge in handling of contaminated objects, reuses of inadequately sterilized medical equipment, and an improper waste disposal system (F.Brakaet.al, 2012).

1.2 Problem statement

Hepatitis B (HBV) infection affects about one-third of the world's population, with more than 240 million persons being chronic carriers and about 650,000 people dieing annually of hepatitis B infection (WHO, 2014).

There is very low Hepatitis **B** vaccine uptake at 18% among health workers in sub Saharan Africa which increases the risk of infection among them. However, these considerations did not take into account the rate of natural immunization among adults in endemic countries, and especially in sub-Saharan Africa, where most infections occur during early childhood (Gerard Pellissier et al, 2015).

.....

Knowledge of health workers on Hepatitis B virus in Uganda has not clearly been documented, however, Ministry of Health (MoH) assessment of knowledge and practices of health workers on Hepatitis B virus in Bushenyi district after the PCV training prior to introduction of the Vaccine in Bushenyi district, noted gross gaps in knowledge, attitude and practice and this led to a postponement of rolling out Hepatitis B vaccination in the district. (MoH districts EPI Surveillance report, 2016). There is no data in place in all Health Centers of Bushenyi district that explicitly shows health workers level of knowledge, attitude and practices of health towards Hepatitis B virus prevention as no study has been carried out to assess them thus my basis to carry out this study.

1.3 Significance of the study

The significances of this study in assessment of the knowledge, attitude and practices of health workers towards hepatitis B virus prevention in Health Centers of Bushenyi District, will be to help the District leadership and in-charges of these health centers to put measure of infection control for health workers, plan for measures to improve on hepatitis B vaccination for all health workers and also improve public awareness on prevention and control of hepatitis B virus, guide policy makers in making clear policies and guidelines in prevention of HBV and more so knowledge will be added to health workers in prevention of hepatitis B virus.

1.4 Main objective

Assessment of knowledge attitude and practices of health workers towards hepatitis B virus prevention in health centers of Bushenyi district

15 Specific objectives

- I) To assess the knowledge of health workers towards Hepatitis B virus prevention in Health Centers of Bushenyi District.
- 14) To determine the attitude of health workers towards Hepatitis B virus prevention in Health Centers of Bushenyi District.
- 15) To assess the practices of health workers towards Hepatitis B virus prevention in Health Centers of Bushenyi District.

16 Research questions

Thus study is designed to answer the following questions.

- I) What is the knowledge of health workers about Hepatitis B virus prevention in health centers of Bushenyi District?
- 2) What is the attitude of health workers towards Hepatitis B virus prevention in Health Centers of Bushenyi District?
- 3) What are the practices of health workers towards Hepatitis B prevention in Health Centers of Bushenyi District?

1.7 Justification of the study

The study findings established the key priority areas in knowledge, attitudes and practices of health workers towards hepatitis B virus prevention, suggested recommendations to bridge the found gaps that contribute to the immunization rates and compliance towards hepatitis B vaccination. This study more so, provided baseline information which might be used to revamp the methods and strategies of hepatitis B virus prevention in all Health Centers of Bushenyi district to overcome incidences of hepatitis B infection in health workers and clients. It shall also act as a basis for policy makers to design policies and appropriate strategies for hepatitis B virus

prevention and control among health workers in health centers of Bushenyi district and this study is intended to contribute to the existing information available on hepatitis B virus prevention for the academic, and research purposes.

1.8 Geographical scope of the study

Bushenyi district is located in south-western Uganda and comprised of 9(nine) sub counties, a distance of approximately 56 kilometers from Mbarara town along Mbarara-kasese road to Bushenyi town. The major socio-economic activity is farming mainly (cattle) dairy farming and tea growing in Kyamuhunga and Bitooma sub counties (Kyamuhunga tea estates). The respondents in this study were the health workers working in the 22 Health Centers of Bushenyi district at all levels totaling 246 involving all cadres of medical fraternity (medical officers, clinical officers, enrolled nurses and midwives, laboratory technicians and assistants, health inspectors and assistants). In the study, data was collected within the month of May and June, analyzed and presented in July to August 2018. The study established the levels of knowledge, attitude and practices of health workers towards hepatitis B virus prevention.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

Knowledge, attitude, and practices study, measures key knowledge, feelings, tendencies, or skills commonly shared by a group or groups of people on particular issues Abedi F, Madani H et al 2013. It has been used as a useful study tool to design public health policies by taking into account the awareness, beliefs, and health seeking behaviour of the at-risk population. In Ethiopia, data regarding knowledge, as well as attitude and practice towards the occupational exposure to HBV among the students of health care professions was carried out, albeit the high prevalence of the infection in the general population. Therefore, the aim of this study is to assess the KAP of health workers towards HBV prevention in Bushenyi district.

This chapter presents the literature review cited by other scholars about the knowledge, attitude and practices of health workers towards Hepatitis B virus prevention. The literature is presented according to the study objectives and each specific objective will be defined and literature reviewed to discuss its contribution in bridging gaps in the knowledge, attitude and practices of health workers towards Hepatitis B virus prevention, infection control and care for HBV cases in hospital. The literature review will cite other scholar considerably objective by objective beginning with knowledge.

2.2 Knowledge of health workers about Hepatitis B virus.

The knowledge of health workers about Hepatitis B virus will be assessed looking on parameter and literature review will be sited on knowledge in Hepatitis B virus prevention and modes of transmission.

22.1 Knowledge on HBV prevention and control.

Hepatitis B virus infection can be prevented by adhering to universal precautions including the use of protective barriers like gloves, proper sterilization of medical equipment, proper hospital wastes management system and vaccination. Schillie S, Murphy TV, Sawyer M, Ly K, Hughes E, Jiles R, et al. "CDC guidance for evaluating health-care personnel for hepatitis B virus protection and for administering post exposure management 2014". Moreover, post-exposure prophylaxis can be used as a means of HBV prevention after accidental exposure to contaminated blood or body fluids. Abedi F, Madani H, Asadi A, Nejatizadeh A, et al. Significance of blood-related high-risk behaviours and horizontal transmission of hepatitis B virus in Iran. 2012, vol.156 pg 629-635". However, studies have indicated that there is a clear *gap* of knowledge among health workers and trainees of health profession towards the risks of occupational exposure to HBV infection. A study from Lao democratic People's Republic (Lao DPR), for example, it has indicated that 86.5 % of medical students had poor knowledge on modes of HBV transmission and risk perception. A similar study from Cameroon has indicated **poor** practice among the study participants, with only 10 % vaccination rate against HBV, and 55.9% accidental exposure to blood.

The awareness level of 96% for HBV among the respondents was similar to that reported by Okwara et al. This may probably have been as a result of the educational programs on hepatitis received from the place of work and the news media as well as patients and staff members with complications of chronic hepatitis B virus infection that present regularly to the hospital.

Some respondents did not know about the chronic complications of HBV like liver cirrhosis and liver cancer. This shows the lack of in-depth knowledge about HBV among these health workers beyond ordinary awareness. This finding agrees with the reports by other authors in Nigeria Significance of blood-related high-risk behaviors and horizontal transmission of hepatitis B virus in Iran. 2012, vol.156 pg 629635^{oo}.

According to the study by Abdnur A. Haddad, Feletto et al (2013) "Assessment of knowledge, attitudes and practices toward prevention of hepatitis B virus infection among students of medicine and health sciences in Northwest Ethiopia" reveals in their study about heterogeneity in the validity of administrative-based estimates of immunization coverage across health workers in districts of Burkina Faso that most of the health workers sampled in the study did not have sufficient knowledge regarding Hepatitis B virus prevention. Furthermore, it was revealed that most respondents were not aware of the storage of Hepatitis B Vaccine and its required cold chain process. There seems to be a high level of vaccine awareness and low vaccination coverage among health workers in Nigeria. With Only 54% of health workers completed HBV vaccination in this hospital in a previous HBV vaccination exercise Abdnur Ab Haddad, Bicaba and Feletto. (2013) , while 65% of respondents reported complete HBV vaccine in this study. This is despite the fact that the hospital carries out occasional vaccination programmes. This pattern is similar to reports from other health centres in south-south geopolitical zone of Nigeria reported 87% awareness level but only 27% vaccination coverage Abdnur Ab Haddad, Bicaba and Feletto. (2013), while, in north central Nigeria, Okeke et al 2013. reported that only 48% completed their HBV vaccination with an awareness level of 92%. The reason between the level of awareness and vaccination in the study by Okeke et al. was due to lack of opportunity and forgetting to be vaccinated, while Okwara reported high response among those that had tertiary

cation. About 99% of our respondents had tertiary education with a vaccination rate of 65%

fueller A, Stoetter L, Kalluvya S, Stich A, Majinge C, Weissbrich B, et al. Prevalence of Hepatitis B Virus Infection among Health Care Workers in a Tertiary Hospital in Tanzania.) This supports the findings of Okwara et al, even though we did not inquire into reasons why they did not take vaccine. In addition, we also found that being a male and having had a previous HBsAg **es** were strongly associated with HBV vaccination.

Berhanu Woldu, Kassahun Haile, et al. indicated that, the overall knowledge towards HBV J.i.ention among the participants was favorable. More than 75 % of the participants were aware at they are at risk of contracting HBV and believe that HBV vaccine is effective and safe in prevention of HBV infection.

22.2 Knowledge of health workers in HBV modes of transmission.

esspread of HBV is usually through body fluids cross contact such as blood, semen, and aginal secretions. Consequently, the likely channels for infection of HBV are sexual activity, needle-sharing or an unintentional needle-stick, blood transfusions, and organ transplantation. Abdnur Ab Haddad, Bicaba and Feletto (2013). Infected mothers can also pass the infection to their newborns during the delivery period. HBV cannot be transmitted by holding hands, sharing food, kissing, hugging, coughing, sneezing, or breastfeeding Abedi F, Madani H, Asadi A, Nejatizadeh A, et al (2012).

Transmission of hepatitis B virus results from exposure to infectious blood or body fluids containing blood. It is 50 to 100 times more infectious than human immunodeficiency virus HIV). Wilkins T, Zimmerman D, Schade RR. "Hepatitis B virus Diagnosis and treatment" Am Fam Physicians 2013. Possible forms of transmission include sexual contact, blood transfusions

and transfusion with other human blood products, re-use of contaminated needles and syringes, and vertical transmission from mother to child (MTCT) during childbirth. Without intervention, a mother who is positive for HBsAg has a 20% risk of passing the infection to her offspring at the time of birth. This risk is as high as 90% if the mother is also positive for HBeAg. HBV can be transmitted between family members within households, possibly by contact of skin or mucous membrane with secretions or saliva containing HBV. Abedi F, Madani H, Asadi A, Nejatizadeh A, et al "Significance of blood-related high-risk behaviors and horizontal transmission of hepatitis B virus in Iran. 2012, vol.156 pg 629-635°.

However, at least 30% of reported hepatitis B among adults cannot be associated with an identifiable risk factor. Breastfeeding after proper immunoprophylaxis does not appear to contribute to mother-to-child-transmission (MTCT) of HBV. Abedi F, Madani H, Asadi A, Nejatizadeh A, et al "Significance of blood-related high-risk behaviours and horizontal transmission of hepatitis B virus in Iran. 2012, vol.156 pg 629-635". The virus may be detected within 30 to 60 days after infection and can persist and develop into chronic hepatitis B. The incubation period of the hepatitis B virus is 75 days on average but can vary from 30 to 180 days. Hutin Y, Hauri A, Chiarello L, Catlin M, Stilwell B, Ghebrehewet T, et al. "Best infection control practices for intradermal, subcutaneous, and intramuscular needle injections. World Health Organization (WHO) Bulletin. June 2013"

Acute infection of HBV can cause nonspecific symptoms or fulminant hepatitis that may cause death or require urgent liver transplantation. Chronic infection can be the cause of death associated with liver failure, cirrhosis, or hepatocellular carcinoma. Furthermore, after cigarette smoking, HBV ranks second on the list of known carcinogenic agents that affect humans.

caani JM, Abu-Eshy SA, Mahfouz AA, EI-Mekki et al. "Seroprevalence of hepatitis B virus **mieons** among health students and health care workers in the Najran region, south western **Si** Arabia the need for national guidelines for health students".

~ _-...erineg to universal precautions which include using protective barriers such as gloves, iamnaton, appropriate sterilization of medical equipment, and a suitable hospital waste zaagement system, the spread of HBV infection can be prevented. (Rachiotis G, Goritsas C, Aiakou V, Ferti A, Roumeliotou A (Vaccination against hepatitis B virus in workers of a general hospital in Athens. 2011).

A previous study was conducted in Ha'il region in Saudi Arabia found that most of the students ad enough knowledge about HBV infection and its mode of transmission. Regarding knowledge ~m vaccination, 81.4% of students were aware of HBV vaccine and that it provides protection against HBV infection. However, a relatively low quantity (40.4%) of study participants knew at HBV has a post-exposure prophylaxis and that it can be treated/or cured (61.9%) ().

However, some studies have indicated that there is a clear gap of knowledge among health workers and trainees of health profession towards the risks of occupational exposure to HBV infection. A study from Lao democratic People's Republic (Lao DPR), for example, it has ::idicated that 86.5 % of medical students had poor knowledge on modes of HBV transmission and risk perception. A similar study from Cameroon has indicated poor practice among the study participants, with only 10 % vaccination rate against HBV, and 55.9 % accidental exposure to blood.

According to the study done in Nigerian on Knowledge of Hepatitis B Virus Infection, immunization with Hepatitis B Vaccine, Risk Perception, and Challenges to Control Hepatitis among Hospital Workers in a Nigerian Tertiary Hospital by Olusegun Adekanle, Dennis A. Ndububa, Samuel Anu Olowookere, et al 2013. "*Knowledge of Hepatitis B Virus Infection, immunization with Hepatitis B Vaccine, Risk Perception, and Challenges to Control Hepatitis among Hospital Workers in a Nigerian Tertiary Hospital 2013*"

Olusegun Adekanle, et al (2013). indicated that Hepatitis B virus (HBV) is a hepadnavirus. Chronic hepatitis B infection is endemic in Asia and Africa with more than 75% of the world's chronic HBsAg carriers being of Asian and African origins. The burden of the virus is however a global one, even as black children from HBV endemic areas adopted by whites have been implicated in infection of white families. In addition, HBV is transmitted by the sexual route and marriage across races could expose people from low incidence areas to HBV. There is high prevalence of HBV infection among blacks, as well as high rate of infection among hospital workers. Moreover, hospital workers have low participation in vaccination programs, especially those whose work exposes them to the risk of HBV infection.

A good knowledge of HBV virus means and modes of infection as well as adequate vaccination may reduce infection rate. The knowledge of HBV is generally low among the populace in a study carried out among Turkish community in Netherland. On the other hand, studies carried out among health care workers in Sudan and Morocco revealed that most of them had a good knowledge of blood as a medium of infection but lacked adequate vaccine coverage. HBV could be transmitted through many other routes, and inadequate knowledge of HBV among health workers may reflect their behavioral pattern to vaccination and safety measures. "Knowledge of

Hepatitis B Virus Infection prevention with Hepatitis B Vaccine, Risk Perception, and Challenges to Control Hepatitis among Hospital Workers in a Nigerian Tertiary Hospital 2013" Olusegun Adekanle, et al

Presently, Obafemi Awolowo University Teaching Hospitals Complex has no written policy on hepatitis control; hence, there is no compulsion for health workers to take standard precaution against this deadly virus. Apart from the annual world hepatitis day marked in the hospital, little awareness is created to guard against this virus. Previous studies in Nigeria have focused on medical students and theatre and laboratory workers and few of such studies with limited number of participants on health workers in other areas of the hospital service. Few or no studies have been conducted among all health professionals in any hospital to assess their knowledge base of HBV. It therefore becomes necessary to conduct a baseline assessment of health workers knowledge of HBV prevention, practices and their risk perception and relate the findings to their behavioral pattern toward HBV prevention and hence the need for this study.

Ategbo, Ngoungou and Koko (2012) document in a study about immunization coverage of children aged Oto 5 years in Libreville (Gabon) that among the health workers interviewed in the study, the majority 85% did not have adequate knowledge about Hepatitis **B** infection. Most health workers did not have any knowledge about the Hepatitis **B** virus prevention and control, modes of transmission and HBV vaccination schedule.

Danielson, Fakakovi kaetau and Szege (2013) report in their study about how improved immunization practices reduce childhood hepatitis B infection in Tonga that among the health workers interviewed in the study, most did not possess adequate knowledge about Hepatitis **B** Vaccination, its route of administration and dosage.

Similar findings are presented by Callreus (2010) who mentions in his study about perceptions of ame safety in a global context that among the health workers sampled in the study, the marry *did* not possess adequate knowledge about Hepatitis **B** vaccination. For instance, only

, were **aware** of the potential side effects of Hepatitis B Vaccine and were also in position to **met** **educate** mothers about the need and importance of immunizing the children with the Hepatitis B vaccine.

Ail-Hakeem et al (2014) carried out the study to establish the knowledge of doctors and **nurses** in Lagos university teaching Hospital about Hepatitis B virus. The study found out that ~.had good knowledge about it for which most of them had not taken hepatitis **B** vaccine.

the Philipines, Bondy, Thind and Koval (2012) in their study about identifying the erminants of childhood immunization reveal that most health workers interviewed had madequate knowledge about Hepatitis B Vaccination and did not possess any knowledge about te proper handling of the vaccine during immunization sessions. It was further reported that ~ health workers did not know the conditions for effective management of medical wastes resulting from Hepatitis B virus carrier care/management.

23 Attitudes of health workers towards Hepatitis B virus prevention

Owais, Hanif, Siddiqui, (2011) report in their study about whether improving maternal inowledge of vaccines had impact to infant immunization rates in Karachi, Pakistan. The majority of health workers interviewed had positive attitudes towards Hepatitis B vaccination as heybelieved that the Hepatitis B vaccine is highly effective in prevention of the virus in children and adults.

Similar findings were presented by Samad, Butler and Peckham (2012) who report in their study **hat**

most health workers interviewed had positive attitudes towards PCV immunization. The 16

23)

Wang et al. reported that this was a result of a thorough sensitization and training about the new Mar Hepatitis B Vaccination.

Wema Bryce and Kinfu (2012) document in a study about the vaccination gap as well as equity in coverage of maternal, newborn, and child health services in 54 countries that most of health workers interviewed had positive attitudes towards Hepatitis B Vaccination and is believed in the efficacy of the vaccine.

In recent survey, it has been observed that HCW still have a poor perception of the risk of HBV in with regard to occupational blood exposure, such as needle stick injuries (Djeriri, et al., O) Further they lack complete information on the standard procedures, on the necessity to or all biologic exposures, and on the importance of the follow-up for their own and public in (Djeriri, Davanzo et al., 2010).

Li Li (2015) did a study to find out the attitude of health workers especially Dentistry graduates in china and found out that 58.5% of health graduates had good attitude when handling patients infected with HBV and had received three doses of hepatitis B vaccine.

However, Odusanya, Alufohai and Maurice (2008) reveal in a study about the determinants of vaccination coverage in rural Nigeria that a significant number of the health workers interviewed ad negative attitudes towards Hepatitis B vaccination. This was found to be most predominant in Moslem based health facilities as they strongly believed that some of the vaccines used had other hidden health effects and could make their children barren.

Haddad, Bicaba and Feletto (2010) mention in a study about heterogeneity in the validity of administrative-based estimates of immunization coverage across health districts in Burkina Faso as well as the implications for measurement, monitoring and planning that the majority of health

workers sampled had negative attitudes towards Hepatitis B vaccination as they were still unsure of all the potential side effects of the vaccines.

Another study about the delays in childhood immunization in a conflict area in Sierra Leone during the civil war that apart from the insecurity, another key factor affecting immunization coverage was the prevalent negative attitudes of health workers towards provision of some immunization platforms and formats such as Hepatitis B vaccination (Senessie, Gage and von Elm, 2007).

2.4 Practices of health workers towards Hepatitis B virus prevention

Haynes and Stone (2013) reveal in a study about the predictors of incomplete immunization in Victorian children in Southern Asia that most health workers interviewed had poor practices towards Hepatitis B vaccination. It was further stated that most health workers involved in the Hepatitis B vaccination program did not tell mothers about the return date or the disease being immunized against.

Similarly, Gust, Strine and Maurice (2012) also document in their study about under immunization among children as well as the effects of vaccine safety concern on immunization status that the majority of health workers interviewed did not adequately address mothers fears about vaccine safety as they did not explain to them the potential side effects of the Hepatitis B vaccination as well as any actions the mothers could take upon noticing any of the side effects.

Samad, Butler and Peckham (2012) report in their study about incomplete immunization uptake in infancy that among the health workers interviewed in the study, the majority did not possess **good** practices as they did not make any recordings on the child's temporary chart or the monitoring chart.

Hamilton, Corwin and Gower, (2011) report in their study that among the health workers interviewed, the majority did not have good practices towards the provision of Hepatitis B vaccination. The researchers further found out that most health workers sampled did not consistently make fridge temperature readings or have available any stickers on the vaccine fridge.

Brown-Ogrodnick, Hanrahan and Loewen (2010) report in a study about immunization coverage **by** age 2 that the majority of respondents interviewed had poor practices towards the provision of Hepatitis **B** Vaccination. Most respondents observed during the study did not effectively use the child health card to record the vaccine given or the return date among other things. Abdul-Hakeem et al (2014) carried out the study to establish the knowledge of doctors and nurses in Lagos university teaching Hospital about Hepatitis B virus. The study found out that 98.4% of health workers had poor practices of vaccination against **HBV**. It therefore recommended that the state ministry of health for Nigeria should organize further health education programme, institute compulsory occupational hepatitis B vaccination programme to ensure adequate antibody level in this adult population.

CHAPTER THREE: METHODOLOGY

Introduction

The *chapter* describes the practical procedures and methods for carrying out the study. It gives an overview of the research methods adopted, including the research design, study population, sampling procedure, sample size, data sources, data collection methods, data processing, data analysis and presentation of findings/results.

Research Design and rationale

The study design was cross sectional and employed both qualitative and quantitative approaches, in which facts obtained from primary sources was used to describe the existing phenomenon and make a report. Quantitative data allowed comparative studies on the knowledge, attitude and acceptance of health workers towards Hepatitis B virus prevention in health centers of Bushenyi District

Study area

The study was conducted in the 22 health centers of Bushenyi district both government aided and **PNFP**. Bushenyi district is located in south-western region of Uganda and comprises of 9 sub counties. The district neighbors Sheema district in the north, Buhweju district in the east, Mitooma in the west and Ntungamo in south. It is at a distance of approximately 56 kilometers **from** Mbarara town along Mbarara-kasese road to Bushenyi town. The major socio-economic activity is farming mainly (cattle) dairy farming and tea growing in Kyamuhunga and Bitooma sub counties (Kyamuhunga tea estates).

3.3 Study Population

-- study population was comprised of 535 health workers providing health care services delivery, 356 females and 180 males of all cadres of medical profession working in the Health Center and hospitals of Bushenyi District.

Cadres	Females	Males
Medical officers	16	23
Clinical officers	27	38
Enrolled nurses	126	52
Enrolled midwives	114	00
Lab. technicians	13	26
Psychiatry officers	08	34
Health inspectors	32	07
Health	26	00
Total study population	356	180

This study population had differing levels of education including certificates, Diploma, bachelor's degree and masters. Comprising of many tribes including not limited to Banyankole , Bakiga , Bakonjo and Baganda. From this population, the study took only 246 respondents to participate in the study. This number was obtained through a random sampling

3.4 Sampling Procedure

The researcher used random sampling technique to get research respondents. This technique helped the researcher with an opportunity to get all potential respondents without bias. It also catered for an appropriate number of respondents since in the health center at all level the total number of health workers was more than the target sample size.

24)

35 Sample size determination

The study included a total of 246 respondents all were health workers involved in the provision of health care services delivery from different cadres of medical profession working in the 21st Centers of Bushenyi District.

single population proportion formula was used to estimate sample size. Since there was no similar study from Bushenyi district health workers, the following assumptions have been made: 95% confidence interval ($Z_{\alpha/2} = 1.96$), 50 % proportion, and 5 % margin of error.

$$N = \frac{Z^2 \cdot P(1-P)}{d^2} = \frac{(1.96)^2 \cdot 0.5(1-0.5)}{(0.05)^2} = 384$$

However, since the number of source population for the study was 535, which was less than 384, I used the following correction formula.

$$n_f = \frac{n_i}{1 + (n_i/N)} = \frac{384}{1 + (384/535)} = 223.55;$$

where n_f = corrected sample size, n_i = uncorrected sample size, and N = total number of all the source population.

On account of 10 % non-response rate, I included a total of 246 study subjects. The total sample size was distributed proportionally to each department based on their staffing levels coverage. The study participants were selected by a random sampling technique.

3.5 Data collection methods

The study used documentary review and survey methods to get empirical data for processing and analysis. This involved checking of various journals and text books by different authors. The interview of health workers on the knowledge, attitude and practices towards Hepatitis B prevention.

25)

***a* Data collection Instrument**

was collected by the use of self-administered structured questionnaire to collect information about the socio-demographic characteristics of respondents, Knowledge, Attitude and Practices regarding transmission and prevention of HBV infection. The Questionnaire was used because the ~tion involved literate respondents (health workers) and this tool was designed with open and close ended questions for the respondents by the researcher with the assistance of the supervisor.

3.2 Data quality control

To control of data quality to be collected, the data collection tool was pre-tested before used in order to collect final data. The participants in the study were oriented through their roles in this study and also numbers were used in coding questionnaires instead of names to ensure confidentiality of the study participants.

3.3 Data processing

The questionnaire responses were edited for accuracy without changing the meaning given in the response. Responses were manually coded and arranged properly for analysis and presentation in the final report. Knowledge, attitude, and practice of the study participants towards HBV transmission and prevention were considered as dependent variables and ages, cadre, and departments of the study population were considered as the independent variables.

3.10 Data Analysis and presentation

Data was entered and analyzed by the use of SPSS version 20 statistical package software. Descriptive statistics like frequencies and proportions were used to summarize the data. Bivariate

mate analyses were used to examine the relationship between the outcome variables **eggeezrtude**, and practice) and selected socio-demographic factors. Adjusted odds ratios **ad er**95 % confidence intervals (CIs) were used as indicators of the strength of **S...stical** significance was set at P values of less than 0.05 and findings were **eerein** form of tables, pie charts and graphs as well as plain text models.

Ethical considerations

searcher got a letter of introduction from the Dean's office faculty of science Kabale
-w - pre-requisite for carrying out the study. This was preceded by the permission from anistration
of Bushenyi district to enable data collection from the respondents (health -:::~ u: health
centers. From the health center, in-charges introduced the researcher to the Smens. The consent of the
respondents was obtained after the purpose and objectives of the
t::~~ been identified and well explained to the respondents. The study intended purely to academic
purposes and all the information given was treated with confidentiality and .ers instead of names
were used to identify the respondents.

.:J2 Amici:pated limitations of the study


is study however, the researcher anticipated some limitations including:

Ne-representative of results; this may be due to missed out respondents by the used technique even false response given by the respondents.

Cross-sectional sampling methodology limitation; this may be resulting into missing out potential students due to the technique used.

~_eneralized results since the sample since remains less than the study population where few **senses** given may differ from what is on ground.

30))

 of results may not confer with the situation in system of Bushenyi district. ~~as~~ ~~re~~ non-availability of willing respondents may also cause serious delays. However, ~~sty~~ will adopt a sampling technique to select a representative sample in order to mitigate



CHAPTER FOUR: RESULTS

~ Data presentation

The study on assessment of knowledge, attitude and practice of health workers towards hepatitis - B virus infection prevention in health centers of Bushenyi district was carried out from the 22 health centers with a total of 246 participants. It included professional health workers from different departments. The data was collected using a self-administered questionnaire and the results are below presented in table, graphs, and pie charts.

4.1: Socio-Demographic Data

Table 1. Characteristics of the study participants (health workers) in the health centers of Bushenyi district Gender, Age, Professional cadre and level of education, 2018.

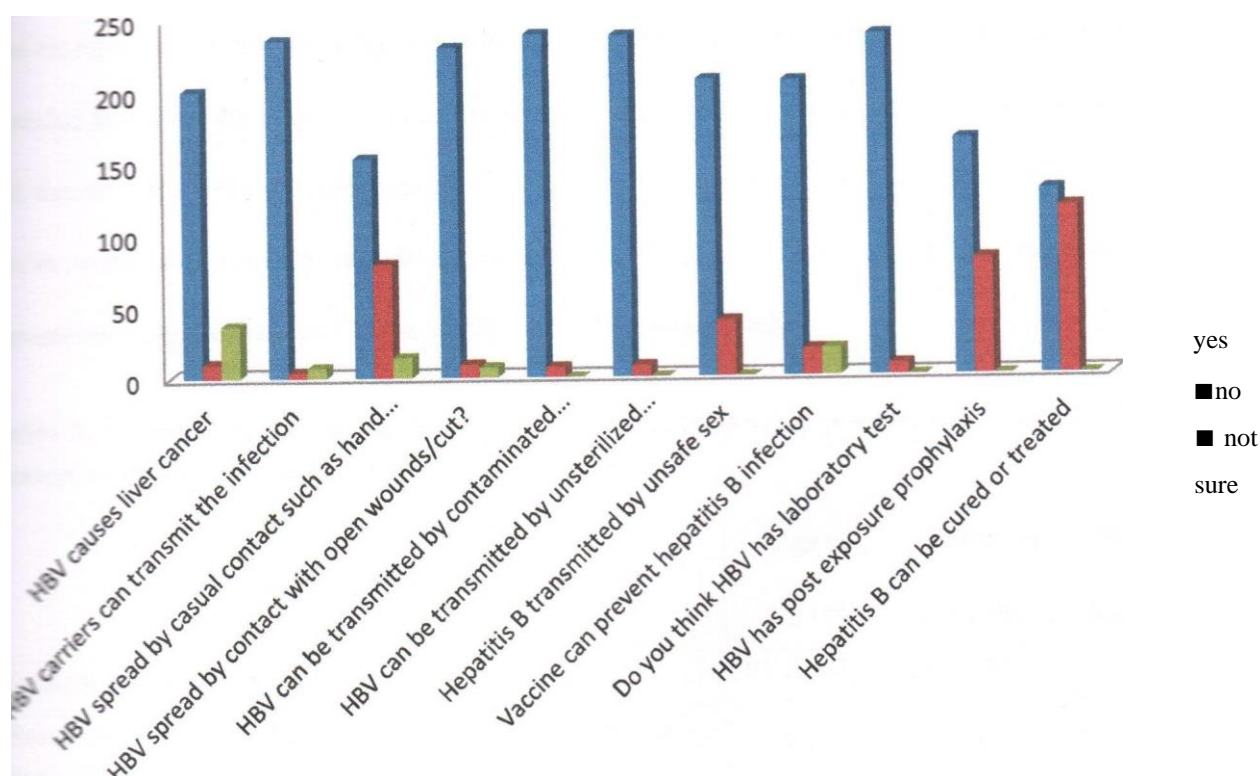
Variables	Number	Percentage (%)
Gender		
Male	18	7.3%
Female	7	2.8%
Age		
18-29 years	5	2.0%
30-39 years	9	3.7%
40-49 years	23	9.3%
50-59 years	39	15.9%
60 years and above	184	74.6%
Profession Cadre		
Medical officers	0	0.0%
2b Technicians	4	1.6%
Nurse	30	12.2%
Midwives	19	7.7%
Health inspectors	5	2.0%
Community health workers	2	0.8%
Physiotherapists	04	1.6%
Pharmacy assistants	1	0.4%
Psychiatry officers	4	1.6%

all of 246 health workers belonging to 22 health centers and different departments were approached for the study and all of them participated in the study making a response rate of 100%. 187 were females and 59 (24%) of the participants were males. Of all health workers, ~ 74.6 % were in the age group of 30 years and above, 39 (16%) age group of 26-29 years and 3 (9.4%) in age group of 20-25 years.

.....: Knowledge level of the respondents on HBV

The study participants had adequate knowledge on HBV infection prevention and its mode of transmission. This is indicated of the 246 interviewed health workers, 200 (81.3 %) knew that B infection is associated with liver cancer. Regarding the mode of transmission, 239 (97.2 %) **reported** contact with blood or body fluid of HBV carriers, 238 (96.7 %) mentioned unsterilized **instruments** such as needle and syringes, and 207 (84.1 %) answered unsafe sexual **act**. In terms of knowledge on vaccination, 84.6 % of the respondents were aware of HBV vaccine and that it provides protection against HBV infection. However, relatively a low **proportion** (67.1 %) of study participants knew that HBV has a post-exposure prophylaxis and 52.4% answered that it can be treated or cured.

knowledge of respondents on HBV prevention and modes of transmission



43 Attitudes towards HBV infection prevention and risk perception

The attitudes of health workers from health centers towards HBV infection prevention are summarized below in Table 3. About 77 % of the respondents were aware that they are at-risk for HBV infection, and 83.3 % agreed that following infection control guidelines would protect them from being infected at work. Further, 81.7 % of the health workers answered that vaccine against HBV prevents getting the infection in both children and adults.

To assess their attitudes toward discrimination and stigma on HBV carriers, we asked whether they are comfortable in treating HBV patients. About 82 % (202/246) of the students had

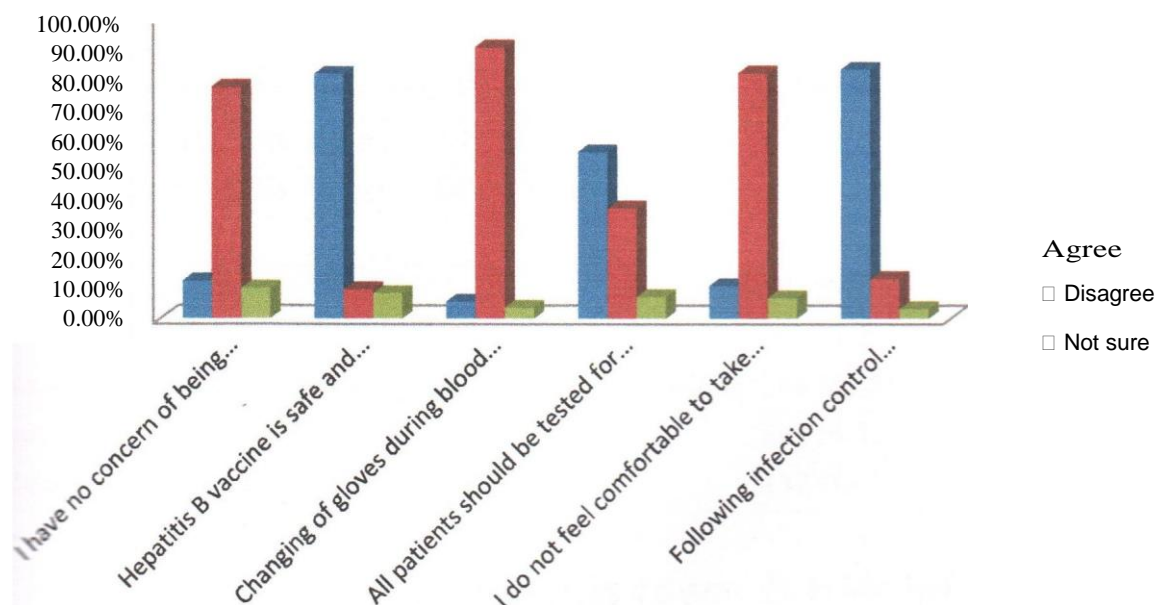
responded in agreement to the inquiry. On the other hand, 55.7 % of the students think that all patients need to be tested before receiving any health care services.

The assessment in the knowledge of health workers in the health care service of Bushenyi district revealed that from the respondents of the study, in the nursing department 87 %, midwifery 95 % and theater 93% were at higher risk of HBV infection. Further still, of those in high risk groups, health workers of nursing, midwifery, and theater showed unfavorable attitude towards HBV prevention with the odds of 12.6%, 12.3% and 4.6% respectively.

Table 3. Attitudes of the respondents towards hepatitis B virus prevention, from health canters of Bushenyi district, 2018.

Attitude questions	Agree	Disagree	Not sure
	No(%)	No(%)	No(%)
Hepatitis B vaccine is safe and effective	201 (81.7)	24(9.8)	21(8.5)
[Changing of gloves during blood collection and tests • waste of time /14(67) 22390.7)937)	..-		...
All patients should be tested for HBV before they receive health care	137(65.7)	91(37.0)	18(7.3)
I do not feel comfortable to take care of people with HBV	27(11.0)	202 (82.1)	17(6.9)
Following infection control guidelines will protect from being infected with HBV at work?	126(51.3)	111(44.6)	33 (13.4)

Attitude of respondents towards HBV infection prevention



«4 Practical measures for HBV prevention and Health seeking behavior of health workers.

f the 246 participants, only 23 (9.3 %) had screened for HBV, 68 (27.6 %) health workers had vaccinated against HBV, and only 35 (14.2 %) of vaccinated health workers had completed the commended three doses. About 27 % of the respondents had a needle stick injury, and 53.7 % *the* participants had responded that they would report if they had needle stick injury. Overall, assessment of practices towards HBV prevention showed that there were poor practical measures an prevention of HBV infection among *the* study subjects.

33)

Table 4. Practices of respondents towards HBV prevention in health centres of Bushenyi district, 2018

HBV practice questions	Yes	No
	No(%)	No(%)
Have you ever screened for hepatitis B?	23 (9.3)	223 (90.7)
Have you got vaccinated against HBV?	68 (27.6)	178 (72.4)
How many doses of HBV vaccine did you receive?		
One dose	06 (2.4)	00
Two doses	01 (0.4)	00
Three doses	00 (0.0)	00
I always change gloves for each patient during blood taking	200 (85.0)	37 (15.0)
Have you ever had a needle prick injury?	66 (26.8)	180 (73.2)
I always report for needle prick injury	132 (63.7)	114 (46.3)

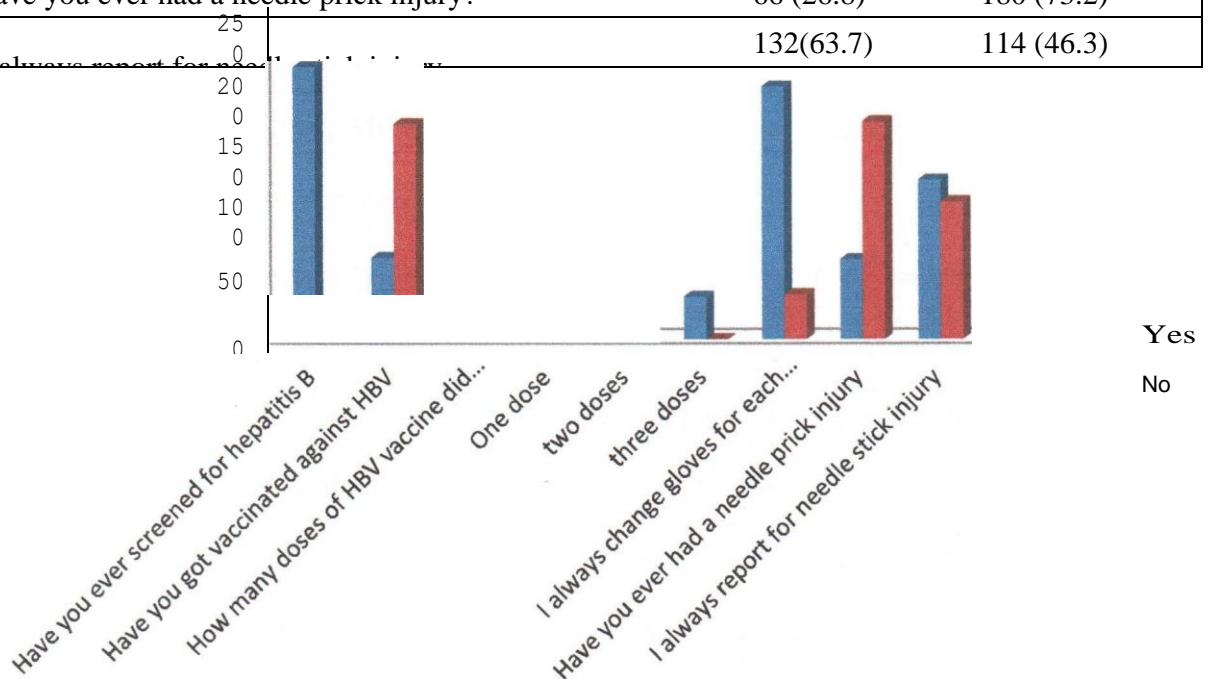


Figure 4

CHAPTER FIVE: DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.1 Discussion.

Exposure to blood-borne pathogens such as HBV infection remains a significant occupational hazard to health care workers, especially in countries where this infection is highly prevalent. Knowledge, Attitude and Practices surveys have been used as important sources of data to design health intervention methods and public health policies. In Bushenyi district, there is a paucity of data regarding the knowledge and practices towards occupational hazard of HBV prevention among health workers in the health centres. The current study describes the KAP towards HBV infection prevention among medical and health care workers in the health centres of Bushenyi district.

Despite the wide professional background of the study participants, our results showed that overall knowledge regarding HBV, its mode of transmission and prevention was high (86.2 %). Most respondents knew that exposure to infected blood or body fluid, contaminated needles, contact with non-intact skin or unsafe sexual contacts are risk factors for HBV infection. This finding was consistent with the previous study from Cameroon that reported a good knowledge of the study participants on HBV infection. But, it was higher than the 56.2 % knowledge levels at Haramaya University, Ethiopia, 59 % from Iraq and 14.5 % from Lao DPR. Nevertheless, I found that relatively lower proportion of the health workers knew that HBV has treatments (52.4 %) and post-exposure prophylaxis (67.1 %). This indicating that there is a need to alleviate the gaps as these might affect seeking medical attention.

In this study, the overall attitude towards HBV prevention among the participants was favourable. More than

HBV and believe that HBV vaccine is effective and safe. This finding was in line with the report from Saudi Arabia among dentists. Our study revealed that most of the study participants had gaps in practice towards HBV prevention, in spite of their good knowledge and positive attitude on the disease and its prevention measures. Risky practices among the study participants were highly prevalent, with 28.6 % of them had exposed to blood accidentally, and 46.3 % had no intention to report the accident. This finding suggesting that there is a need to address the gap by strengthening health education on universal safety precaution for prevention of infections among the health workers. Yet, when compared with the reports from other countries, the finding were not in consistence as 28.6% rate of accidental exposure to blood was lower than the 55.9 % rate reported from Cameroon, 48 % from Nigeria, and 40 % from Palestine. This could be due to the difference in study population type or even the setting of the study.

In terms of vaccination against HBV uptake, WHO recommends the preventive vaccine to all HCWs in countries with high HBV endemicity. However, this study revealed the least vaccine acceptance rate (2 %) among the study participants compared to a number of similar studies tha were done in Cameroon, sub-sahara region by P.C. Matthews, AM. Geretti, P.J. Goulder, and P. Klenerman in 2014. The low HBV vaccine acceptance rate among the study participants might be partly ascribed to the inaccessibility of HBV vaccine in health centres of Bushenyi district as it was given by respondents in the study.

This study had a limitation in that we could not confirm the information regarding HBV vaccination as the study participants came from different parts of the country. The data was also obtained by questionnaire, and therefore, there could be a recall bias of the participants. Despite

the limitations, the findings of this study highlighted that there is a critical need for immunizing health workers in health care service against this highly contagious pathogen.

5.2 Conclusion

In conclusion therefore, HBV infection remains a significant occupational hazard to health care workers, and according to the study findings there are gaps identified in knowledge, attitude and practices of health workers in health centres of Bushenyi district as only 81.3% knew HBV infection the mode of transmission, 83.3 % agreed that following infection control guidelines would protect them from being infected at work. And 23.7% of respondents don't agree with HBV infection prevention by vaccination and low practical measures of HBV prevention as 27.3% of health workers in the study had vaccinated against HBV, and only 14.2 % of vaccinated health workers had completed the recommended three doses.

More so, our data demonstrated that health workers in health centres are at a very high risk of contracting HBV infection from their working process owing to low HBV vaccine uptake rate and high rate of accidental exposure to blood and blood fluids of the carriers. Thus, we recommend that all health workers in the health care service should be vaccinated prior to their entry into professional practices in the health care service.

5.3 Recommendations

Based on the result findings of the study, the following recommendations were made:

- Prevention programs about HBV should be instituted and the existing ones must be strengthened, and health education settings should be more specific and clear for health workers and the public.

Adequate commitment from the Ministry of Health is also advocated in availing and supervising use of HBV vaccine in the health centres.

- ▶ Periodic Hepatitis B virus screening and counseling, for health workers and prevention practices in health centers be more emphasized, more so orientation of lower cadre health workers be done to ensure infection control while handling patients.

There should be public awareness on HBV infection modes of transmission, prevention and control through television, radio, newspapers and other mass media to increase public awareness.

- ▶ Government should initiate all necessary measures to support and sustain HBV vaccination to all health workers in health care service delivery as it was found out being of high risk.
- ▶ Further studies and research on the same topic should be conducted in other setting.
- ▶ Workshops, seminars, radio jingles etc, should be organized more frequently to up-grade knowledge of health workers on HBV prevention and control.

REFERENCES

1. Abdhalah K Ziraba ,Josephine Bwogi, Alice Namal ,Caroline W Wainain and Harriet Mayanja Kizza (2013); Sero-prevalence and risk factors for hepatitis B virus infection among health care workers in a tertiary hospital in Nigeria.
2. Abdnur Abdela, Berhanu Woldu, Kassahun Haile, Biniam Mathewos, and Tekalign Deressa Study (2012) to Assess knowledge, attitudes and practices toward prevention of hepatitis B virus infection among students of medicine and health sciences in Northwest Ethiopia.
3. Abdul-Hakeem and Olatunji Abiola (2014) the study to establish the knowledge of doctors and nurses on HBV infection in Lagos university teaching Hospital.
4. Ategbo, S., Ngoungou, E.B., Koko, J. (2012). Immunization coverage of children aged 0 to 5 years Australian and New Zealand Journal of Public Health.
5. Boerma, J.T., Bryce, J., Kinfu, Y. (2012). Mind the gap: equity and trends in coverage of immunization.
6. Braka F, Nanyunja M, Makumbi I,Mbabazi **W**, Kasasa S, and lewis: Hepatitis B infection among health workers in Uganda :evidence of the need for health worker protection. Vaccine 2006, 24(47-48):6930-6937.
7. Brown-Ogrodnick, **A**, Hanrahan, **A**, Loewen, J. (2010). Immunization coverage by age 2 for Childhood hepatitis **B** infection in Tonga. Vaccine, 27(33):4462-4467.
8. Dannetum E, Tegnell A, Tomer A, Giesecke J. Coverage of hepatitis **B** vaccination in Swedish health care workers. Journal of Hospital Infection. 2006; 63(2):201-204.

9. Emmanuel Ochola, Ponsiano Ocama, Christopher G Orach, Ziadah K Nankinga, Joan N Kalyango, Willi McFarland and Charles Karamagi (2013);The distribution of Hepatitis B virus in the regions of Uganda. EPI review Report 2013
10. Everline MM, Zipporah N, Peter W, Jared O. Prevalence and factors associated with percutaneous injuries and splash exposures among health-care workers in a provincial hospital, Kenya. The Pan African Medical Journal. 2013;14:10.
11. Fiona Braka, Miriam Nanyunja, Issa Makumbi and William Mbabazi, (2010) Hepatitis B infection among health workers in Uganda: Evidence of the need for health worker protection. <https://doi.org/10.1016/j.vaccine.2006.08.029>
12. Gerard Pellissier, Yazdan Yazdanpanah, Eric Adehossi, William Tosini, Champenois, Christian Rabaud, Elisabeth Bouvet (2009);The uptake level of hepatitis B vaccination among Health Workers in Sub-Saharan Africa.
13. Uganda Ministry of Health (2016); progress of implementation of Hepatitis B vaccination programme in Uganda.
14. Owais, A, Hanif, B., Siddiqui, AR (2011). Does improving knowledge of vaccines impact on infant immunization rates? A community-based randomized-controlled trial in Karachi, Pakistan. BMC Public Health, 17; 11 :239.
15. P.C. Matthews, AM. Geretti, P.J. Goulder, and P. Klenerman (2014) Epidemiology and impact of HIV co-infection with hepatitis B and hepatitis C viruses in Sub-Saharan Africa J Clin Virol, 61 (1) (2014), pp. 20-33 rural Nigeria. BMC Public Health. 5; 8:381.
16. WHO (2016), Global policy report on the prevention and control of viral hepatitis in WHO Member States.

Appendix I: Questionnaire

Instructions

1. Please respond to all the questions in this questionnaire
2. Answer questions based on your best perception and understanding.
3. Tick in spaces or boxes provided

Note: Participation is voluntary and thus no payment is involved.

Section A: Demographic and Social Characteristics

Serial No:

- 1) Age of respondent, 20-25 years 26 - 29 years 30 years and above
- 2). What is your sex? a. Male b. Female
- 3). Your professional Cadre,
a. laboratory technician. b. Nurse c. Midwife
d. Doctor e) Others (specify)
- 4). Professional Qualification
a). Certificate b). Diploma c). Degree
d). Others (specify)

Section B: Knowledge of health workers about Hepatitis B virus prevention 5)

HBV causes liver cancer?

- a). Yes b). No

6). HBV carriers can transmit the infection

- b). No

7). HBV spread by casual contact such as hand shaking

- b). No

8). HBV spread by contact with open wounds/cut?

b).No

a). Yes

a). Yes

b).No

a). Yes

b).No

a). Yes

b).No

a). Yes

a). Yes

a) Yes

a) Agree b). Disagree c) Not sure 17). Hepatitis **B** vaccine is safe and effective.

a) Agree b) Disagree

c) Notsure

a) Agree

b)Disagree c)Notsure

20) I do not feel comfortable to take care of people with HBV.

a). Agree [b). Disagree [c)Notsure

21 Following infection control guidelines will protect from being infected with HBV at work.

a).Agree [b). Disagree [c)Notsure

Section D: Practices of health workers towards Hepatitis B virus prevention 22).

Have you ever screened for hepatitis B?

a)Yes b.No

23). Have you got vaccinated against HBV?

a). Yes b). No

24). Have you got vaccinated against HBV?

a). One dose b). Two doses c) Three doses 25) I always change gloves for each

patient during blood taking.

a). Yes b).No

26). Have you ever had a needle prick injury?

a). Yes **J** b).No

27). I always report for needle stick injury.

a).Yes b).No

Thank you for your time and participation!