Knowledge, Attitude and Practice of Standard Precaution among Healthcare Workers in Kogi State Specialist Hospital

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Abstract

Standard precautions (SP) protect people against potential transmission and outbreak of communicable disease, and complying with SP, medical professionals and patients attain good health and well-being. The study was conducted to evaluate the knowledge, attitude and practice of SP among two hundred and thirty two (232) healthcare workers in Kogi State Specialist Hospital (KSSH). The healthcare workers were selected through a multistage sampling technique, and the instrument used was self-administered questionnaire. Result from the findings showed that all KSSH healthcare workers had heard about SP among which 84.5% majority of them heard about SP through seminars/workshop/training. More result from the findings showed that 60.8% majority of KSSH healthcare workers had poor knowledge on SP, 92.2% majority of KSSH healthcare workers had positive attitude towards SP, and 96.6% majority of them practice good SP. The factors that significantly influences the practice of SP are female healthcare workers [AOR = 2.027; CI = 1.534 – 2.678], healthcare workers between the ages of 30 – 39 years [AOR = 4.550; CI = 2.804 – 7.383], married healthcare workers [AOR = 15.000; CI = 8.556 – 26.298], Christians [AOR = 3.073; CI = 2.267 – 4.165], KSSH hospital attendant [AOR = 4.684; CI = 2.854 – 7.678], KSSH healthcare workers with good knowledge [AOR = 1.545; CI = 1.182 – 2.021], and healthcare workers with positive attitude [AOR = 12.176; CI = 7.426 – 19.965]. This study showed that KSSH healthcare workers have poor SP knowledge, although they exhibited positive attitude, and good practiced of standard precaution.

Keywords: Knowledge; Attitude; Practice; Factors; Healthcare; Healthcare workers; Standard precaution

1.0 Introduction

Healthcare workers (HCWs) are usually exposed to blood borne contaminations caused by pathogens like the hepatitis B and C viruses and HIV as they carry out their clinical duties in hospitals [1]. It has been established that following standard precautions lowers the chance of coming into contact with bodily fluids like blood [2]. Healthcare professionals use standard precautions, which is a collection of infection prevention techniques to reduce the chance of spreading infectious diseases to patients and to themselves [3]. These safety measures are the cornerstone of infection control and are implemented in all patient care settings due to the constant threat of contagious illnesses [4]. Creating a safe and healthy environment is the main goal of standard precautions, which operate under the assumption that every patient and every bodily fluid may contain infectious agents [5].

By implementing transmission-based precautions, infectious agents can be prevented from spreading within healthcare facilities [6], which involves arranging rooms differently (private versus airborne isolation rooms, for example) and using personal protective equipment (PPE) (masks, gloves, gowns, N95 respirators, and/or face shields) according to the infectious agent's mode of transmission i.e. contact, droplet, airborne, etc. [6]. Healthcare professionals in developing nations are neglecting standard precautions in the public health domain [7], which has put healthcare workers in developing nations at risk for a variety of hazards, negatively affecting their well-being and productivity at work [7]. A study reported general poor knowledge, attitudes and practices towards infection prevention in three hospitals in Trinidad and Tobago [8], according to a study conducted in Iran among medical students, Qazvin University of Medical Sciences students did a poor job in adhering to standard isolation precautions [9], additionally in Ethiopia, a study on the knowledge, attitudes, and practices of healthcare workers regarding infection prevention at the Bahir Dar city administration health institution reveals inadequate application of standard precautions. [10].

In Nigeria however, some studies conducted in Nasarawa State Northern Nigeria [11], Federal University teaching hospital, Abakaliki Ebonyi State Nigeria [12], and among health care workers in public primary and secondary health facilities in Edo State [13] showed poor knowledge, attitude, and practice of standard precaution. However, a study done by Efifie [14] to assess the awareness and adherence of universal safety precautions (USP) among health care workers (HCWs) in Kogi

State Specialist Hospital (KSSH), Nigeria also observed that the level of awareness and adherence to the universal standard precaution among the HCWs in KSSH were observed to be very low. Since the study by [14] only considered level of awareness and adherence to standard precaution, this study seeks to investigate the knowledge and practice of standard precaution among healthcare workers in Kogi State specialist hospital to fill the gap in existing literature. More also, the outbreaks of Lassa fever in Kogi state resulted to the death of a medical doctor in FMC Lokoja in January 2018 [15], which serves as a wakeup call to all health care workers in Lokoja, Kogi state to ensure adherence to standard precautions.

Studies conducted on the practice of standard (SP) precautions among healthcare workers in northern Nigeria shows that many of the facilities did not have equipment's and sufficient medication to practice standard precaution [11]. The lack of protective materials and other supplies and utilities documented in the health facility survey and cited also by professionals as the main reason for not applying standard precautions may be a major factor in noncompliance to universal precautions [11]. Healthcare workers surveys and observations in Nigeria and other countries in Africa documented that healthcare workers often fail to practice standard precautions consistently and correctly [11]. A study done in Ghana showed that the unavailability of PPEs, discomfort of wearing PPEs and the notion that adherence to SPs was time consuming were some barriers to compliance [16].

However, adherence to the standard precaution has been shown to be effective in curtailing occupational illnesses and injuries among patients and healthcare workers [17]. Various studies have shown that adherence to standard precautions (SP) protects people against the potential transmission and outbreak of communicable diseases such as hepatitis, HIV and other blood borne infections [18], it also ensures all patients are treated the same, and shielded from the spread or worsening of communicable diseases [19]. By complying with these precautions, patients will be shielded from communicable diseases and their infection, which could lead to a readmission for additional care and treatment [20]. Aside helping people avoid communicable diseases, taking the recommended standard precautions help medical professionals attain good health and well-being [21]. Thus, with regards to the aforementioned reasons, and owing to the fact that a healthcare worker (medical doctor) in KSSH died as a result of coming in contact with a patient that had Lassa fever in the year 2018, there is enough justification for the present study to be conducted. Hence, this study aimed at investigating the knowledge, attitude and practice of standard precaution among healthcare workers in Kogi State Specialist Hospital. The specific objectives of the study are (i) to evaluate the knowledge of SP among KSSH healthcare workers; (ii) to determine the attitude of KSSH staffs towards SP; (iii) to investigate the practice of SP among KSSH workers; and (iv) to determine the factors that influences the practice of SP.

2.0 Research Methodology

Study Area

Lokoja is a city in Nigeria. It is the capital of Kogi State and is located where the Niger and Benue rivers meet [14]. Two tertiary health facilities, the Federal Medical Center (FMC) and Kogi State Specialist Hospital (KSSH), are located in Lokoja town [22]. While the former is owned by the Kogi state government, the latter is owned by the federal government. Kogi State Specialist Hospital employs 95 attendants, 119 nurses, 74 doctors, and 24 laboratory scientists in addition to its 120 beds. Along with other departments, it houses the following units and departments: nutrition, pharmacy, ophthalmology, obstetrics and gynecology, pediatrics, family medicine, internal medicine, surgery, physical therapy, dental clinic, ophthalmology, works/laundry, security, and the administration departments. In KSSH, emergency services, an outpatient clinic, minor and major surgeries, inpatient care, delivery services, physiotherapy, oral and eye care, nutrition, laboratory services, inpatient and outpatient pharmaceutical services, department of administration, established referral system, national health insurance scheme (NHIS), operational morgue, and ambulance services are just a few of the services provided. According to the staff list that was acquired from the administrative office of KSSH, Lokoja, there are 323 active employees across the departments that are mentioned above

Study Design

The research was a cross sectional descriptive study.

Study Population

All medical staffs at KSSH were included in the study's population. The study was conducted among healthcare professionals, including physicians, nurses, laboratory scientists, and hospital attendants, who frequently come into direct contact with patients' blood or bodily fluids and are also exposed to other non-biological health risks, at the Kogi State Specialist Hospital in Lokoja, Kogi state. The total population of healthcare workers in KSSH as obtained from the staff list as at the time of this study is 347 (i.e. doctors = 67, nurses = 126, laboratory staffs = 32, and hospital attendants = 122).

Sample Size Determination

The sample size was calculated by taking into account the standard normal deviation set at 95%

confidence level, which is 1.96, and a confidence interval of 0.05, or 5% confidence interval, in order to determine the minimum sample size necessary for accuracy in estimating proportions. Hence, using the Yamane [23] technique for drawing the sample size from the study population which is 347. The Yamane [23] formula is shown in Equation 1;

$$S = \frac{N}{1+N\,(e)^2} \qquad (1)$$

Where: S = Sample size
N = population of study
e = error margin

Therefore, $S = \frac{347}{1+347\,(0.05)^2} = 185.56 \approx 186$

In order to take care of attrition due to non-response 30% was added:

$$\frac{30}{100}\ x\ 186 = 55.8$$

Hence, 186 + 55.8 = 241.8 ≈ 242
Therefore, 242 women were recruited for the study.

Sampling Technique
A multi-stage sampling techniques was used.

Firstly, the medical staffs were divided into the following categories: physicians, nurses, lab scientists, pharmacists, dentists, health assistants, and others.

Secondly, proportionate allotment of KSSH staffs was done. The total number of healthcare workers in KSSH is 347 (67 doctors, 126 nurses, 32 laboratory staffs, and 122 hospital attendants) as shown below;

Doctors: $\frac{67\ x\ 242}{347} = 47$

Nurses: $\frac{126\ x\ 242}{347} = 88$

Laboratory staffs: $\frac{32\ x\ 242}{347} = 22$

Hospital attendants: $\frac{122\ x\ 242}{347} = 85$

Thirdly, up until the necessary number assigned to each cadre of health care professionals was reached, eligibility and consenting respondents were chosen using a straightforward random sampling technique.

Study Instruments
A self-administered, closed-ended questionnaire served as the data collection instrument. The following types of information were sought by the tool: biographical information, awareness of standard precautions, standard precautions taken, and factors affecting standard precautions taken. Under the guidance of the research assistance, the data tool was pre-tested on a few medical staff members at Federal Medical Center Lokoja in order to ascertain the typical amount of time needed to complete a question.

Data Collection Methods
An overview of the study's objectives was provided to the respondents. Two medical professionals (doctors) with backgrounds in research collected the data. In order to enable them to guide the respondents, a one-day training session on the administration of the tool on various occupational health hazards was conducted prior to data collection.

Data Analysis and Presentation
After obtaining the data from the respondents, the data's were coded into the software (IBM SPSS software program v23). Descriptive statistics were used to present the data using frequency tables, charts, and graphs for all categorical variables. Multinomial logistic regression was used in multivariate analysis to identify the factors influencing the use of standard precautions. The threshold for statistical significance was p-value < 0.05.

Knowledge and practice assessment
To assess knowledge and practice of standard precaution, KSSH healthcare workers were scored one mark each for correct responses while each wrong answer was not given any marks. The overall level of knowledge and practice of standard precaution was scored on a scale of 0 to 100 percent, KSSH healthcare workers with a score of ≥ 50% is said to have excellent knowledge and practice, while those with score < 50% is said to have poor/inadequate knowledge and practice of standard precaution.

Ethical Consideration

A written approval was obtained from the Ethical Committee of the Kogi State Specialist Hospital (KSSH) Lokoja, Kogi State. Consent was gotten, and confidentiality was guaranteed to all the KSSH healthcare workers considered in the study, as no names was indicated, with assurance that the study was only for academic purposes.

3.0 Results
In order to conduct this study, a total of 242 questionnaires were distributed, and a total of 232 questionnaires were retrieved, translating to a 95.9% response rate.

Socio-demography Characteristics and Awareness of Standard Precaution
The result of the respondents' socio-demographic characteristics is shown in Table 1.

The result from Table 1 showed that majority of the respondents that took part in the survey are female 157 (67.7%), between 30 – 39 years of age (40.4%), married (86.2%), practice Christianity (75.0%), and are nurse (40.5%).The result of the analysis from Table 2 showed that all 232 (100.0%) the respondents had awareness of standard precaution and among the respondents that are aware of standard precaution, more than two-third (84.5%) majority of them got the awareness from seminars/workshop/training.

Training and Availability of Standard Precaution

This section presents result on respondents training on standard precaution as well as availability of standard precaution written policy in their various work units.

Table 1: Socio-demographic characteristics of the respondents

Demographics	Options	Frequency	Percentage
Gender	Male	75	32.3
	Female	157	67.7
	Total	**232**	**100.0**
Age	20 - 29	22	9.5
	30 - 39	94	40.5
	40 - 49	72	31.0
	50 and above	44	19.0
	Total	**232**	**100.0**
Marital status	Single	15	6.5
	Married	200	86.2
	Separated	7	3.0
	Widowed	10	4.3
	Total	**232**	**100.0**
Religion	Islam	58	25.0
	Christianity	174	75.0
	Total	**232**	**100.0**
Job cadre	Attendant	76	32.8
	Nurse	94	40.5
	Laboratory staff	20	8.6
	Doctor	42	18.1
	Total	**232**	**100.0**

Table 2: Awareness and sources of information on standard precautions

Variables	Options	Frequency	Percentage
Awareness of standard precaution	Yes	232	100.0
	No	0	0.0
	Total	**232**	**100.0**
Source of information of standard precaution	Radio	5	2.2
	Television	7	3.0
	Seminars/ Workshop/Training	196	84.5
	Friends and colleague	8	3.4
	Web page/Internet	2	0.9
	All Source Listed	10	4.3
	Total	**232**	**100.0**

The result from Table 3 shows that more than two-third (78.9%) majority of the respondents had been trained on use of standard precaution, among which less than half (38.3%) majority of them had been trained once, and more than half (66.1%) majority of them last received training 1-5 years ago. Also, 91.8% majority of them indicated that standard precaution is available at their various workplaces, and more than half (59.5%) majority of them had no written policy on standard precaution at their workplace.

Knowledge Assessment of Standard Precaution

This section of the study assesses respondents' knowledge of standard precaution after which the overall knowledge was grouped based on scores as presented in Table 4, and Figure 1.

Table 3: Training on Standard Precaution

Variables	Options	Frequency	Percentage
If respondents had ever been trained on use of standard precaution	Yes	183	78.9
	No	42	18.1
	No Response	7	3.0
	Total	**232**	**100.0**
Number of times been trained	Once	70	38.3
	Twice	40	21.9
	3 times	17	9.3
	4 times	8	4.4
	5 times	1	0.5
	Severally	30	16.4
	No Response	17	9.2
	Total	**183**	**100.0**
Last time respondents received training	1- 5 years ago	121	66.1
	6-10 years ago	15	8.3
	Less than a year	26	14.2
	More than 10 years ago	1	0.5
	No Response	20	10.9
	Total	**183**	**100.0**
If standard precaution is been practiced at work place	Yes	213	91.8
	No	13	5.6
	No Response	6	2.6
	Total	**232**	**100.0**
Availability of written policy on standard precaution at workplace	Yes	79	34.1
	No	138	59.5
	No Response	15	6.4
	Total	**232**	**100.0**

Table 4: Knowledge of Standard Precaution

Knowledge	Options	Frequency	Percentage
Procedure for prevention of cancer	Yes	112	48.3
	No	120	51.7
Procedure for preventing HIV/AIDs only	Yes	115	49.6
	No	117	50.4
Procedure for prevention of infection transmission in the hospitals	Yes	227	97.8
	No	5	2.2
Procedure for prevention of hypertension	Yes	21	9.1
	No	211	90.9
Procedure for prevention of tuberculosis	Yes	24	10.3
	No	208	89.7

The result from Table 4 showed that more than half majority of the respondents had less knowledge about standard precaution as procedure for prevention of cancer (51.7%), as procedures for prevention of HIV/AIDs (50.4%), as procedure for prevention of hypertension (57.3%), and as procedure for prevention of hypertension tuberculosis (89.7%). However, the overall knowledge of the respondents on standard precaution is shown in Figure 1.

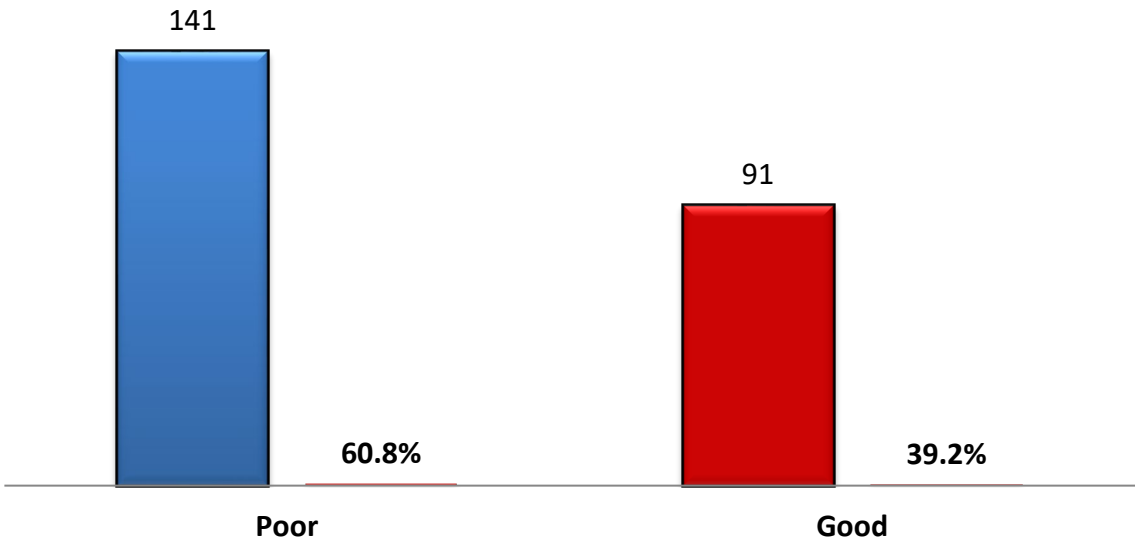

Figure 1: Knowledge Score on Standard Precaution

The result from Figure 1 showed that more than half majority (60.8%) of the respondents had poor knowledge of standard precaution, while 39.2% of them had good knowledge.Attitude towards Standard Precaution. This section of the study determined respondents' attitude towards standard precaution as presented in Table 5, and Figure 2. The result from Table 5 showed that as a means in adhering to standard precaution, more than half majority of the respondents use PPE (97.0%), practice standard hygiene (84.5%), safely dispose hospital waste (83.6%), disinfects of environmental surfaces (77.6%), use of gadgets for resuscitation (59.5%), practice respiratory hygiene coughing etiquette (59.5%), prioritizes patients at risk of infection transmission (73.7%), and ensures decontamination of equipment's between patients (69.8%). Also, the overall attitude of the respondents towards standard precaution is shown in Figure 2.

Table 5: Attitude towards Standard Precaution

Attitude	Options	Frequency	Percentage
Use of personal protective equipment like gloves, boots, face mask, aprons	Yes	225	97.0
	No	7	3.0
Hand Hygiene	Yes	196	84.5
	No	36	15.5
Safe Disposal of Hospital waste	Yes	194	83.6
	No	38	16.4
Environmental control i.e. cleaning, and disinfection of environmental surfaces	Yes	180	77.6
	No	52	22.4
Use of mouthpiece, resuscitation bag, etc. in patient resuscitation	Yes	138	59.5
	No	94	40.5
Respiratory hygiene/cough etiquette	Yes	167	72.0
	No	65	28.0
Prioritizing single-patient room if patient is at risk of infection transmission	Yes	171	73.7
	No	61	26.3
Ensuring "single use only" devices are not reused and "reusable equipment" is properly decontaminated between patients.	Yes	162	69.8
	No	70	30.2

The result from Figure 2 showed that more than two-third majority (92.2%) of the respondents had positive attitude towards standard precaution, while 7.8% of them had negative attitude towards standard precaution Practice of Standard Precaution**.** This section of the study investigates the respondents' practice of standard precaution as presented in Table 6, and Figure 3. The result from Table 6 showed that with respect to practicing standard precaution, 68.1% majority of the respondents use gloves when suturing, 58.2% use gloves when giving intra-muscular injection, 62.1% majority use gloves when giving intra-venous injection, 65.5% majority use gloves during intra-venous line initiation/maintenance, 96.1% majority use gloves when handling blood sample, 97.0% majority use gloves when handling high risk patients, 74.1% majority wash hands before attending to patients, and 96.9% majority of them wash hands after attending to patients. The overall practice of the respondent's standard precaution is shown in Figure 3. The result from Figure 3 showed that more than two-third 96.6% majority of the respondents practice good standard precaution, while 3/4% of them practice poor standard precaution.

Factors Determining Practice of Standard Precaution

This section of the study determined the socio-demographics, knowledge, and attitude factors influencing the practice of standard precaution among staffs of Kogi State Specialist Hospital, Lokoja Kogi State. The results of the logistic regression from Table 7 showed that female healthcare workers [AOR = 2.027; CI = 1.534 – 2.678], those between 30 - 39 years [AOR = 4.550; CI = 2.804 – 7.383, married healthcare workers [AOR = 15.000; CI = 8.556 – 26.298], Christians [AOR = 3.073; CI = 2.267 – 4.165], hospital attendant [AOR = 4.684; CI = 2.854 – 7.678], healthcare workers with good SP knowledge [AOR = 1.545; CI = 1.182 – 2.021], and healthcare workers with a positive attitude [AOR = 12.176; CI = 7.426 – 19.965] are significant likely to practice standard precautions compared to their counterparts.

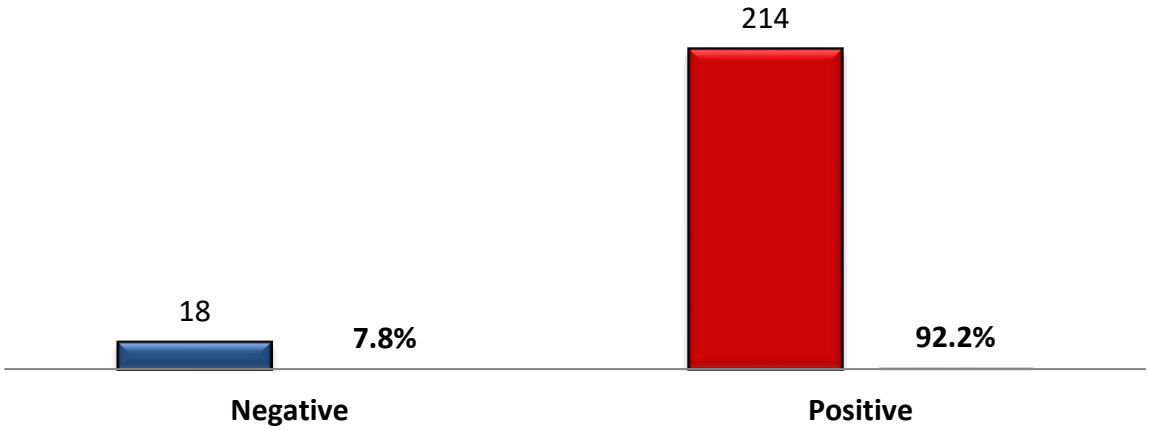

Figure 2: Attitude Score on Standard Precaution

Table 6: Use of Gloves and Hand Washing Practices of Standard Precaution

Practice	Options	Frequency	Percentage
Use of gloves when Suturing	Yes	158	68.1
	No	74	31.9
Use of gloves during intra-muscular injection	Yes	135	58.2
	No	97	41.8
Use of gloves during intra-venous injection	Yes	144	62.1
	No	88	37.9
Use of gloves when giving intra-venous line initiation/maintenance	Yes	152	65.5
	No	80	34.5
Use of gloves when handling blood sample	Yes	223	96.1
	No	9	3.9
Use of gloves when handling high risk patients	Yes	225	97.0
	No	7	3.0
Hand washing before attending to patients	Yes	172	74.1
	No	60	25.9
Hand washing after attending to patients	Yes	224	96.6
	No	8	3.4

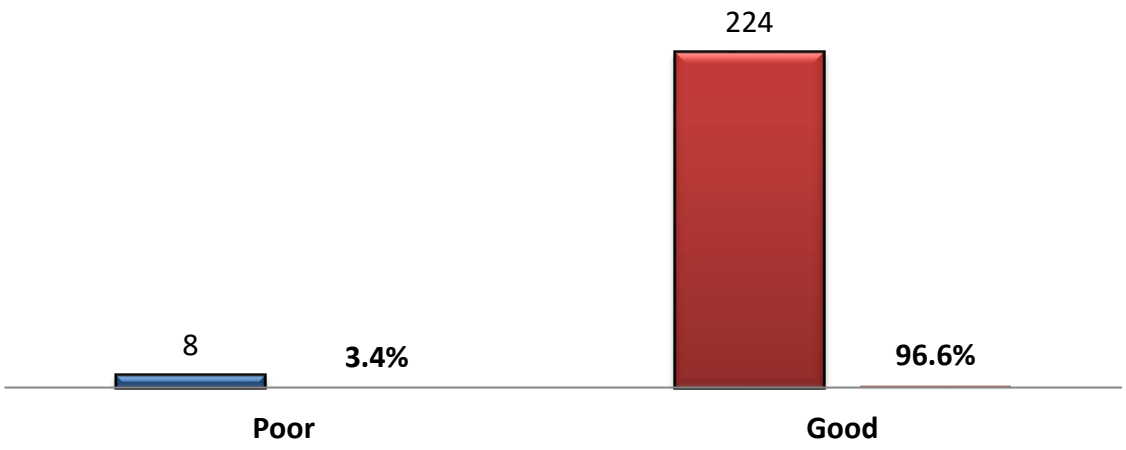

Figure 3: Practice Score on Standard Precaution

Table 7: Factors that Influence Good Practice of Standard Precaution

				95% Confidence Interval	
Factors	**OR**	**Sig.**	**AOR**	**Lower Bound**	**Upper Bound**
Gender					
Male [1]					
Female	.707	.000	2.027	1.534	2.678
Age					
20 – 29 [1]					
30 - 39	1.515	.000	4.550	2.804	7.383
40 - 49	1.253	.000	3.500	2.129	5.753
50 and above	.765	.005	2.150	1.265	3.654
Marital status					
Single [1]					
Married	2.708	.000	15.000	8.556	26.298
Separated	-.619	.187	.538	.215	1.350
Widowed	-.368	.396	.692	.296	1.620
Religion					
Islam [1]					
Christianity	1.123	.000	3.073	2.267	4.165
Job cadre					
Laboratory staff [1]					
Nurse	1.373	.000	3.947	2.386	6.530
Attendant	1.544	.000	4.684	2.854	7.687
Doctor	.769	.006	2.158	1.253	3.718
Knowledge					
Poor [1]					
Good	.435	.001	1.545	1.182	2.021
Attitude					
Negative [1]					
Positive	2.500	.000	12.176	7.426	19.965

4.0 Discussion

The outcome from the findings of this study showed that all (100.0%) the healthcare workers had heard about standard precaution, among which 84.5% majority of them heard about standard precaution through seminars/workshop/training, which is similar to studies carried out among HCWs in a tertiary health Institution in Enugu [24], Nigeria, and Benue State [25] where 90% and 100% of the respondents respectively had heard of standard precaution. The awareness of SP in this study was however not in agreement with studies done in North Eastern Nigeria [26] where only 13% of the healthcare workers are aware of SP. The result of good SP awareness in this study was further confirmed since 78.9% majority of the healthcare workers indicated they received training on use of standard precaution, and 66.1% of them had received training on SP within five years. With regards to the healthcare workers knowledge assessment, the result showed that only 48.3% of healthcare workers in this study had knowledge of SP as a procedure for cancer prevention which is very low and in agreement with a study done in Ethiopia [27] where 27.2% were knowledgeable in knowing SP as procedure for preventing cancer. Also, 49.6% of the respondents in this study had poor knowledge of SP as procedures for preventing HIV/AIDs which is in agreement with a study done in Abuja Nigeria [28]. However, 97.8% of the healthcare workers in this study had good knowledge on SP as procedure for preventing infection transmission which is quite commendable, and is in contrast with a study done in Edo state Nigeria [29] where only 10.6% had good knowledge on SP as procedure for prevention of infection. More also, only 10.3% of the healthcare workers in this study had good knowledge on SP as procedure for tuberculosis which is very low compared to findings from studies done in India [30] and Ondo state Nigeria [31] where 85.0% and 83.0% of the healthcare workers respectively had good knowledge on SP as prevention of tuberculosis. However, among the five (5) questions on healthcare workers knowledge of standard precaution, 60.8% majority of the respondents had overall poor knowledge on standard precaution which is in agreement with a study done in Delta State [32], South-South [33], and Gombe state [34] Nigeria where 62.3%, 74.2%, and 71.25% majority of the respondents respectively had poor knowledge of standard precaution, but not in agreement with studies done at the University of Benin Teaching Hospital, Edo State [35], Benue state [25], and Yenagoa [36] where 83.3%, 77.0% and 79.0% of healthcare workers had good knowledge of standard precaution. The outcome of the findings showed that despite the fact that majority of the respondents in this study had good awareness (100.0%) and received training on standard precaution (78.9%), their knowledge is still quite low.

In terms of the respondent's attitude, the findings from this study showed that 84.5% majority of the respondents practice good hand hygiene which is better compared to a study done in Abuja Nigeria [28] where 57.5% of the respondents wash their hands with soap and water always after any direct contact with patients. Also, the use of PPE in this study was 97.0% which is higher than 53.4% of PPE used by healthcare workers in a tertiary health institution in Enugu state [37] Nigeria. More also, result from the findings of this study showed that among the eight (8) questions on attitude of healthcare workers towards standard precaution, 92.2% overall majority of the respondents had positive attitude towards standard precaution and is in agreement with a study done in a Nigerian tertiary hospital [38], and in Federal Medical Centre Yenagoa [39], which showed good attitude towards standard precaution. Hence, the findings from this study showed that despite majority of the respondents having poor knowledge of standard precaution (60.8%), they still have positive attitude towards standard precaution.With respect to the practice of standard precaution among the healthcare workers, 58.2% majority of healthcare workers in this study always use gloves while given intramuscular injections, likewise 68.1%, 62.1%, 65.5%, 96.1%, and 97.0% uses gloves during suturing, intra-venous injection, when giving intra-venous line initiation, when handling blood sample, and when handling high risk patients respectively. This study also showed a relatively good hand washing practices by KSSH healthcare workers where 74.1% and 96.6% wash their hands before and after attending to patients respectively, this is in contrast to the study carried out in the University of Nigeria Teaching Hospital (UNTH), Enugu, which showed only about 43.9% practiced appropriate hand washing, the study believed that low level of training and unequal training exposure among the various healthcare workers contributed [40]. However, among the eight (8) questions on practice of standard precaution among the healthcare workers in this study, 96.6% majority of them practice good standard precaution which is in agreement with studies done in Trinidad and Tobago [8], Ethiopia [41], in a Nigerian tertiary hospital [38], and in Federal Medical Centre Yenagoa [39] which showed good practice of standard precaution among the healthcare workers. Hence, the good practice of standard precaution among the healthcare workers in this study can be attributed to high rate of awareness (98.3%), training (84.5%), and attitude (92.2%) towards standard precaution. Finally from the findings of this study, the result showed that female healthcare

workers [AOR = 2.027; CI = 1.534 – 2.678] are highly significantly likely to practice standard precaution compared to male healthcare workers, and healthcare workers who are married [AOR = 15.000; CI = 8.556 – 26.298] are significantly likely to practice standard precaution compared to healthcare workers who are single, which is in agreement with a study done in Southern Ethiopia [42] where female healthcare workers that are married complied to practice of standard precaution. Also, among the age groups, healthcare workers within 30 – 39 years [AOR = 4.550; CI = 2.804 – 7.383], 40 – 49 years [AOR = 3.500; CI = 2.129 – 5.753], and above 49 years [AOR = 2.150; CI = 1.265 – 3.654] are highly significantly likely to practice standard precaution compared to healthcare workers within 20 – 29 years of age which is in contrast to a study done in Pokhara, Nepal [43] where those <18 years is the significant predictor of compliance to standard precautions among nursing students. More also, Christians [AOR = 3.073; CI = 2.267 – 4.165] are significantly likely to practice standard precaution compared to Muslims, while nurses [AOR = 3.947; CI = 2.386 – 6.530], attendants [AOR = 4.684; CI = 2.854 – 7.678], and doctors [AOR = 2.158; CI = 1.253 – 3.718] are significantly likely to practice standard precaution compared to laboratory staffs. Finally from the findings, healthcare workers with good knowledge [AOR = 1.545; CI = 1.182 – 2.021], and those with positive attitude [AOR = 12.176; CI = 7.426 – 19.965] are significantly likely to practice standard precaution compared to healthcare workers with poor knowledge and negative attitude respectively. The outcome from the findings of this study is in agreement with a study done in a Nigerian tertiary hospital [38] where knowledge and attitude significantly influences good practice of standard precaution

5.0 Conclusion

The purpose of the study was to investigate the knowledge, attitude and practice of standard precaution (SP) among healthcare workers in Kogi State Specialist Hospital (KSSH). Results from the findings showed that majority of the healthcare workers that took part in the study are female, between 30 – 39 years of age, married, practice Christianity, and are Nurses by profession. Also, all the healthcare workers had heard about standard precaution, among which more than two-third majority of them heard about standard precaution through seminars/workshop/training. More result from the study showed that more than half majority of the respondents had overall poor knowledge on standard precaution, whereas four-fifth majority of the respondents each had positive attitude, and practice good standard precaution. With regards to the factors that significantly influences the practice of standard precaution, the findings from the study showed that female healthcare workers, healthcare workers between 30 – 39 years, healthcare workers who are married, single, practice Christianity, and healthcare workers who are hospital attendants, are significantly likely to practice standard precaution compared to their counterparts. Also, healthcare workers with good knowledge and positive attitude are significantly likely to practice standard precaution compared to those with bad knowledge and negative attitude.

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