ISSN: 2708-4841(Print), 2708-7042 (Online)

Volume: 2, Issue: 5
Page: 89-100
YEAR: 2021

Commonwealth Journal of Academic Research (CJAR.EU)

Health Workers' Attitude and Perception to Blood Borne Infections and Safety Practice Compliance in A Selected Teaching Hospital in Ogun State

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Abstract

This study investigated health worker's attitude and perception to blood borne infections and safety practice compliance in a Selected Teaching Hospital in Ogun State. The study specifically examined the respondent's attitude to blood borne infections; the respondent's perception of blood borne infections and assessed the respondent's safety practice compliance level in Babcock University Teaching Hospital. The study adopted descriptive cross-sectional survey design. Study population consisted of health workers from departments in Babcock University Teaching Hospital. Random sampling technique was employed in the selection of 308 respondents. The study employed the use of a structured questionnaire which consisted of four sections. The face and content validity of the questionnaire was established by experts in the field of public health nursing. Corrections were made to improve the quality of the instrument. The reliability test was determined through the use of Cronbach's alpha with a result of 0.706. The data collected was subjected to descriptive and inferential statistics. Findings of the study revealed that health workers showed an average attitude to blood borne infections. Also, the perception of the respondents in both clinical and laboratory departments towards blood borne infections is revealed to be high. It was further revealed that the respondents showed a very high compliance with the safety practice against blood-borne infections. It was recommended among others that training on standard precautions and use of personal protective equipment should be done more

CJAR
Accepted 18 May 2021
Published 21 May 2021
DOI: 10.5281/zenodo.4779699

often especially for new staffs in the hospital.

Keywords: Health Workers, Attitude, Perception, Blood Borne Infections, Safety Practice Compliance,

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Introduction

Blood borne infections are caused by pathogens which are present in blood, semen, vaginal fluids, and saliva. Contaminated needle stick injuries, sharps injuries, splash infected blood and bodily fluids on damaged skin or mucus membranes pose significant risk of transmission of blood borne infections, like Human immunodeficiency virus (HIV), viral hepatitis and other blood borne pathogens in health workers and also acts as focal points in their onward transmission (Adinma, et al., 2009; Allison, 2014). These types of pathogens can be present in any given sample before testing and are not easily detected, therefore standard medical practices in respect to blood and other bodily samples should be ensured because they are potentially infectious. Transmission of blood borne pathogens in the health-care setting has become a matter of increasing interest.

A study by Bistegen, et al., (2016) reported a high prevalence of several forms of occupational exposures to blood and bodily fluids among health workers in Nigerian hospitals. The Centres for Disease Control and prevention (CDC) has proposed global precautions which are series of process for preventing occupational exposure and handling of potentially infectious tools such as blood and bodily fluids. Health care workers are guided to practice universal precautions such as observing regular hygiene and using personal protective equipment (PPE). Health workers are to obey standard precautions to decrease the risk of blood borne infections. Universal precautions and preventive measures such as immunization, provision of PPE and management of exposure to blood and bodily products is mandatory for health care workers (WHO, 2020). Standard precautions are to be observed while caring for all patients not minding if suspected or confirmed infection status of the patient in any health setting, to protect healthcare workers and prevent transmission to their patients.

Blood-borne infections are presumed to be the reason for an increase in the rate of death globally (Aluko, et al., 2016). Health care workers are at risk of exposure to blood borne pathogens including Hepatitis B virus, Hepatitis C virus, HIV and others by virtue of their occupation. (CDC, 2017). They encounter a lot of hazards in the course their jobs including needle stick injuries. The nurses are most frequently exposed because they are the first contact with the patient (Isara & Ofili, 2012; Ogoina et al, 2014). Medical laboratory scientists also face the risk of exposure to infections. Standard medical practices regarding all blood and other bodily samples are potentially infectious therefore, each time a health worker is exposed to any blood or bodily fluid sample, the health worker stands the risk of contacting an infection. Health care workers frequently provide care to patients whose hepatitis B virus and human immunodeficiency virus (HIV) status is unknown. In view of the above, the study investigated health worker's attitude and perception to blood borne infections and safety practice compliance in a Selected Teaching Hospital in Ogun State. This study specifically:

1. examined the respondent's attitude to blood borne infections in Babcock University Teaching Hospital;
2. determined the respondent's perception of blood borne infections in Babcock University Teaching Hospital; and
3. assessed the respondent's safety practice compliance level in Babcock University Teaching Hospital.

Research Questions

The following research questions were raised for this study

1. What is the respondents' attitude to blood borne infections?
2. What is the respondents' perception of blood borne infections?

3. What is the respondents' safety practice compliance level?

Research Hypotheses

The following research hypotheses were formulated for this study

1. There is no significant relationship between attitude and level of compliance with safety practices among the health workers.
2. There is no significant relationship between perception and level of compliance with safety practices among the health workers.

Methodology

A descriptive cross-sectional survey was used to assess the health worker's attitude, perception to blood borne infections and safety practice compliance in a selected Teaching Hospital. Study population consisted of health workers from departments in Babcock University Teaching Hospital. Random sampling technique was employed in the selection of 308 respondents for the collection of data in the departments selected.

The study employed the use of a structured questionnaire. The questionnaire was administered to retrieve information on the socio demographic characteristics, their attitude, their perception, awareness and safety practices towards exposure to blood borne infections. The face and content validity of the questionnaire was established by experts in the field of public health nursing. Corrections were made to improve the quality of the instrument. The reliability test was determined through the use of Cronbach's alpha with a result of 0.706. After the collection of data, the data collected was coded and analysed using the Statistical Package for Social Sciences (SPSS) version 27.0. The data collected was subjected to descriptive and inferential statistics.

Results

Research Question 1: What is the respondents' attitude to blood borne infections?

Table 1: Respondent's attitude toward blood borne infection

STATEMENTS	YES F (%)	NO F (%)
I can take blood samples without having to worry about needle stick injuries.	157(51.0)	151(49.0)
I recap used needles before disposing.	204 (66.2)	104(33.8)
I do not wear my personal protective equipment for every procedure.	130(42.2)	178(57.8)
I adhere to safety practices only when there is risk of exposure	141(45.8)	167(54.2)
I use clean and decontaminated equipment for every procedure.	274(89.0)	34(11.0)
Infection is a normal and common thing; I don't think it's a problem.	212(68.8)	96(31.2)

The respondents' attitude to blood borne infections as presented in Table 1 above showed that 51.0% of the respondents said that they can take blood samples without having

to worry about needle stick injuries while 49.0% said they cannot take blood samples without having to worry about needle stick injuries. On recapping of used needle, 66.2% of the respondents said they recap used needles before disposing it while 33.8% said they do not recap needles before disposing. Also, 42.2% of the respondents claimed they wear their protective equipment for every procedure while only 45.8% of the respondents said that they adhere to safety practices only when there is risk of exposure. Furthermore, 89.0% of the respondents said that they clean and decontaminated equipment for every procedure and 68.8% of the respondents said that infection is not a problem, that it is a normal and common thing.

Research Question 2: What is the respondents' perception of blood borne infections?

Table 2a: Perceived susceptibility towards blood borne infections

STATEMENTS	SA F (%)	A F (%)	D F (%)	SD F (%)
I think I am at risk of blood borne infections	142(46.1)	96(31.2)	46(14.9)	24(7.8)
I worry a lot about being exposed to blood borne infections	101(32.8)	132(42.9)	64 (20.8)	11 (3.6)
I don't think there is a chance that I may be infected with blood borne pathogens	37(12.0)	97(31.5)	145(47.1)	29 (9.4)
My physical health makes it impossible for me to have blood borne infection.	33 (10.7)	56 (18.2)	146(47.1)	73(23.7)
Blood borne infection risk is not a serious problem	21 (6.8)	47 (15.3)	84(27.4)	156(50.6)
It is not just possible for someone to be infected with blood borne pathogens	36(11.7)	56 (18.2)	114(37.0)	102(33.1)

Key = Strongly Agree =A, Agree =A, Strongly Disagree = SD, Disagree =D

Table 2a analysis of the respondents' perception of the susceptibility of blood borne infections as presented above showed that a total of 77.3% of the respondents believed they are at risk of blood borne infections. Also, 75.7% of the respondents are worried about being exposed to blood born infections. In the same, 43.5% of the respondents do not believed that there is a chance that they may be infected with blood borne pathogens. However, 28.9% of the respondents believed that their physical health makes it impossible for them to have blood born infection and 22.1% of the respondents believing that blood borne infection risk is not a serious problem. Also 29.9% of the respondents believed that it is not possible for someone to be infected blood borne pathogens.

Table 2b: Perceived Severity/seriousness of respondents

Items	SA F (%)	A F (%)	D F (%)	SD F (%)
I believe blood borne infections are serious and severe	238(77.3)	53(17.2)	9(2.9)	8 (2.6)
The thought of being infected with blood borne pathogens does not scare me.	38(12.3)	58 (18.8)	123(39.9)	89(28.9)

Blood borne infections has major consequences on an individual's life	175(56.8)	112(56.8)	15(4.9)	6(1.9)
Occupational infections have serious financial consequences	147(47.7)	140 (45.5)	18(5.8)	3(1.0)
If I have a blood borne infection, it would be more serious than other diseases	103(33.4)	123(39.9)	64(20.8)	18(5.8)

The respondents' perception of the severity/seriousness of blood borne infections as presented Table 2b above showed that all the respondents believed that blood born infections are serious and severe while only 10.5% of the respondents do not get scared of the thought being infected with blood borne pathogens. Also, 89.4% of the respondents believed that blood borne infections have major consequences on an individual's life. In a similar vein, a total of 90.8% of the respondents believed that occupational infections have serious financial consequences with a total of 88.6% of the respondents believing that having a blood borne infection would be more serious than other diseases.

Table 2c: Perceived Benefits of Safety Practices

STATEMENTS	SA F (%)	A F (%)	D F (%)	SD F (%)
I think there is benefit in avoiding exposure prone procedures	150(48.7)	81(26.3)	56(18.2)	21(6.8)
I don't think it is beneficial to have my personal protective equipment on at all times.	49 (15.9)	83(26.9)	105(34.1)	71(23.1)
I would not be so anxious about blood borne infections if I follow safety rules	101(32.8)	142(46.1)	51(16.6)	14(4.5)
I think it is important to report and document all exposures to blood borne infections.	172(55.8)	112 (36.4)	19 (6.2)	5(1.6)
I don't think adequate staffing of healthcare workers is beneficial in encouraging adherence to safety practices.	49(15.9)	79 (25.6)	121(39.3)	59(19.2)
I think regular training of newly employed healthcare workers on safety practices is important.	207(67.2)	78 (25.3)	20 (6.5)	3(1.0)

The respondents' perception of the benefits of safety practices as presented in Table 2c above showed that 75% of the respondents believed that there is benefit in avoiding exposure prone procedures. Also, 42.8% of the respondents disagreed with the notion that it is beneficial to have their personal protective equipment on at all times. 78.9% of the respondents believed that they would not be so anxious about blood borne infections if they follow safety rules. 92.2% of the total respondents also believed that it is important to report and document all exposure to blood borne infections. However, 41.5% of the respondents believed that adequate staffing of healthcare workers is beneficial in encouraging adherence to safety practices. 92.2% of the respondents Believed that regular training of newly employed health workers on safety practices is important.

Table 2d: Perceived barriers to compliance with safety practices

STATEMENTS	SA F (%)	A F (%)	D F (%)	SD F (%)
Lack of Training of staff and provision of personal protective equipment is a barrier to compliance with safety	156(50.7)	95(30.8)	18(5.8)	39(12.7)
I don't consider work overload as a barrier to complying with safety practices	66(21.4)	120(39.0)	96(31.2)	26 (8.4)
Paying extra attention to exposure prone procedures is an unnecessary burden on me, therefore I don't need to adhere to safety practices.	21 (6.8)	22 (7.1)	136(44.2)	129(41.9)
I believe the absence of exposure and infection control policies affects my adherence to safety practices.	56(18.2)	105(34.1)	96 (31.2)	51(16.6)

The respondents' perception of the barriers to compliance with safety practices as presented in Table 2d above showed that a total of 81.5% of the respondents believed that lack of training of staff and provision of personal protective equipment is a barrier to compliance with safety while 60.4% of the respondents don't consider work overload as a barrier to complying with safety practices. However, 13.9% agreed that paying extra attention to exposure prone procedures is an unnecessary burden on them while 52.3% of the respondents believed that the absence of exposure and infection control policies affects their adherence to safety practices.

Research Question 3: What is the respondents' safety practice compliance level?

Table 3: Compliance with safety practices toward blood borne infections

STATEMENTS	**YES F (%)**	**NO F (%)**
Do you receive periodic seminars or training for safety practices?	196(63.6)	112(36.4)
Do you wear gloves to prevent percutaneous injuries?	285(92.5)	23(7.5)
Do you recap needles before disposing?	222(72.1)	86(27.9)
Do you make use of linens when collecting blood and body fluid samples?	222(72.1)	86 (27.9)
Do you practice respiratory/cough etiquette?	251(81.5)	57(18.5)
Do you clean and disinfect frequently used surfaces regularly?	288 (93.5)	20(6.5)
Do you use facial protective barrier?	288(93.5)	20(6.5)
Do you treat all blood and bodily fluids as infectious?	274(89.0)	34(11.0)
Do you wear laboratory coat/ gown when collecting blood and other bodily fluid samples at all times?	247(80.2)	61 (19.8)
Do you dispose used needles and sharp object in puncture resistance container (sharps box)?	283 (91.9)	25(8.1)

Do you wash your hands after contact with every patient?	254(82.5)	54(17.5)

The respondents' compliance with the safety practices toward blood-borne infections as presented in Table 3 below showed that 63.6% of the respondents claimed they receive periodic seminars or training for safety practices while 92.5% the respondents said that they wear gloves to prevent percutaneous injuries and 72.1% said they recap needles before disposing and make use of linens when collecting blood and bodily fluid samples respectively. Also, 81.5% of the respondents claimed to practice respiratory/cough etiquette, while 93.5% of the respondents make use of facial protective barrier. Also, 89.0% of the respondents claimed they treat all blood and bodily fluids as infectious. 80.2% of the respondents also said they wear laboratory coat/gown when collecting blood and other bodily fluids samples at all times. 91.9% of the respondents claimed that they dispose used needles and sharp object in puncture resistance container while 82.5% of the respondents said they wash their hands after contact with every patient.

Test of Hypotheses

Hypothesis 1: There is no significant relationship between attitude and level of compliance with safety practices among the health workers.

Table 4: Correlation between attitude and level of compliance

		Attitude	Level of compliance
Attitude	Pearson Correlation	1	.309**
	Sig. (2-tailed)		.000
	N	308	308
Level of Compliance	Pearson Correlation	.309**	1
	Sig. (2-tailed)	.000	
	N	308	308

The results in table 4 showed a significant correlation between attitude and level of compliance to safety practices among the health workers ($r=0.309$, $p=0.000<0.05$). Therefore, the attitude has influence the level of compliance to safety practices among respondents

Hypothesis 2: There is no significant relationship between perception and level of compliance with safety practices among the health workers

Table 5: correlation between perception and level of compliance with safety practices

		Perception	Level of compliance
Perception	Pearson Correlation	1	.179
	Sig. (2-tailed)		.071
	N	308	308
Level of Compliance	Pearson Correlation	.179	1
	Sig. (2-tailed)	.071	

N	308	308

Result in Table 5 shows that there is no significant correlation between the perception and level of compliance with safety practices among health workers in the laboratory department ($r=0.179$, $p=0.071>0.05$). This suggests that the perception of the health workers does not affect the level of compliance with safety practices among the health workers in the laboratory department.

Discussion

The health workers showed an average attitude to blood borne infections. This suggests that the health workers in the laboratory and clinical department need an improvement in their attitude towards blood borne infection. This was in line with the results from a research conducted by Isara and Ofili (2012) who showed a low level of knowledge and compliance with precaution by health workers as well as an unsatisfactory attitude. One of the factors associated with a poor attitude is recapping of used needles, finding from this study show that 66.2% of the respondents recap used needle which suggests that recapping of used needles is prevalent, these findings are in line with (Gyawali, et al., 2016). Various factors can be responsible for the poor attitude to blood borne infections, factors such the hospital management not giving enough attention to the situation, the health workers may experience work over load, lack of policies reinforcing safety practice compliance.

The perception of the respondents in both clinical and laboratory departments towards blood borne infections is revealed to be high, this suggests that there is a high level of seriousness is attached to the issue of blood borne infections by the health service workers. This also shows that the perceived severity/seriousness and susceptibility of blood borne infections as observed from the respondents is quite positive. This was in line with the findings of Sofola, Folayan, Denloya and Okegbemen (2007) where the potential exposure to blood and bodily fluids is considered high among healthcare workers. And also Aluko, Adebayo, Adebisi, Ewegbemi, Abidoye and Popoola, (2016) where the health workers believed they were at risk of occupational hazards while about two-thirds perceived the risk as high. On the perceived benefits of safety practices as observed in the study showed that most of the respondents believed that there is a benefit to safety practice. This conformed to the findings of Rituja, et al (2018) which rigorously emphasized on the importance of safety practices among healthcare workers. Gupta, et al (2013) emphasized that high risk perception and standard precaution training are associated with improved compliance with standard precautions among health workers.

The respondents from the both laboratory and clinical departments, showed a very high compliance with the safety practice against blood-borne infections. Although Standard Precautions have been practiced for a long time, 100% compliance has been difficult to achieve which emphasized the findings of Sofola, et al (2017) which addresses the need for modifying procedures that have high risk, developing institutional policy for handling sharps and post exposure management of health workers, provision of protective hepatitis B virus vaccines for all health workers. This suggests that the health worker in both the clinical and laboratory department take compliance with safety practices very serious, despite other factors that may arise making compliance with safety practices difficult. This is a high level of seriousness in the area of compliance with safety practices. This buttressed the point of Tadesse and Tadesse (2010) where the seriousness attached to the compliance level of health workers towards the safety practice against blood-borne infections was emphasized.

Conclusion

This study has highlighted the attitude, perception and exposed the varying levels of compliance to safety practices toward blood borne infections among health workers, as well as the various factors affecting compliance to safety practices against blood and body fluid pathogens amongst the health sector workforce. The need to ensure a good attitude, high perception and proper compliance with safety practices among health workers undoubtedly in one way or the other involving all the major stakeholders of any health institution, management, staff, and clients. This implies therefore that a meaningful level of compliance to safety practices is very important safety practice can be achieved with the help of these stakeholders. Hospital management perhaps has a foremost part to play in this task

Recommendations

Based on the outcomes of this study, it is hereby recommended that:

1. Training on standard precautions and use of personal protective equipment should be done more often especially for new staffs in the hospital.
2. Hospital policies should be enforced and management should provide materials needed for the practice of infection control.
3. The management of each hospital should facilitate the development of local guidelines to safety practices including guidelines on post exposure prophylaxis, which should then be placed at strategic locations in the hospitals as a reminder to all hospital workers.

References

Adinma, E.D., Ezeaama, C., Adinma, J.I. Asuzu, M.C. (2009) Knowledge and practice of universal Precautions against blood borne pathogens amongst house officers and nurses in Tertiary health institutions in southeastern Nigeria. *Department of obstetrics, Nnamdi Azikwe university teaching hospital, Nnewi, Nigeria*. 12(4), 398-402

Allison, K. (2014). *Health and Safety: Principles, Responsibilities and Practices* (Stanford University Press)

Aluko, O.O., Adebayo, E.A., Adebisi, T.F., Ewegbemi, M.K., Abidoye A.T., & Popoola, B.F. (2016). Knowledge, attitudes and perceptions of occupational hazards and safety practices in Nigerian healthcare workers. *BioMed Central Research Notes.* doi: 10.1186/s13104-016-1880-2.

Bistegen F. S., Bekele F. B., Ageru T. A. & Wada F. W. (2016). Transfusion-transmissible Infections Voluntary blood donors at wolatia sodo university referral teaching hospital, South Ethiopia, *Canadian Journal of Infectious Diseases & Medical Microbiology,* 377(1), 228-241

Centers for Disease Control and Prevention. (2017). *Stop Sticks Campaign*. The National Institute for Occupational Safety and Health

Gupta E, Bajpai M, Sharma P, Shah A and Sarin S.K. (2013). Unsafe Injection Practices: A Potential Weapon for the Outbreak of Blood Borne Viruses in the Community. *Ann Med Health Sci Res*, 3(2), 177-181

Gyawali S, Rathore D.S, Shanka PR, Vikash KC, Jha N, ShaRma D (2016). Knowledge and Practice on Injection Safety among Primary Health Care Workers in Kaski District, Western Nepal. *Malays J Med Sci*. 23(1), 44-55

Isara A.R. & Ofili A.N. (2012). Prevalence of occupational accidents/Injuries among health care workers in a federal medical centre in Southern Nigeria. *West Afr J Med* 31(1), 47-51

Ogoina, D, Pondei, K, Adetunji, B., Chima, G., Isichei, G. and Gidado, S. (2014). Prevalence and determinants of occupational exposures to blood and body fluids among health workers in two tertiary hospitals in Nigeria. *Afr. J. Infect. Dis*. 8(2), 50 – 54

Rituja V., Sardesai, S. P., Gurka, V.R. & Sardesai, V.V (2018). Awareness of needle stick injuries among health care workers. Government medical College and CPR hospital, Kolhapur. *Maharashtra*, 39(2), 107-116

Sofola, O.O., Folayan M.O., Denloya, O.O., Okeigbemen S.A. (2007). Occupational exposure to Blood borne pathogens and management of exposure incidents in Nigerian dental schools. Department of oreventive dentistry, *college of medicine, university of Lagos*. 71(6), 832-847.

Tadesse, M. & Tadesse, T. (2010) Epidemiology of needlestick injuries among health-care workers in Awassa City, Southern Ethiopia. *Trop Doct*. 40(2), 111-123.

Cite this article:

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