

STRATEGY ON HEPATITIS B PREVENTION AMONG AFRICAN UNDERGRADUATE STUDENTS OF HEALTH SCIENCES IN DAVANGERE, KARNATAKA INDIA

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ABSTRACT

Background: Hepatitis B is an inflammatory disease of the liver which is caused by Hepatitis B Virus. It is a global problem, with 66% of all the population living in areas where there are high levels of infections. Hepatitis B infection are due to lapses in the sterilization of instruments as well as improper waste management. Knowledge regarding Hepatitis B and safety precautions is needed to minimize the health care setting's acquired infections among health personnel and students of health Sciences.

Aim: The study was aimed at assessing the knowledge regarding the prevention of Hepatitis B among African Undergraduate students of Health Sciences in Davangere.

Methodology: A cross sectional design was used for the study were 50 students were selected using purposive sampling. A validated structured questionnaire was used for data collection. The data were analyzed using median score and correlations.

Results: The results indicated that majority (52%) of the respondents were between 22-24years of age. The students of B.Pharm were 25 (50%), 38% MBBS and 12% B.Sc. Nursing. The overall median score on knowledge regarding hepatitis B Prevention was 13.0 out of maximum score of 29. The association between the knowledge on hepatitis B prevention strategy with level of study and course specialty was 0.74 P>0.05.

Conclusion: The study concluded that the knowledge regarding Hepatitis B prevention among students was inadequate hence, recommends a similar study on a larger scale.

Keywords: Knowledge, Prevention, Hepatitis B, Infection, African.

INTRODUCTION

Hepatitis is an inflammatory disease of the liver which is caused by the Hepatitis B virus (HBV). Hepatitis B is a global problem, with 66% of all the world population living in areas where there are high levels of infection. There are more than 2 billion people Worldwide, having evidence of recent or past HBV infection and 350 million are chronic carriers (CDC, 2014). Hepatitis B virus (HBV) is one of the most common viruses in the modern world and ranked by the WHO as one of the top ten killers. The virus is responsible for approximately 1.5 million deaths worldwide each year, two thirds of which are attributable to primary hepatic carcinoma following HBV infection. About 360 million people are chronically infected with HBV. These chronically infected persons are at higher risk of death from HBV-related liver

cancer or cirrhosis by approximately 25% and over 4 million new acute clinical cases occur. HBV is preventable with a safe and effective vaccine, the first vaccine against cancer due to HBV infection (Mesfin,2013). The practice of modern medicine has “contributed” a lot in the increase of the cases and spreading the disease in the society. Hepatitis B infections are common due to lapses in the sterilization technique of instruments or due to the improper hospital waste management as 10 to 20% health care waste are regarded hazardous and it may create variety of health risk. Among the health care personnel, HBV is transmitted by skin prick with infected, contaminated needles and syringes or through accidental inoculation of minute quantities of blood during surgical and dental procedures (Sandesh,2006, and Taneja, 2003)

Knowledge regarding HBV and safety precautions is needed to minimize the health care settings acquired infections among health personnel. Health care personnel should have complete knowledge of HBV infections, importance of vaccinations and practice of simple hygienic measures apart from that of specific protective measures (Chandra 2013). Hepatitis B virus infection is a well-known occupational hazard of health care workers and they are considered to be at substantial risk for acquiring or transmitting the virus because of the occupational contact with blood, blood products and other body fluids. The occupational risk for HBV acquisition varies according to the work place in the health care setting and time of exposure to the agent (Kohn, 2003)

Health Science students including African students, being part of the health care delivery system are exposed to the same, if not greater, magnitude of risk than the qualified health care workers when they come in contact with patients and contaminated instruments.

Students of health sciences such as nursing and medical students are the first level of contact between patients and medical care. They are expected to undertake activities related to patient care with the beginning of their clinical years. From their first year of training, most students undergoing training for the health sciences programs such as Nursing, MBBS, Dental and Pharmacy including African students whom are believed to have more challenges in the clinical areas ranging from communication to adaptation to the new environment, are in their respective colleges placed in the operation theatres, wards and clinics for practical and clinical experience. Their clinical practice training involve basic nursing care, wounds care, taking of blood, administration of injections, and childbirth, whilst the theoretical content of the course includes measures to control infections, infectious diseases and preventive measures and management. Previous studies have

shown that many students of health sciences especially African students are not adequately informed and protected against HBV despite the training and availability of the HBV vaccine, and occupational exposures to HBV infection are happening (Anjali,2011)

According to Samuel S.O (2009), In a study conducted to assess the health students' knowledge, attitude and behavior towards hepatitis B infection in Southern Nigeria, 81% of the respondents heard of hepatitis B but only 37% mentioned some of the modes of infections correctly and 70% of them did not received HBV vaccine (Samir 2003). Therefore, knowledge regarding the Hepatitis B virus and safety precautions is needed to minimize the health care settings acquired infections among health sciences students in general. Considering these facts, it was decided to find out the level of awareness among African health science students who are at the highest risk of developing hepatitis B during their clinical postings.

MATERIALS AND METHODS

A Descriptive cross sectional design was used for the study. Data was collected with a validated structured questionnaire developed by the researcher based on relevant literatures. The instrument comprised of two sections: Socio-demographic variables and Knowledge regarding hepatitis B prevention. This study was conducted in Davangere India. The city of Davangere is located in the in the central Karnataka. The National High way 4 and main railway line connected it to different City. The city is also referred to as 'The Manchester of Karnataka' because of cotton mills located in the city. It has so many Educational institutions of higher learning including Medical Colleges. It has a reasonable population with reach in commercial activities. In the present study the population consists of all African Undergraduate Students of health sciences Program in Davangere, Karnataka.

Sample selection

The study was conducted among 50 African students who are studying various undergraduate courses of health sciences in Davangere. Non-probability purposive sampling technique was used to select 50 African students as the sample for the present study.

Ethical Consideration

The Permission was obtained from the Wardens of Bapuji International and MBA Hostels. Consent was taken from the subjects before data collection. The subjects were informed that the confidentiality of data will be maintained.

Data Analysis

The obtained data was analyze using mean ,median and Chi-square

RESULTS**TABLE 1: Distribution Of Student According To Sociodemographic Variables.**

AGE (In years)	FREQUENCY	PERCENTAGE
19-21	18	36
22-24	26	52
Above 25	6	12
TOTAL	50	100
GENDER		
MALE	38	76
FEMALE	12	24
TOTAL	50	100
NATIONALITY		
NIGERIA	46	92
SUDAN	3	6
KENYA	1	2
TOTAL	50	100

In the present study it is evident that, 18 (36%) of the students were in the Age group of 19-21 years, 26 (52%) were in the age group of 22-24 years and 6 (12%) were found to be above the age of 25 years . In the present study it was found that among the 50 student, 38 (76%) were Males and 12 (24%) were Females (table-3). In the present study, it was observed that 46 (92%) were from Nigeria,3 (6%) from Sudan and 1(2%) from Kenya

TABLE 2: Distribution Of Respondents According To Programme Of Study.

PROGRAMME OF STUDY	FREQUENCY	PERCENTAGE
MBBS	18	38
NURSING	6	12
PHARMACY	25	50
TOTAL	50	100
YEAR OF STUDY		
1 st year	10	20
2 nd year	9	18
3 rd year	30	60
4 th year	1	2
Total	50	100
Vaccination status		
Complete	30	60
Partial	15	30
Not Vaccinated	5	10
Total	50	100

With regard to the programme of their study, it can be seen in the present study that, 18 (36%) students were MBBS students, 7 (14%) were B,Sc. nursing students and the remaining 25 (50%) were B.Pharm students . The distribution of the respondents according to the year of study in the present study depicts that 10(20%) are 1st years,9 (18) are 2nd years,30 (60%) are in their 3rd year and 1 (2%) is a final year student. 25(41.7%) .In the present study, out of 50 students, 30(60%) of them received Complete immunization, 15(30%) had partial immunization, 5 (10%) had no immunization

Table 4: Distribution Of Knowledge Scores Of The Students.

AREA PRETEST SCORE	WISE		MODERATELY ADEQUATE		ADEQUATE		TOTAL
	No.	Percent	No.	Percent	No.	Percent	
Anatomy and physiology	1	2	13	26	36	72	50
General knowledge on hepatitis	21	42	23	46	6	12	50
Mode of transmission of the virus	14	28	30	60	6	12	50
Methods of hepatitis b prevention	33	66	13	23	4	8	50

The present study, a pre-test was conducted by administering a structured questionnaire to the African students in order to assess their previous knowledge regarding hepatitis B. The structured questionnaire was divided into the following areas such as anatomy and physiology, general information about hepatitis, mode of transmission and prevention. It is evident from the present study (table-9) that among the 50 african students, 1 (2%) had inadequate knowledge on anatomy and physiology, 21 (42%) are inadequate in general information about hepatitis B, 23(46%) had moderately adequate knowledge, and 30(60%) had adequate knowledge. Similarly, 14 (28%) found to have inadequate knowledge on mode of transmission. It also shows that 33(66%) African students had inadequate knowledge regarding the topic prevention and management, 13(23%) had moderate knowledge and only 4 (8%) have adequate knowledge on prevention and management.

TABLE 3: OVERALL MEAN, STANDAAARD DEVIATION AND MEAN % OF KNOWLEDGE SCORES.

OVERALL KNOWLEDGE SCORES	MAX. SCORE	RANGE	MEDIAN	MEAN	S.D
	29	10-17	13.0	15.74	4.75

In the present study, the mean knowledge score of African students related to knowledge regarding hepatitis b prevention obtained was 15.74 with a standard deviation of 4.75 which has a mean percentage of 54.26%. The pre-test score ranges from 10-17 which has a median score of 13.0.

Association Between The Knowledge Scores With level of study and course specialty

Variable	Category	Overall score		Chi-square value	Inference
		Below median	Above median		
Age (yrs)	19-21	13	5	1.13	P=0.77
	22-24	23	3		NS
	Above 25	4	2		
Gender	Male	28	10	3.68	P=0.06
	Female	10	12		NS
Nationality	Nigeria	36	10	2.1	P=0.35
	Sudan	1	1		NS
	Kenya	1	1		
Programme of study	MBBS	12	6	0.74	P<0.05
	Nursing	5	2		S
	Pharmacy	2	4		
Year of study	1st	9	1	2.89	P<0.05 S
	2nd	7	2		
	3rd	21	8		
	4th	1	1		
Place of residence	Hostel	35	10	3.26	P=0.06
	Outside	3	2		NS
Source of information	Lectures	24	8	4.2	P=0.04
	Media	8	2		S
	Family	6	2		
History of hepatitis	Yes	38	11	3.55	P=0.06
	NO	1	1		NS
Immunization status	complete	28	2	3.42	0.065
	partial	6	9		NS
	Not received	4	1		

DISCUSSION

The study reveals that majority of the respondents 26 (52%), were in the age group of 22-24 years and that 46 (92%) were from Nigeria This is in line with the postulation of Centre for disease Control (CDC, 2004) that 45% of world hepatitis carriers reside in highly endemic HBV areas in the sub-Saharan Africa and making the health care workers in the region are at high risk for occupational exposure to HBV. Findings from the study also shows that most of the respondents 33(66%) are having inadequate knowledge with mean score of 15.74 (out of maximum of 29) and only 4 (8%) have adequate knowledge on prevention and

management of hepatitis B infection. The above findings were in line with findings of Khan (2009) in a study to assess the knowledge about hepatitis B among the medical, dental and nursing students of first year in Subharti University, India. A cross sectional study was used for 250 students. The research shows the majority (83.3%) heard about the existence of Hepatitis B but only 42% knew that virus is a cause and awareness about mode of transmission was very poor (35.2%). It was further supported by Sameer, 2003 in a study conducted to assess the knowledge about hepatitis B infection among medical students in Erbil city, Iraq.

Across sectional study was conducted on 200 medical students. The study revealed that high proportion of medical (41%) had poor knowledge about hepatitis while only 45% had acceptable knowledge about HBV infection

However, the results showed strong association between program of study, year of study and the level of knowledge on prevention and management of hepatitis B infection (X^2 0.74 and 2.89 respectively). This is in line with the findings of Samuel, 2009 in a study conducted in south western part of Nigeria to assess the knowledge regarding hepatitis B infection among health care professional a total of 200 respondents

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- were recruited into the study. Nurses and doctors made up a majority of respondents interviewed and obtained the highest scores accounting for 33.5% and 45.5% respectively. This may be associated with their closeness to the patients at all levels of care.

CONCLUSION

The study concluded that there is inadequate knowledge level on hepatitis B, prevention strategy among studied group and insignificant association existed between knowledge level and specialty course of study.

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