



Assessment of Factors Associated with Healthcare Workers' Knowledge, Attitude & Compliance with Standard Safety Rules

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ABSTRACT

The work environment is a sitting where there are possibilities of acquiring occupational illnesses, hence standard safety rules is very essential. Health workers (HWs) are victims of preventable and life-threatening work-related hazards due to their job description globally, most especially in Sub-Sahara Africa. Hence, this Study assessed barriers associated with health workers' knowledge, attitude and compliance with standard safety rules in selected public hospitals in Rivers State, Nigeria. Descriptive cross-sectional design and a sample size of 347 were used. The study employed a multi-staged sampling technique and a structured instrument based on a coefficient of 0.88 as reliability. Descriptive statistics was used to analyze the data and results revealed there are existing standard safety rules in the hospital. Also, there is likelihood that management has initiated measures that enhances health worker's knowledge and compliance with standard safety rules. Barriers to knowledge, attitude and compliance with standard safety rules are lack of periodic training/retraining, poor policy enforcement, unavailability of necessary documents on SSR, non-availability of PPEs, large number of patients, quick to provide service, staff are not punished for non-compliance and paying extra attention to SSRs guidelines is an unnecessary burden. Thus, there is need to improve health workers knowledge, attitude and compliance with standard safety rules in the aim to reduce exposure to infections and death. The study therefore recommends that hospital boards and health professional should enact enforceable integrated safety practice systems and incorporate occupational safety and health administration (OSHA) standard and best practice guidelines in the health sector.

Keywords: Standard Safety Rules, Knowledge, Compliance, Attitude, Hospital

INTRODUCTION

Standard safety rules (SSRs) are defined as an array of actions or policies outlined to prevent the chance of transference of BBPs during provision of healthcare and medical aid (36, 37). Also, SSRs are measures outlined to regulate and prevent the possibility of acquiring occupational illnesses from both familiar and unforeseen sources in the healthcare setting (1, 27, 36 and 61). SSRs are important when handling apparatus gadgets that are contaminated or alleged to be adulterated. Conditions with risk of BBFs, secretions and excretions are rooted in SSRs, without considering the existence or inexistence of visible blood, broken or injured skins and mucous tissues (16, 19). Access to information concerning SSRs will help strengthen knowledge and

clinical practice. An understanding of SSRs will also intensify use of PPEs (62). Regrettably, health workers (HWs) have an overall low knowledge and grasp of the SSRs and its clinical utilization even where it is a principal routine for every HW that is in profession of dispensing patient care (47). The fundamental components of SSRs are; hand hygiene after handling a patient, use of PPEs to prevent mucocutaneous contact, very little physical handling of sharp devices and discarding of these objects in sharp containers (18, 19). Adebayo et al. (2) opined that the knowledge of SSR is compulsory in all clinical environments. Health workers in Nigeria and other developing countries do not apply SSRs frequently and accurately (56, 58). Some other countries around the world have also documented low compliance with SSRs too. Like a similar study done in an Iranian hospital where it was reported that 75% of HWs were less than tolerable safety levels as it concerns their attitudes, knowledge & practice of SSRs (12). Consistent hand washing before and after using gloves was reported by less than 50% of the HCWs. This agreed with findings by Reda et al. (54) who detailed sub-optimal practices and hostile attitudes towards SSRs among HWs in Eastern Ethiopia. Some scholars also concurred that compliance with hand washing was 31.9% & 35.9% respectively, though glove use was 58.8% & 41.5% (39, 55). Ndu & Arinze (44) opined that use of PPEs, safe injection practices and safe handling of infected devices or surfaces was low in hospitals. Musu et al., (43) assessed adherence to hand washing among HWs in six intensive care units (ICUs) and they reported low levels of compliance to best hygiene practices. High adherence to hand washing by HWs is reported (28, 30). Sadoh et al., (56) opined that high adherence with non-recapping of previously used syringes were seen among skilled nurses and worst among physicians. Also, 63.8% of HWs always use PPE while 56.5% had not once worn goggles at surgeries and during deliveries. Luo et al. (41) also reported low adherence to SSRs among the surveyed nurses in China, this was attributed to poor knowledge and training on SSRs, non-availability of sharps disposal box and general self-efficacy. Non-compliance commonly resulted from unavailability of the PPEs and doctors practiced recapping of used needles more than nurses. Likewise poor HBV immunization status among HWs as only 28.87% of nurses and 32.53% of doctors had received more than 1 dose of HBV vaccine. Oguntona & Adedeji (47) described that HWs' perception of SSRs in Nigeria is below tolerable limits. In Nigeria, HWs are not fully knowledgeable (2, 5, 16, 44, 45 and 49) or even compliant with standard safety rules (Standard precautions) which are meant to protect them from health hazards (HHs) (2, 5, 16, 44, 45 and 46). Also, there are reports of suboptimal safety culture practices in HFs across Nigeria (29, 44, 60 and 61). Also, good practice of Safety Culture (SC) as a barrier for control can reduce hazards. Some studies have been carried out to evaluate knowledge, attitude and compliance with SSR among HWs and their findings differ from one another (4, 9, 10, 11, 24, 25, 40, 41, 44, 45, 46, 52, 60 and 61). Thus, this raises a lot of questions such as; do the HWs know about health hazards (HHs), are HWs aware of the existing laws of Standard Safety Rules (SSRs), are there punitive actions and reporting on non-compliance and do hospital management promote and practice safety. This is undeniably a crucial issue as it impacts the health care workforce in the form of include shortage of HWs, apathy among HWs, HWs' & patients' susceptibility to infections, cost effect, death etc. Hence, it is necessary to determine the factors associated with health workers' knowledge, attitude and compliance with standard safety rules in public hospitals.

METHODOLOGY

Study Design and Population

The study employed a descriptive cross-sectional design. The study was performed in the two tertiary hospitals (UPTH and RSUTH) and the zonal hospitals (Okrika, Ahoada, Bori, Bonny, Isiokpo and Degema) in Rivers State, Nigeria. The population consists of staff of the two tertiary and six zonal hospitals in River State which are; UPTH (2,404), RSUTH (1112), Okrika (78), Degema (44), Bonny (39), Isiokpo (38), Ahaoda (59) and Bori (102) respectively, resulting in a total of 3876 HWs. The population consists of identity card carrying HWs which includes; doctors, nurses, housekeeping staff, clinical laboratory workers, radiographers, pharmacists and mortuary attendants.

Inclusion and Exclusion Criteria

All direct HWs that render health services on daily basis was sampled. These individuals must have worked for at least 6 months and above. Also, HWs that are on brief internship, students, security personnel, administrative workers and females on maternity leave was excluded.

Sample Size

Sample size for this study was computed using Fischer's formula for determining size of a sample, given as (20, 32):

$$n = \frac{Z^2 PQ}{d^2} \quad (1)$$

where n is sample size, Z is the normal deviation at confidence interval at 95% (1.96), P is the proportion of the population with the desired characteristics (63.8%), Q is the proportion of the population without the desired characteristics i.e. 1- P (1-0.638 = 0.362) and d is the desired level of precision (0.05).

Therefore,

$$n = \frac{1.96^2 \times 0.638 \times 0.362}{0.05^2} = \frac{0.8872}{0.0025} = 354.89 \approx 355$$

Since the population target is < 10,000, the sample adjustment was done using the formula (50):

$$nf = \frac{n}{1 + \frac{n}{N}} \quad (2)$$

where nf is the desired sample size for population < 10,000, n is the calculated sample size (355), N is the total population of study (3876).

$$nf = \frac{355}{1 + \frac{355}{3876}} = \frac{355}{1 + 0.0915} = \frac{355}{1.0915} = 325.21 = 325 \text{ persons}$$

To cover for non-response, 10% of 325 will be added, making it an extra 33 (32.5) HWs. Thus, the minimum required sample size of 358 HWs was used and also four (4) senior management staffs.

Sampling Technique

The study employed a multi-staged sampling technique. A proportionate stratified sampling was used to allocate HWs for each hospital facilities and a simple random sampling technique was employed using the table of random numbers (57). Sampling fraction is given as:

$$\text{Sampling Fraction} = \text{Sample Size} / \text{Total Population} \quad (3)$$

$$= 358 / 3876 = 0.0924$$

Therefore, number of questionnaires for distribution in each of the hospital facilities is given as:

$$\text{Sample per Hospital} = \text{Population of the Hospital} \times \text{Sampling Fraction} \quad (4)$$

The distribution of population and samples for each hospital are shown in Table1

Table 1: Sample Hospitals

Hospitals	Population	Sample
UPTH	2404	222
RSUTH	1112	103
Isiokpo	38	4
Bonny	39	4
Degema	44	4
Okrika	78	7
Ahoda	59	5
Bori	102	9
Total	3876	358

Method of Data Collection

Primary data were obtained using well-structured questionnaire which were both self and interviewer administered. The instrument for the study was titled "Standard Safety Rules in Hospitals". It was pre-tested in Obio-Cottage Hospital, a secondary healthcare facility. The instrument is structured and has seven (4) sections namely sections A-D. Section A contains socio-demographic data/occupational history and section B contains existence of standard safety precaution rules in the hospital. It is also in a 4-point likert scale of strongly agree (SA), agree (A), disagree (D) and strongly disagree (SD) with ratings as 4, 3, 2 and 1 respectively. Section C contains measures initiated by management to ensure HWs' compliance with SSR. Section D contains factors associated with HWs knowledge, attitude and compliance with SSRs in a 4-point likert scale of strongly agree (SA), agree (A), disagree (D) and strongly disagree (SD) with ratings of 4, 3, 2 and 1 respectively.

Ethical Approval and Consent

Ethical approval was obtained from Rivers State Hospital Management Board (RSHMB) and University of Port Harcourt Teaching Hospital. Also, informed consent was obtained from HWs and HWs were educated on health hazards and its mitigation.

Method of Data Analysis

Data retrieved from the instrument was entered into SPSS (Statistical Package for Social Sciences) version 22, and was analyzed using descriptive statistics (such as; mean, percentages, pie charts and bar charts) and inferential statistics (such as; Chi-Square test, Spearman rank correlation coefficient and multiple regression analysis) at 5% significance level.

RESULTS AND DISCUSSION

Socio-Demographic Data

The socio-demographic profile of HWs was gender, marital status as well level of education and age (see Table 2). There were 178 (51.3%) male and 169 (48.7%) female HWs. One-hundred and forty (40.3%) out of 347 HWs were single while 196 (56.5%) HWs were married, 3 (0.9%) HWs also specified that they divorced, 5 (1.4%) were co-habiting and 3 (0.9%) specified that they were widow/widower. One hundred and thirteen (32.6%) had post graduate degree, 171 (49.3%) had tertiary education, while 56 (16.1%) and 7 (2.0%) had secondary and primary education. Again, 19 (5.5%) out of 347 HWs were aged less or equal 25 years, while 151 (43.5%), 114 (32.9%) and 63 (18.2%) HWs were aged between 26 and 35 years, 36 and 45 years, 46 years and above respectively. However, the mean age of HWs was 37.3 ± 8.4 years (C.I: 36.4 and 38.2). One-hundred (28.8%) out of 347 HWs specified that they have work experience between 6 months and 5 years, 146 (42.1%) HWs had worked between 6 and 10 years; while 67 (19.3%) specified that they have work experience between 11 and 15 years. Also, 13 (3.7%) HWs had worked between 16 and 20 years, 21 (3.0%) had 21 years and above respectively.

Table 2: Socio-Demographic Data

	Frequency (n=347)	Percentage (%)
Sex		
Male	178	51.3
Female	169	48.7
Marital Status		
Single	140	40.3
Married	196	56.5
Divorced	3	0.9
Co-habiting	5	1.4
Widow/Widower	3	0.9
Educational Level		
Post Graduate	113	32.6
Tertiary	171	49.3
Secondary	56	16.1
Primary	7	2.0
Age (Years)		
≤ 25.0	19	5.5
26.0 - 35.0	151	43.5
36.0 - 45.0	114	32.9
≥46.0	63	18.2
Work Experience (Years)		
6 months-5	100	28.8

6-10	146	42.1
11-15	67	19.3
16-20	13	3.7
≥21	21	3.0

Existence of SSRs and Management's Measures to Ensure Compliance with SSRs

Existence of SSR:

Result revealed there are existing laws on standard safety precautions (2.79 ± 0.92) and HWs are aware of the laws (2.77 ± 0.94). However, HWs opined dissatisfaction about the laws (2.45 ± 1.04), disobedient of the laws (2.44 ± 0.96), disagreed on mechanisms to enforce these laws by government or management (2.25 ± 0.93) and non-implementation of these laws (2.37 ± 0.99). In general, the weighted mean (2.51 ± 0.98) showed significant existence of SSR because the mean is greater than the criterion means of 2.5 (see Table 3). However, HWs opined dissatisfaction with the laws and non-implementation or enforcement of these laws by government or hospital management. In fact, following verbal conversation with some of the HWs, it was discovered that most of them have never sighted the SSRs probably as a handbook. They only hear about SSRs from colleagues, trainings that are irregular, and not even a policy statement is visualized to show commitment by the management heads. Interview with management heads (like the deputy CMDs in the two tertiary hospitals, the CMD of the hospital management board and even the director of public health in the Rivers State's Ministry of health), response revealed that SSRs indeed actually exists but kept only as office archives. Also, a management head claimed not to have seen/touched any document on SSRs all through years of service and accepted that HWs don't have access to SSRs. They also admitted wrong doing for non- practices of SSRs and recommended that the SSRs handbook should be made available to HWs and even kept at strategic points in hospital facilities so that HWs will be familiar with its content. Some scholars agree that SSRs had been in existence and have huge impact on HWs as well as patient's wellbeing (8). Moore et al., (42) observed that there are still misinterpretations and misunderstanding of the SSRs. Safety culture is still poor as many hospitals management and even HWs still lack knowledge of the CDC guidelines (SSRs). Ethically the HWs owes his or herself the duty to be aware of any guidelines as this will play a key role in impacting on their knowledge of such guidelines (31).

Table 3: Existence of SSR in Hospitals

S/N	Items (n=347)	SA (%)	A (%)	D (%)	SD (%)	Mean	STD	Decision
1	There are existing laws on standard safety precautions.	79 (22.8)	155 (44.7)	75 (21.6)	38 (11)	2.79	0.92	Agreed
2	Aware of the laws.	84 (24.2)	137 (39.5)	88 (25.4)	38 (11)	2.77	0.94	Agreed
3	Feel satisfied about the laws.	61 (17.6)	118 (34)	83 (23.9)	85 (24.5)	2.45	1.04	Disagreed
4	Do obey the laws.	36 (10.4)	162 (46.7)	67 (19.3)	82 (23.6)	2.44	0.96	Disagreed
5	There are mechanisms to enforce these laws by Government or management.	21 (6.1)	139 (40.1)	91 (26.2)	96 (27.7)	2.25	0.93	Disagreed
6	The laws are being implemented.	39 (11.2)	141 (40.6)	77 (22.2)	90 (25.9)	2.37	0.99	Disagreed

Grand Total	320 (15.4)	852 (40.9)	481 (23.1)	429 (20.6)	2.51	0.98	Agreed
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Measures Instituted by Management to Ensure HWs' Compliance with SSRs:

The study sampled four management HWs (Deputy CMDs of tertiary hospitals, chief medical director of Rivers State's hospital management board and Director of public health, Rivers State ministry of health). Respondents (75%) opined that there are regulations on how to act in case of fire & other emergencies and the presence of escape routes and emergency exits. Also, management respondents (50%) opted that there are procedures to follow after a work accident, there are First Aid Organizations, work time/shift regulations and instructions on work place related hazards and first AIDs. In general, 58.3% of safety measures are initiated by the hospital management. Again, management opined that there is the likelihood that there are provisions for protective glove (85%), protective clothing/goggles (82%), facemask (85%), and sharp bins for needle disposal in every unit (100%), SSR instruction manual placed at strategic stations in the hospital (57%). Also, there is the likelihood that hand and surface disinfectants are always available at strategic stations (82%), supervisors are assigned to be in charge of giving out PPEs (85%) and the supervisors are around at their duty post to attend to the HWs (82%). In general, result buttresses that 83% of management respondent opted that there is the likelihood that protective measures and procedures meant to reduce risk of exposure to infections. In case of an exposure/incident there are the likelihood that there is clear communication channel of reporting (69%), occupational health specialist (82%), HWs are clearly communicated on whom to report to (82%), actions are taken immediately over such cases (82%) and there is a follow-up on HWs (63%). Consequently, management opined that there are hospital policies, procedures and schedules such that employee's performance evaluations are performed (75%), punitive actions are taken against HWs that violate SSR & practices (69%). Also, periodic training/retraining of all staff are organized & followed through (75%), training sections on SSR and prevention of health hazards are organized at least once in the past 2 years (88%) and exposure infection control policies are regularly reviewed and updated (63%). However, management disagreed that there are incentive compensations for HWs who completely adheres to SSR (50%), that adequate staffing is ensured in order to reduce workload on staff (50%), there is no provision of free vaccines against vaccine preventable diseases or made compulsory for all staff (57%) and internal audits are not performed to identify risk areas & work flow insufficiencies (57%). As a public health policy, HFs must optimize the use of hand hygiene and gloves to protect both the HW and the patient. This will further lead to reduction in the cost of treatment of cross infections. The hospital management can provide and encourage alcohol-based hand rubs because it improves HWs' hand hygiene practices (35). In order to encourage the wearing of PPEs by HWs, the hospital environment must be improved especially for developing countries like Nigeria. Hospital managements should institute punishment for non-adherence and rewards for compliance with SSRs as a study reported that punitive action against defaulters was found to improve compliance (34).

Factors Associated with HWs Knowledge, Attitude and Compliance with SSRs:

Barriers to HW's Knowledge on SSRs

This study reveals that barrier to HW's knowledge on SSRs are lack of periodic training/retraining (2.62 ± 1.06), even when training occurs, only few staff are selected to participate (3.14 ± 0.93) and lack of drills on SSR (2.96 ± 0.91). Also, lack of provision of flyers, leaflets & posters at strategic areas of the HFs (3.11 ± 0.87) and there are no video displays of

SSR routines during training (2.72 ± 1.04). In general, the study buttresses significant (2.91 ± 0.99) barriers to HW's knowledge of SSR, because the mean is greater than the criterion mean of 2.5 (see Table 4). Knowledge is observed to enhance compliance with SSRs because poor knowledge of SSRs was indeed responsible for the low compliance with SSRs among HWs (21). There is the necessity to vigorously enforce infection control procedures in the hospital facilities (HFs) as HWs should be continuously oriented and trained to aid strict compliance to SSRs (61). Poor knowledge and compliance with SSRs is reported among HWs especially in Africa (5, 16, 32, 48, 49, 54, 55). Selecting certain HWs for trainings and workshop is not encouraging because some HWs may never have opportunity participate for a long time, thus management should train HWs in batches with the aim of achieving training coverage for all HWs. Video displays can be encouraged for those with lower educational status to align with training. Flyers, leaflets, posters etc., should serve as continuous reminders at eye spotting points. Poor policy enforcement (15), unavailability of necessary documents on SSR (14, 15 and 46), poor perception of risk (7, 13 and 23) is observed barriers to knowledge of SSRs.

Table 4: Barriers to HW's Knowledge of SSR

S/ N	Items (n=347)	SA (%)	A (%)	D (%)	SD (%)	Mean	STD	Decision
1	Lack of periodic training/retraining	84(24.2)	116(33.4)	78(22.5)	69(19.9)	2.62	1.06	Agreed
2	Even when training occurs, only few staff are selected to participate	155(44.7)	110(31.7)	59(17)	23(6.6)	3.14	0.93	Agreed
3	Lack of drills on SSR	116(33.4)	120(34.6)	91(26.2)	20(5.8)	2.96	0.91	Agreed
4	Lack of provision of flyers, leaflets & posters at strategic areas of the HFs	144(41.5)	106(30.5)	88(25.4)	9(2.6)	3.11	0.87	Agreed
5	There are no video displays of SSR routines during training	93(26.8)	123(35.4)	73(21)	58(16.7)	2.72	1.04	Agreed
	Grand Total	592(34.1)	575(33.1)	389(22.4)	179(10.3)	2.91	0.99	Agreed

Barriers to Compliance with SSRs

Health Workers (HWs) opined that wearing PPEs causes panic to some patients (3.05 ± 0.87), they want to use PPEs but are not usually available (2.52 ± 1.03), using PPEs makes them uncomfortable (2.94 ± 0.92), PPEs are not kept as they're usually dirty (2.70 ± 1.00) and PPEs are not kept at strategic points to enable its frequent usage (3.03 ± 0.90). Also, HWs opted impossibility to comply with SSR when too many patients require attention (3.03 ± 0.90) and they dispose sharps in a normal bin as sharp bins are usually unavailable (2.61 ± 0.99). HWs opined that they forget to comply with SSR (2.83 ± 0.95), lack knowledge of SSR (2.83 ± 0.95) and thinks they are at risk of getting infection from patients (2.49 ± 1.03). In general, the study shows that these items are significant (2.83 ± 0.97) barriers to compliance with SSRs, because the mean is above the criterion mean of 2.5 (see Table 4.10b). In Ghana, HWs opined that barrier to compliance with Standard Safety Rules (CSSRs) are; their perception that some patients experience panic as soon as they see a HW with PPEs, unavailability of PPEs, PPE's interference with the HWs' ability to provide care for their patients, high demands from lots of patients, poor risk perception and there's a risk of losing a patient during emergency situations if more time is spent wearing PPEs (5). Lack or insufficient provision of basic PPEs has been stated as barrier

to CSSRs in more studies (1, 22). Also, in India, Punia et al. (52) opined that PPEs are lacking more especially during emergency situations and in Nigeria PPEs were either lacking or insufficient when provided for (17, 46, and 49). In China, they also noted insufficient provision of masks, eye shields, shoe covers, protective masks and quarantine coveralls as barrier to compliance with SSRs. Non-supply of PPEs was mentioned as a factor that hindered compliance in Ethiopia (54). Discomfort from wearing PPEs is observed as barrier to CSSRs. Finding agrees with (51, 52) who observed in Brazil and India, that HWs experience discomfort from wearing of PPEs. In Sierra Leone, HWs complained that it induces itching, sweating and makes them uncomfortable (53). Nurses working in Cyprus complained that wearing of hand gloves decreases dexterity when withdrawing blood for test (22). HWs must wear PPEs to be protected against not only BBFs, but deadly viruses like Ebola, SARS and even COVID-19. There are observations that it is difficult for HWs to comply with SSRs (22, 26). In developing countries, there are observations that time limitations, high workloads, wearing of different PPEs and the rigors of hand hygiene in between patients is burdensome because it interferes with their duties and places the patients at risk (9, 34, 59, and 64). Finding agrees with a study done at the UPTH, which opined that barrier to CSSRs are; excess workload, forgetfulness, lack of time to apply the SSR measures and unavailability of infection control manual (7, 61). Other scholars also acknowledged unavailability of consumables and other resources as a factor for non-compliance with SSRs (2, 10, 14, 15, 46, and 65). Barriers like clinical pressures, gloves reduce dexterity and absence of penalties for offenders were reported in Nigeria (1). As a public health policy, Health Facilities must optimize the use of hand hygiene and gloves to protect both the HW and the patient. This will further lead to reduction in the cost of treatment of cross infections. The hospital management can provide and encourage alcohol-based hand rubs because it improves HWs' hand hygiene practices (35). In order to encourage wearing of PPEs by HWs, the hospital environment must be improved especially for developing countries like ours. This may involve installation of cooling systems like air conditioners to make wearing of PPEs more comfortable for the staff. The hospital management should institute punishment for non-adherence and rewards for compliance with SSRs as a study reported that punitive action against defaulters was found to improve compliance (34).

Table 5: Barriers to Compliance with SSRs

S/ N	Items (n=347)	SA (%)	A (%)	D (%)	SD (%)	Mean	STD	Decision
6	Wearing PPEs causes panic to some patients	128(36.9)	123(35.4)	83(23.9)	13(3.7)	3.05	0.87	Agreed
7	Want to use PPEs but they are not usually available	67(19.3)	119(34.3)	88(25.4)	73(21)	2.52	1.03	Agreed
8	Using PPEs makes you uncomfortable	114(32.9)	118(34)	94(27.1)	21(6.1)	2.94	0.92	Agreed
9	Impossible to comply with SSR when too many patients are to be attended to	131(37.8)	112(32.3)	88(25.4)	16(4.6)	3.03	0.90	Agreed
10	PPEs are not kept at strategic points to enable its frequent usage	142(40.9)	93(26.8)	112(32.3)	0(0)	3.09	0.85	Agreed
11	You don't think you are at risk of getting infection from patients	65(18.7)	116(33.4)	91(26.2)	75(21.6)	2.49	1.03	Disagree d

12	You dispose sharps in a normal bin as sharp bins are usually unavailable	74(21.3)	118(34)	100(28.8)	55(15.9)	2.61	0.99	Agreed
13	PPEs are un kept as they're usually dirty	91(26.2)	107(30.8)	104(30)	45(13)	2.70	1.00	Agreed
14	You forget to comply with SSR	124(35.7)	107(30.8)	96(27.7)	20(5.8)	2.97	0.93	Agreed
15	You lack knowledge of SSR	107(30.8)	119(34.3)	98(28.2)	23(6.6)	2.89	0.92	Agreed
Grand total		1043(30.1)	1132(32.6)	954(27.5)	341(9.8)	2.83	0.97	Agreed

Barriers to Attitude towards SSR

HWs opined non-compliance with Standard Safety Rules (SSRs) because other staff are not complying (2.61 ± 1.00), complying with SSRs slows down their work (2.83 ± 0.95) and it doesn't matter because no HW has been punished for non-compliance (2.95 ± 0.88). Also, paying extra attention to SSR is an unnecessary burden to them (2.57 ± 0.99), complying with SSRs, interferes with their ability to provide proper care to the patients (2.56 ± 1.03). In general, the study buttresses that these items are significant (2.70 ± 0.98) factors associated with HWs' attitude towards SSRs, because the mean is above the criterion mean of 2.5 (see Table 6). Consequently, the barriers to HW's attitude towards SSRs are; that rule slows down work, staff are not punished for non-compliance, paying extra attention to SSRs guidelines is an unnecessary burden, interference with the provision of proper care to patients, too many patients to be attended to. The opinions of the HWs still come down to poor safety practices in the hospitals. If the hospital management starts being strict with compliance with SSRs, the attitude of the staff will definitely change for the better as they will probably notice how staff who defaulted are being punished. Adequate staffing is also very important here as it will help reduce work load on the staff and this will improve the care and attention they give to the patients. The usual rush to meet up attending to so many patients and files on their table will be greatly reduced and maybe most HWs will then pay more attention to observance of SSRs. Having poor attitude towards SSRs exposes HWs to occupational health hazards such as Blood Borne Infections (61).

Table 6: Barriers to HWs' attitude towards SSR

S/ N	Items (n=347)	SA (%)	A (%)	D (%)	SD (%)	Mean	STD	Decision
16	You don't comply with SPs because other staff are not complying	83(23.9)	94(27.1)	122(35.2)	48(13.8)	2.61	1.00	Agreed
17	Complying with SPs slows down your work	106(30.5)	100(28.8)	116(33.4)	25(7.2)	2.83	0.95	Agreed
18	It doesn't matter because no staff has been punished for non-compliance	118(34)	103(29.7)	118(34)	8(2.3)	2.95	0.88	Agreed
19	Paying extra attention to SPs guidelines is an unnecessary burden to you	75(21.6)	101(29.1)	118(34)	53(15.3)	2.57	0.99	Agreed
20	Complying with standard safety precautions interferes with your ability to provide proper care to the patients	78(22.5)	101(29.1)	105(30.3)	63(18.2)	2.56	1.03	Agreed
Grand Total		460(26.5)	499(28.8)	579(33.4)	197(11.4)	2.70	0.98	Agreed

SUMMARY AND CONCLUSIONS

The non-existence of good Safety Culture practice and absence of sufficient protocols regulating the healthcare facilities is a concern to healthcare workers, specialist and their specialized bodies. This study reveals that there is existence of standard safety rules (SSRs) and hospital management opined that they have provided protective measures meant to reduce risk of Occupational Health Hazards. Also, barriers associated with HWs' knowledge of SSRs, attitude towards SSRs and compliance with SSRs are lack of periodic training/retraining, lack of provision of flyers, leaflets & posters at strategic areas, no punishment for non-compliance, forgetfulness, lack of knowledge of SSRs, non-availability of PPEs etc., even with high probability of susceptibility to infection, or high sensitivity of the seriousness of the problem. The study therefore recommends that hospital boards and health professional should enact enforceable integrated safety practice systems and incorporate occupational safety and health administration (OSHA) standard and best practice guidelines in the health sector. Also, HWs should work on their attitudes towards SSR as they owe themselves the duty to conform to SSR because it will aid reduction in their exposure to infections and death.

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