Occupational Hazard Control Practices among Primary Healthcare Workers in Rivers State

I. O. Madume & P. F. Amadi (Ph.D)
Department of Human Kinetics,
Health and Safety Education,
Ignatius Ajuru University of Education,
Port Harcourt, Rivers State

Abstract
This study investigated the occupational hazard control practices among primary healthcare workers in Rivers State. A descriptive survey research design was adopted with a population which consisted of five thousand and seventy-nine (5,079) primary health care workers in Rivers State. A sample size of four hundred and seven was selected using a multi-stage sampling procedure. The instrument for data collection was a structured questionnaire with a reliability coefficient of 0.93. Data collected where analyzed with the aid of the statistical product for service solution (version 23.0) using some statistical tools such as mean, and ANOVA. The result of the study showed that, the respondents had good practices towards occupational hazard control with a grand mean of 3.39±0.48. The occupational hazard control practices included: practice of safety/standard precautions and protocols when attending to all patients despite their infectious status (3.99±0.08), hand hygiene after contact with patient (384±0.35), hand hygiene before and after each procedure (3.84±0.36), recapped needle/syringes after every use (3.99±0.07), use separate areas and containers to dispose medical waste (3.85±0.35), use personal protective equipment (3.85±0.35) and use of hand gloves for routine clinical procedure (3.07±1.48). Occupational hazard control practices were more among those who had <10 years of work experience (3.42±0.36), those who were in the department of medical laboratory (3.39±0.51) and those who were older (aged ≥50 years). It was recommended among others that, the services of occupational health and safety professionals should be employed by the ministry of health to oversee the safety and hazard control practices of the healthcare workers in the different health facilities.

Keywords: *Hazard control, Practices, Occupation, Healthcare*

Introduction

Hazards are inherent in several occupations given that, in most cases, such hazards cannot be eliminated totally in as much as the work continues but, can be controlled to a barest limit which allows work to be done without the health of the worker being deteriorated. This is very vital for the primary healthcare workers who are the first point of contact in the healthcare system. Hazard control is paramount to the primary healthcare system to ensure the continuity of the service delivery and to maintain the health of the workers. Hazards can be controlled in different ways which basically include the safety guidelines for healthcare workers. Generally, there are three basic ways of controlling hazards which can be adopted in any setting which include: engineering control, administrative control and use of PPE which is the least in the hierarchy of control. Specifically, Freund (2018) posited that, engineering controls include: automation, ventilation, redesign, enclosure, or robotics which are effective and reliable methods of eliminating worker exposure to hazards but where these are not feasible, the focus shifts from

control of the hazard to risk reduction or risk avoidance strategies such as the administrative controls, which include: training, changing work practices, limiting exposure time, and operational and maintenance procedures, which can reduce exposure to health care hazards. Furthermore, adequate staffing is important for controlling hazards in a number of ways, including limiting the amount of exposure to hazards like lifting, patient handling, stress, cleaning, violence, and maintenance activities that reduce hazards. The least in the hierarchy of control is the use of personal protective equipment, which includes respirators, gloves, clothing, and hearing protection.

Furthermore, it is worth noting here that, practice of occupational hazards control can be influenced by certain factors. In the view of Pittet (2001), factors influencing the implementation of occupational health and safety provisions can be correlated to the age and gender of respondents as well as education, motivation or system. Masterson et al. (2011) that variables such as age and gender can influence the adherence of healthcare workers including nurses to occupational health and safety provisions. The study of Friedman and Rhinehart in Faller et al. (2018) showed that female participants may have been more apprehensive than male about infection control in their workplace. This is because females may have a greater risk for urinary tract infections than males as the result of having an anatomically shorter urethra. According to the De Castro et al. (2009), nurses in the study who are experienced being injured on the job once or twice in the past year on average, and 6% have been injured at least three times. More than three-fourths (78%) experienced back pain and more than half (53%) continued working despite this pain.

It is believed that generally, the healthcare workers are at a higher risk of contagion from hazardous substances than the populace at large due to their constant exposure and contact with patients who have different kinds of diseases or illnesses. According to Guidotti (2011), the healthcare workers provide a variety of services to their patients and clients and operate in an environment that is considered to be one of the most hazardous places to work. Thus, the hazards must be controlled adequately if the primary healthcare workers must be alive to discharge their duty effectively and efficiently. The Primary Health Care (PHC) is the first-level of personal health care services, meeting people's health needs through comprehensive promotive, protective, preventive, curative, rehabilitative, and palliative care throughout the life course, strategically prioritizing key health care services aimed at individuals and families through primary care and the population through public health functions as the central elements of integrated health services (World Health Organization, 2019). It is the first level of care thus; the workers there are the first point of contact. According to Aluko et al. (2016), the healthcare facilities are places of work for healthcare workers or institutions that provide healthcare services, such as treatment, consultations, counseling, and clinical services among others for the healthy, sick and the injured. The hazardous nature of the healthcare environment poses a risk for the healthcare workers particularly the primary healthcare workers.

The rise in occupational hazards in developing countries are largely blamed on Healthcare Workers (HCWs) not practicing hazard control which are mainly the universal safety precautions such as hand washing, wearing of gloves and the usage of Protective Personal Equipment (PPE). This dangerous pattern increases the risk of injuries as well as transmission of infections to HCWs (Patwary et al., 2011). Which according to Osungbemiro et al., (2016), puts healthcare workers at a greater risk of increased morbidity and mortality from occupational health and safety hazards. A very clear scenario is the case of the coronavirus in which there was loss of life of several healthcare workers which in most cases was due to poor adoption of occupational hazards control. Thus, this study was aimed at

investigating the occupational hazard control practices among primary healthcare workers in Rivers State.

Research questions

The study provided answers to the following research questions:

1. What is are the occupational hazard control practices among primary healthcare workers in Rivers State?
2. What is the extent of occupational hazard control practices among primary healthcare workers in Rivers State based on years of work experience?
3. What is the extent of occupational hazard control practices among primary healthcare workers in Rivers State based on the department?
4. What is the extent of occupational hazard control practices among primary healthcare workers in Rivers State based on age?

1.5 Hypotheses

The following hypotheses postulated were tested at 0.05 level of significance:

1. There is no significant difference between years of work experience and occupational hazard control practice among primary healthcare workers in Rivers State.
2. There is no significant difference between the department and occupational hazard control practice among primary healthcare workers in Rivers State.
3. There is no significant difference between age and occupational hazard control among primary healthcare workers in Rivers State.

Methodology

This study adopted the descriptive survey research design. The descriptive survey research design was adopted in this study because the study was aimed at using a representative sample of the entire population of the primary health care workers to enable the researcher to systematically collect, analyze and interpret data to describe the knowledge and practice of the workers towards occupational hazards control. The population for the study consisted of five thousand and seventy-nine (5,079) primary health care workers in Rivers State. A sample size of 407 was used for the study which was selected using the multi-stage sampling procedure involving three stages. First, stratified random sampling technique was used in which each of the existing three geographical zones formed a stratum. At the second stage, the simple random sampling technique was used to select two Local Government Area each from the three geopolitical zones. At the third stage, the proportionate sampling technique was adopted to select primary health care workers in the selected Local Government Areas. The instrument for data collection was a structured questionnaire developed by the researcher titled: "Occupational Hazard Control Practice Questionnaire (OHCPQ)" with a reliability coefficient of 0.93. Data collection was done by directly delivering the questionnaire to the respondents while data analysis was carried out with the aid of the Statistical Package for Social Sciences (SPSS V-23) using mean and one-way analysis of variance (ANOVA) at 0.05 level of significance.

Results: The results of the study are presented below:

Table 1: Occupational hazard control practices among primary healthcare workers

SN	Hazard Control Practices	Mean	Std Dev.	Decision
1	Practiced safety/standard precautions and protocols when attending to all patients despite their infectious status	3.99	.08	Good
2	Hand hygiene after contact with patient	3.84	.35	Good
3	Hand hygiene before and after each procedure	3.84	.36	Good
4	Hand hygiene after removal of gloves	3.98	.11	Good
5	Hand hygiene when in contact with blood/body fluid	3.99	.08	Good
6	Recapped needle/syringes after every use	3.99	.07	Good
7	Used syringe/needle in safety box	3.99	.08	Good
8	Use separate areas and containers to dispose medical waste	3.85	.35	Good
9	Used personal protective equipment	3.85	.35	Good
10	Did health check	3.84	.35	Good
11	Washed hands after handling soiled materials	3.99	.08	Good
12	Wore hand gloves for routine clinical procedure	3.07	1.48	Good
13	Practiced correct body positioning during clinical procedures	3.87	.58	Good
14	Disposed injection needles and sharps objects properly	3.72	.67	Good
15	Immunization against infections	3.70	.69	Good
16	Applied methylated spirit or hydrogen peroxide on injury before dressing it	3.72	.67	Good
17	Went for hazard control training from time to time	1.57	1.16	Poor
18	Went for seminar on hazards prevention	1.37	.85	Poor
19	Went for hazard control caution signs in my clinic	1.36	.85	Poor
20	Used muster point when there is danger	1.35	.83	Poor
21	Used the waste bin in the workplace	3.97	.14	Good
	Grand mean	**3.39**	**0.48**	**Good**

Criterion mean = 2.50. Guide: <2.50 is poor, while ≥2.50 is good practice

Table 1 showed the occupational hazard control practices among primary healthcare workers. The result showed that the respondents had good practices towards occupational hazard control as the grand mean of 3.39±0.48 was greater than the criterion mean of 2.50.

Table 2: Occupational hazard control practices among primary healthcare workers based on years of work experience

SN	Items	<5yrs (N = 164)		5-10yrs (N = 147)		>10yrs (N = 72)	
		Mean	Std Dev.	Mean	Std Dev.	Mean	Std Dev.
1	Practiced safety/standard precautions and protocols when attending to all patients despite their infectious status	3.99	.07	3.98	.11	4.00	.00
2	Hand hygiene after contact with patient	3.92	.27	3.80	.39	3.77	.41
3	Hand hygiene before and after each procedure	3.92	.27	3.78	.41	3.79	.40
4	Hand hygiene after removal of gloves	3.98	.13	3.98	.11	4.00	.00
5	Hand hygiene when in contact with blood/body fluid	3.98	.13	4.00	.00	4.00	.00
6	Recapped needle/syringes after every use	3.99	.07	3.99	.08	4.00	.00
7	Used syringe/needle in safety box	4.00	.00	3.97	.14	4.00	.00
8	Use separate areas and containers to dispose medical waste	3.92	.26	3.79	.40	3.79	.40
9	Used personal protective equipment	3.92	.27	3.80	.39	3.79	.40
10	Did health check	3.92	.27	3.79	.40	3.79	.40
11	Washed hands after handling soiled materials	3.98	.11	3.99	.08	4.00	.00
12	Wore hand gloves for routine clinical procedure	3.99	.07	3.19	.39	4.00	.00
13	Practiced correct body positioning during clinical procedures	3.85	.64	3.85	.60	3.95	.35
14	Disposed injection needles and sharps objects properly	3.78	.68	3.64	.72	3.75	.52
15	Immunization against infections	3.77	.68	3.61	.76	3.72	.56
16	Applied methylated spirit or hydrogen peroxide on injury before dressing it	3.77	.68	3.65	.71	3.75	.52
17	Went for hazard control training from time to time	1.35	.96	1.75	1.29	1.68	1.25
18	Went for seminar on hazards prevention	1.28	.80	1.45	.90	1.41	.86
19	Went for hazard control caution signs in my clinic	1.26	.77	1.43	.91	1.43	.86
20	Used muster point when there is danger	1.23	.73	1.46	.91	1.40	.83
21	Used the waste bin in the workplace	3.97	.15	3.97	.16	4.00	.00
	Grand mean	**3.41**	**.38**	**3.37**	**.46**	**3.42**	**.36**

Criterion mean = 2.50. Guide: <2.50 is poor, while ≥2.50 is good practice

Table 2 showed the occupational hazard control practices among primary healthcare workers based on years of work experience. The result showed that, occupational hazard control practices was more among those who had <10 years of work experience (3.42±0.36), followed by those who had less than 5 years of experience (3.41±0.38) and those who had 5 – 10 years of work experience (3.37±0.46). Thus, based on years of work experience, occupational hazard control was practiced more by those who had higher years of work experience.

Table 3: Occupational hazard control practices among primary healthcare workers based on department

SN	Items	Comm. Health (N = 152)		Med. Lab. (N = 90)		Pharmacy (N = 63)		Health info. (N = 35)		Dental technician (N = 43)	
		Mean	Std dev.	Mean	Std dev.	Mean	Std dev.	Mean	Std dev.	Mean	Std dev.
1	Practiced safety/standard precautions and protocols when attending to all patients despite their infectious status	3.98	.11	3.98	.10	4.00	.00	4.00	.00	4.00	.00
2	Hand hygiene after contact with patient	3.87	.33	3.85	.35	3.74	.43	3.88	.32	3.86	.35
3	Hand hygiene before and after each procedure	3.87	.33	3.84	.36	3.74	.43	3.88	.32	3.83	.37
4	Hand hygiene after removal of gloves	3.98	.11	3.96	.18	4.00	.00	4.00	.00	4.00	.00
5	Hand hygiene when in contact with blood/body fluid	4.00	.00	3.98	.10	4.00	.00	4.00	.00	3.95	.21
6	Recapped needle/syringes after every use	3.99	.08	3.98	.10	4.00	.00	4.00	.00	4.00	.00
7	Used syringe/needle in safety box	3.99	.08	3.98	.34	3.73	.43	3.85	.35	3.86	.35
8	Use separate areas and containers to dispose medical waste	3.88	.32	3.86	.34	3.75	.43	3.85	.35	3.86	.35
9	Used personal protective equipment	3.88	.31	3.85	.35	3.74	.43	3.88	.32	3.83	.37
10	Did health check	3.88	.32	3.86	.34	3.74	.43	3.88	.32	3.81	.39
11	Washed hands after handling soiled materials	3.99	.08	3.98	.10	4.00	.00	3.97	.16	4.00	.00
12	Wore hand gloves for routine clinical procedure	3.19	.35	3.98	.10	4.00	.00	4.00	.00	4.00	.00

13	Practiced correct body positioning during clinical procedures	3.85	.63	3.78	.75	4.00	.00	3.97	.16	3.86	.63
14	Disposed injection needles properly	3.73	.68	3.64	.85	3.74	.43	3.85	.42	3.72	.70
15	Immunization against infections	3.72	.69	3.60	.85	3.71	.48	3.85	.55	3.69	.70
16	Applied methylated spirit or hydrogen peroxide on injury before dressing it	3.73	.68	3.63	.84	3.76	.42	3.85	.35	3.72	.70
17	Went for hazard control training from time to time	1.48	1.09	1.66	1.22	1.76	1.31	1.37	.97	1.55	1.18
18	Went for seminar on hazards prevention	1.37	.86	1.46	.97	1.39	.79	1.05	.33	1.39	.92
19	Went for hazard control caution signs in my clinic	1.33	.82	1.52	1.01	1.42	.85	1.11	.47	1.23	.71
20	Used muster point when there is danger	1.34	.83	1.44	.94	1.38	.79	1.11	.40	1.37	.87
21	Used the waste bin in the workplace	3.97	.16	3.96	.18	4.00	.00	4.00	.00	3.97	.15
	Grand mean	**3.35**	**.43**	**3.39**	**.51**	**3.38**	**.38**	**3.36**	**.28**	**3.37**	**.44**

Criterion mean = 2.50. Guide: <2.50 is poor, while ≥2.50 is good practice

Table 3 showed the occupational hazard control practices among primary healthcare workers based on department. The result showed that, occupational hazard control practices were more among those who were in the department of medical laboratory (3.39±0.51) followed by those in the pharmacy (3.38±0.38), dental technicians (3.37±0.44), health information (3.36±0.28) and those who are in the department of community health (3.35±0.43). Thus, based on department, occupational hazard control was practiced more by those who are in the department of medical laboratory.

Table 4: Occupational hazard control practices among primary healthcare workers based on age

SN	Items	<30yrs (N = 126)		30-39yrs (N = 152)		40-49yrs (N = 79)		50yrs above (N = 26)	
		Mean	Std dev.	Mean	Std dev.	Mean	Std dev.	Mean	Std dev.
1	Practiced safety/standard precautions and protocols when attending to all patients despite their infectious status	3.98	.12	3.99	.08	4.00	.00	4.00	.00
2	Hand hygiene after contact with patient	3.95	.21	3.84	.35	3.72	.45	3.73	.45
3	Hand hygiene before and after each procedure	3.95	.21	3.82	.37	3.72	.45	3.76	.42
4	Hand hygiene after removal of gloves	3.99	.08	3.98	.13	3.98	.11	4.00	.00

5	Hand hygiene when in contact with blood/body fluid	3.98	.12	3.99	.08	4.00	.00	4.00	.00
6	Recapped needle/syringes after every use	3.99	.08	3.99	.08	4.00	.00	4.00	.00
7	Used syringe/needle in safety box	4.00	.00	3.98	.11	3.98	.11	4.00	.00
8	Use separate areas and containers to dispose medical waste	3.95	.21	3.84	.35	3.72	.45	3.72	.42
9	Used personal protective equipment	3.94	.22	3.85	.35	3.72	.45	3.76	.42
10	Did health check	3.95	.21	3.84	.36	3.72	.45	3.76	.42
11	Washed hands after handling soiled materials	3.98	.12	3.99	.08	4.00	.00	4.00	.00
12	Wore hand gloves for routine clinical procedure	4.00	.00	3.99	.08	3.36	0.26	4.00	.00
13	Practiced correct body positioning during clinical procedures	3.89	.53	3.85	.63	3.94	.35	3.65	.97
14	Disposed injection needles and sharps objects properly	3.86	.55	3.71	.70	3.63	.64	3.42	.98
15	Immunization against infections	3.84	.57	3.67	.73	3.63	.64	3.38	1.02
16	Applied methylated spirit or hydrogen peroxide on injury before dressing it	3.85	.56	3.69	.70	3.65	.61	3.46	.98
17	Went for hazard control training from time to time	1.22	.77	1.61	1.19	1.88	1.36	2.03	1.45
18	Went for seminar on hazards prevention	1.18	.64	1.40	.90	1.50	.90	1.73	1.15
19	Went for hazard control caution signs in my clinic	1.17	.64	1.36	.85	1.49	.91	1.84	1.22
20	Used muster point when there is danger	1.17	.64	1.36	.85	1.50	.87	1.73	1.15
21	Used the waste bin in the workplace	3.97	.15	3.96	.17	4.00	.00	4.00	.00
	Grand mean	**3.42**	**0.31**	**3.41**	**.43**	**3.38**	**.42**	**3.42**	**.52**

Criterion mean = 2.50. Guide: <2.50 is poor, while ≥2.50 is good practice

Table 4 showed the occupational hazard control practices among primary healthcare workers based on age. The result showed that, occupational hazard control practices were more among those who were aged ≥50 years and <30 years each (3.42±0.52) followed by those aged 30 – 39 years (3.41±0.43) and those aged 40-49 years (3.38±0.42). Thus, based on age, both the younger and older workers had good practices towards occupational hazard control.

Table 5: ANOVA showing difference in the practice of occupational hazard control among primary healthcare workers based on years of work experience

Source of variance	Sum of Squares	Df	Mean Square	F-value	p-value	Decision
Between Groups	.006	2	.003	.377	.68*	Not
Within Groups	2.957	380	.008			rejected
Total	2.963	382				

***Not Significant**

Table 5 showed the ANOVA of difference in occupational hazard control practice among primary healthcare workers based on years of work experience. The result showed that there was no significant difference [F(2,380) = 0.377, p = 0.686). Thus, the null hypothesis which stated that there is no significant difference between years of work experience and occupational hazard control practice among primary healthcare workers in Rivers State was not rejected.

Table 6: ANOVA showing difference in the practice of occupational hazard control among primary healthcare workers based on department

Source of variance	Sum of Squares	Df	Mean Square	F-value	p-value	Decision
Between Groups	.028	4	.007	.900	.46*	Not
Within Groups	2.935	378	.008			rejected
Total	2.963	382				

***Not Significant**

Table 6 showed the ANOVA of difference in occupational hazard control practice among primary healthcare workers based on department. The result showed that there was no significant difference [F(4,378) = 0.900, p = 0.464). Thus, the null hypothesis which stated that there is no significant difference between the department and occupational hazard control practice among primary healthcare workers in Rivers State was not rejected.

Table 7: ANOVA showing difference in the practice of occupational hazard control among primary healthcare workers based on age

Source of variance	Sum of Squares	Df	Mean Square	F-value	p-value	Decision
Between Groups	.021	3	.007	.901	.44*	**Not**
Within Groups	2.942	379	.008			**rejected**
Total	2.963	382				

***Not Significant**

Table 7 showed the ANOVA of difference in occupational hazard control practice among primary healthcare workers based on age. The result showed that there was no significant difference [F(3,379) = 0.901, p = 0.441]. Thus, the null hypothesis which stated that there is no significant difference between age and occupational hazard control practice among primary healthcare workers in Rivers State was not rejected.

Discussion of findings

The findings of the study are discussed below:

The finding of this study in Table 4.5 showed that the respondents had good practices towards occupational hazard control as the grand mean of 3.39±0.48 was greater than the

criterion mean of 2.50. The occupational hazard control practices included: practice of safety/standard precautions and protocols when attending to all patients despite their infectious status (3.99±0.08), hand hygiene after contact with patient (384±0.35), hand hygiene before and after each procedure (3.84±0.36), recapped needle/syringes after every use (3.99±0.07), use separate areas and containers to dispose medical waste (3.85±0.35), use personal protective equipment (3.85±0.35) and use of hand gloves for routine clinical procedure (3.07±1.48). This finding is also encouraging given the high level of knowledge expressed by the respondents. This implies that their knowledge of occupational hazards control was translated to practice commensurately, and this is commendable among the health care workers. The finding of this study also corroborates that of Ndejjo et al. (2015) who reported from a study carried out Uganda that the major control measures provided by the health facilities were availing separate areas and containers to dispose medical waste (92.0%) and safety tools and equipment (90.0%). More than half (53.5%) of the health facilities provided health workers with personal protective equipment. Almost all healthcare workers had received HIV screening examination (97.0%) and 91.0% had received BCG vaccination. Regarding the hand washing practices, most health workers washed their hands before and after every procedure (79.5%) and after handling soiled materials (68.5%). The finding of this study is also in line with that of Nwankwo et al. (2017) who carried out an assessment of the compliance to occupational health and safety measures among the health workers in three selected districts health facilities in Kigali, Rwanda that 219(88%) adhere to careful handling and disposing of sharp instruments during and after procedures showed was 88%, also practice of immediate washing of hands and other skin surfaces after contact with blood was about 84.7%. The similarity found between the previous studies and the present one might be due to the fact that they were all focused on the hazard control practices of healthcare workers.

The finding of this study is in tandem with that of Siegel (2007) who specified that, in order to control hazards in the health care setting, standard precautions must be taken which include safe injection practices, hand hygiene, use of PPE, safe handling of potentially contaminated equipment or surfaces, and respiratory hygiene (cough etiquette) also, since most of the hazards such as bacteria and viruses are transmitted through blood and body fluids contact, blood and body fluids from all patients must be treated as if they were infectious, whether or not an infection has been confirmed with a very high degree of chariness. Remarkably, Hryhorczuk (2004) noted that, for all types of healthcare facilities, the general task of the healthcare workers involved daily contact with patients, permanent contact with procedures and chemicals which exposes them to several occupational diseases and injuries hence, their exposure to theses hazards must be controlled if their health is to be maintained and their job completed. However, hazards are inevitable in any occupation hence, must be controlled if health must be maintained.

The finding of this study showed the occupational hazard control practices among primary healthcare workers based on years of work experience. The result showed that, occupational hazard control practices was more among those who had <10 years of work experience (3.42±0.36), followed by those who had less than 5 years of experience (3.41±0.38) and those who had 5 – 10 years of work experience (3.37±0.46). Thus, based on years of work experience, occupational hazard control was practiced more by those who had higher years of work experience. The result showed that there was no significant difference [$F(2,380) = 0.377$, $p = 0.686$). The findings of this study is similar to that of Ogunnaike and Akinwaare (2019) whose study on the occupational hazard and preventive measures among nurses in a Nigerian tertiary health institution showed that, more than two-thirds 150(78.9%) of the

nurses had protective device in their respective wards as nurses among which more than half of them have one to ten years post qualification experience.

The finding of this study showed the occupational hazard control practices among primary healthcare workers based on department. The result showed that, occupational hazard control practices were more among those who were in the department of medical laboratory (3.39±0.51) followed by those in the pharmacy (3.38±0.38), dental technicians (3.37±0.44), health information (3.36±0.28) and those who are in the department of community health (3.35±0.43). Thus, based on department, occupational hazard control was practiced more by those who are in the department of medical laboratory. The result showed that there was no significant difference [F(4,378) = 0.900, p = 0.464). The findings of this study is not in line with that of Ogunnaike and Akinwaare (2019) whose study on the occupational hazard and preventive measures among nurses in a Nigerian tertiary health institution showed that, more than two-thirds 150(78.9%) of the nurses had protective device in their respective wards as nurses among which 17.1% worked in maternity and O&G ward, 33.7% worked in medical ward, 26.9% worked in surgical ward while 12.1% worked in accident and emergency ward.

The finding of this study showed the occupational hazard control practices among primary healthcare workers based on age. The result showed that, occupational hazard control practices were more among those who were aged ≥50 years and <30 years each (3.42±0.52) followed by those aged 30 – 39 years (3.41±0.43) and those aged 40-49 years (3.38±0.42). Thus, based on age, both the younger and older workers had good practices towards occupational hazard control. The result showed that there was no significant difference [F(4,378) = 0.900, p = 0.464). The result showed that there was a significant association (X^2-value = 24.35, df = 3, p = 0.00). The findings of this study is not in line with that of Ogunnaike and Akinwaare (2019) whose study on the occupational hazard and preventive measures among nurses in a Nigerian tertiary health institution showed that, more than two-thirds 150(78.9%) of the nurses had protective device in their respective wards as nurses among which the mean age of the respondents was 34.8±9.5years. The findings of this study is similar to that of Gajida et al. (2019) whose study on knowledge of occupational hazards, and safety practices among butchers in Kano metropolis, Kano State, Nigeria showed that, overall, the respondents had good safety practices among which the mean age of the respondents was 37.7±10.5 years. More than a third (35.8%) of the respondents were between the age ranges of 30 to 39 years.

Conclusion

Based on the findings of the study, it was concluded that, primary healthcare workers in Rivers State had good occupational hazard control practices which included: practice of safety/standard precautions and protocols when attending to all patients despite their infectious status, hand hygiene after contact with patient, hand hygiene before and after each procedure, recapped needle/syringes after every use, use separate areas and containers to dispose medical waste, use personal protective equipment, and use of hand gloves for routine clinical procedure.

Recommendations

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

1. The services of occupational health and safety professionals should be employed by the ministry of health to oversee the safety and hazard control practices of the healthcare workers in the different health facilities.

2. The health care workers should maintain the good occupational hazard control practices found among them by making conscious effort to put such measures to practice consistently, knowledge that it is for their health and well-being.
3. The government should show more concern in safety of the healthcare workers by implementing policies that will protect the safety of healthcare workers from every occupational hazard.
4. The healthcare workers should also not relent in their effort to maintain good hazard control practices by observing them in every of their procedures no matter the urgency of the situation.

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