

# Assessment of Healthcare Workers' Perception of Health Hazards and Management's Safety Practices

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## Abstract

Health workers are vital workforce in the society globally. In many countries, such as Sub-Sahara Africa, workers are at great risk of preventable, life-threatening work-related hazards. The impacts of these hazards are irrefutably crucial generally such as health workers' shortage, apathy, patient and health workers' vulnerability to infections, poor services, cost effect, death etc. Hence, this study assesses health worker's perception of health hazards as well as management safety practices 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 and inferential statistics were used for data analysis. Results revealed good health worker perception of health hazards but poor management's safety practices. However, management opined that there are protective measures and safety procedures meant to reduce risk of health hazards in the hospitals. Also, there is no significant ( $p>0.05$ ) association between health workers perception of health hazards and socio-demographic variables. Therefore, to limit frequent health hazards, there is great need for strong advocacy on health hazards, standard safety rules and good management safety practice in the hospitals. It is of importance for the government and hospital managements to develop quality safety management system, integrated standard safety regulation policies and procedures in conformity with global best practices.

**Keywords:** Safety, Hazards, Health, Practices, Management

## INTRODUCTION

Hospitals and other health care establishments all over the world (most especially in the developing nations) are susceptible to various health hazards [44]. There is anxiety over the negligence of safety culture (SC) in hospitals and other health facilities (HFs). Hence, health hazards (HHs) are principally a recurrent incidence in HFs. HWs are normally categorized as having high physical work load [15] and are essential service providers. In countless countries, inclusive of Sub-Sahara Africa, workers are at great risk for preventable, life-threatening work-related hazards. Reports specify that Sub-Sahara Africa accounts for the highest occurrence of HIV-infected patients and that ninety-percent (90%) of job-related exposure occur in these countries [14, 46]. The hospital is a place where patients receive care and recover as well as a source of infection for healthy individuals [13]. The health of personnel is all-important for efficiency and economic development. Consequently, reestablishing and sustaining decent working environment is a key purpose of the health services [46]. Annually, roughly thirty-five (35) million HWs globally are affected by several hazards and greater than 90% of these hazards occur in the developing countries [23, 47]. These hazards have led to psychological

stress and substantial health outcomes for HWs, their extended families and loved ones [34]. Some of the infectious diseases, especially blood-borne infections (BBIs) which occur in the health facilities, do not have available vaccines (e.g., HCV, HIV, malaria) and this spring up anxiety among HWs [18]. Other frequent work-related illnesses are skin problems, musculoskeletal disorders, noise-induced hearing losses and chronic respiratory diseases. Despite these illnesses, majority of countries' nurses and physicians are poorly educated to tackle occupational health issues and several countries likewise do not offer postgraduate learning in occupational health [46]. HWs also show a greater incidence of low back pain [7] than several other work-related groups [19, 22]. The yearly occurrence of low back pain among HWs is as high as 77% [19]. One hundred and sixty (160) million persons from the worldwide workforce were projected by International Labor Organization (ILO) to be suffering from occupational illnesses inclusive of musculoskeletal disorders (MSDs) and mental health issues [20]. Annually, three (3) million HWs encounter percutaneous exposure to blood-borne pathogens (BBPs) worldwide and two (2) million of these are continually being susceptible to HBV, HIV (170,000) and HCV (0.9 million). These work-related illnesses may result in 70,000 HBV, 15,000 HCV and 1,000 HIV cases globally. Ninety percent (90%) of these blood-borne infections (BBIs) occur in developing countries [18, 27, 41]. Despite improvements in research, job-related hazards remain a main public health problem [42]. The real extent of illness affecting HWs is poorly reported for most Sub-Saharan African (SSA) countries partially owing to absence of studies [21]. The health and standard of life of HWs is influenced by the overwhelming consequences of these health hazards [27]. The health of personnel is a critical precondition for domestic income, efficiency and commercial development [46].

According to Oluwagbemi [28], health facilities (HFs) in Nigeria have improved in experience, variety and magnitude in the past thirty years with challenges in protecting and nourishing best performs and equipment required for high-risk clinical procedures. In dispensing their constitutional obligations, HWs may be endangered to hazards which remarkably diminish their health and value of life, with multiple consequences on their direct and extended family members. Hence, HWs need protection from workplace hazards likewise employees in other high-risk workstations like mining or building works. This study therefore aim to assesses health worker's perception of health hazards as well as management safety practices in selected public hospitals in Rivers State, Nigeria

## **Theoretical Models**

### **Health Belief Model (HBM):**

HBM specifically explains health behavior and was originally developed due to failed tuberculosis health screening programs. Since the perceived susceptibility of individuals to infection and the perceived benefits of screening exercise, have relationship with their acceptance of chest X-ray. The model has five constructs, which are perceived susceptibility, severity, benefits, barriers and cues to action. The model explains that HWs will likely practice a healthy behavior if they perceive susceptibility to a negative outcome. Likewise, if they perceive that the barriers will protect them as well as benefits from practicing a positive behavior. Perceived barriers are proven to be the most powerful single predictor across all behaviors. HBM is applied mostly by the combination of variables in a linear or additive model to test i.e. the addition of susceptibility, severity and (benefits - barriers). However, some initial expression of the model suggested a multiplicative model (i.e. the multiplication of susceptibility, severity and (benefits - barriers)) [24].

**Bird and Germain's Loss Causation Model:**

Bird & Germain [48] developed an improved form of Henrich's domino sequence model as they noted that management plays a key role in preventing and controlling accidents. Also, that management is directly associated with causes and effects of accidents. They recognized the significance of management preventing and controlling accidents in highly complex settings due to improvements in technology. This model was represented by a line of five dominos in a linear sequence linked together and named the Loss Causation Model.

**METHODOLOGY****Study Design**

The study employed a descriptive cross-sectional design.

**Study Location**

The study was conducted in the two tertiary hospitals namely Rivers State University Teaching Hospital (RSUTH), University of Port Harcourt Teaching Hospital (UPTH), and the zonal hospitals (Okrika, Ahoada, Bori, Bonny, Isiokpo and Degema) in Rivers State, Southern Nigeria.

**Population of Study**

A total of 3876 HWs was used.

**Inclusion Criteria:**

All direct HWs that render health services on daily basis. These individuals must have worked for at least 6 months and above.

**Exclusion Criteria:**

These are HWs that are on brief internship, students, security personnel, administrative workers and females on maternity leave.

**Sample Size**

Sample size for this study was computed using Fischer's formula for determining size of a sample, given as [12, 17]:

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

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 [31]:

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

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 will be used for this study.

### Sampling Technique

The study employed a multi-staged sampling technique. The strata (hospitals) were chosen based on their levels (tertiary) and locations in the state. RSUTH & UPTH renders specialized services and are the only State and Federal tertiary hospitals respectively, while the six zonal hospitals were chosen because they are situated at the three senatorial zones of the state. Proportionate stratified sampling was then used to allocate the number of HWs that were sampled from each of the 8 hospital facilities. Then, simple random sampling technique was employed using the table of random numbers [39].

The sampling fraction is given as:

$$\begin{aligned} \text{Sampling Fraction} &= \text{Sample Size} / \text{Total Population} \\ &= 358 / 3876 = 0.0924 \end{aligned} \quad (3)$$

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

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

**Table 1: Distribution of population and samples for each hospital**

| Hospitals | Population | Sample |
|-----------|------------|--------|
| UPTH      | 2404       | 222    |
| RSUTH     | 1112       | 103    |
| Isiokpo   | 38         | 4      |
| Bonny     | 39         | 4      |
| Degema    | 44         | 4      |
| Okrika    | 78         | 7      |
| Ahoada    | 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 "Perception of Health Hazards". It was pre-tested in Obio-Cottage Hospital, a secondary healthcare facility with high turnover of patients in the State. It's also co-owned and supported by Shell Petroleum Development Company (SPDC). The instrument has three (3) sections namely sections A to C.

Section A contains socio-demographic data/occupational history, while Section B contains items on HWs perception of managements' safety practices and Section C contains HWs perception of HHs. Both sections are structured 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.

### Method of Data Analysis

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

### Ethical Approval

Approval was obtained from Rivers State Hospital Management Board (RSHMB), University of Port Harcourt Teaching Hospital. Informed consent was obtained from HWs before participation in the study.

## RESULTS AND DISCUSSION

### Socio-Demographic Analysis

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. 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  $37.3 \pm 8.4$  years (C.I: 36.4 and 38.2). Seventy-two (20.7%) HWs were doctors and 92 (26.5%) were nurses, while 28 (8.1%), 38 (11.0%), 53 (15.3%), 46 (13.3%) and 18 (5.2%) HWs were pharmacist, radiographer, cleaners/porters, clinical laboratory workers and mortuary attendants respectively. 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, 5 (1.4%) and 16 (4.6%) HWs had worked between 20 and 25 years and 26 years and above respectively (**see Table 3**).

### HWs' Perception of Health Hazards (HHs)

The study reveals that HWs are at high risk of getting blood-borne viruses (e.g. HIV, HBV) ( $2.71 \pm 1.04$ ), prevention of HHs is the joint responsibility of hospital managements and staffs ( $2.50 \pm 1.02$ ), periodic training of staffs on prevention of hazards and provision of personnel protective equipment is necessary to reduce the risk of exposure to HHs ( $2.80 \pm 1.03$ ). Also, vaccines such as HBV, mumps, rubella, meningitis & influenza should be received by all health workers ( $2.86 \pm 0.99$ ), adequate staffing in healthcare facilities will reduce health hazards ( $2.81 \pm 0.96$ ), exposure and infection control policies (Standard Operating Procedures) should be regularly reviewed & updated by the hospital management ( $2.74 \pm 1.02$ ), punitive actions should be taken against health workers that violate SSR and practices ( $2.66 \pm 1.07$ ), means of reporting of incidents, where & whom to report to, should be clearly communicated to all staff ( $2.80 \pm 1.04$ ), protective measures & procedures will help reduce the risk of infections ( $2.69 \pm 1.00$ ), availability of handbook/flyers can promote adherence to SSR by HWs

( $2.84 \pm 1.05$ ), giving incentive compensation to HWs who completely adhere to SSR can promote more compliance by HWs ( $2.75 \pm 1.07$ ), availability of free vaccines to all staff can lead to a reduction in exposure to vaccine preventable diseases ( $2.94 \pm 1.02$ ). In general, HWs perception of HHs are significant ( $2.76 \pm 1.03$ ), because the mean is above the criterion mean of 2.5. Thus, result reveals that 0.2% of HWs had poor perception; while 20.5%, 49.3% and 30.0% had fair, good and very good perception of HHs respectively (see Table 4.5 & Figure 4.1). The Chi-square result revealed that HWs' gender, marital status, job experience (years), job category and age (years) are not significantly associated with HWs' perception of HHs.

Finding agrees with Adebimpe [2], who stated that 56.2% of HWs had a good perception of HHs and safety. Also, Ogoina et al., [26] observed over 90% of HWs had median perception scores toward HHs and safety. Hassan et al., [16] opined that 92.7% of HWs perceived that by virtue of their profession, they are more susceptible to HBV infection than the general population. Akinboro et al., [3] reported that HWs had a high perception of risk regarding incidence of HIV and AIDS yet observed poor compliance to SSRs. Parmeggiani et al., [29] observed that nurses had higher perception of risk than physicians. Cappelen et al., [11] reported that positive responses on perception of SC were high, with six of ten dimensions having an average percentage above 70%. Aluko et al., [4] opined that 96.2 % of HWs believed they were susceptible to HHs while about two-thirds perceived that their risk is high. This was also in line with Abdul et al., [1], who also opined that there was high risk perception among healthcare workers in Egypt. Finding was in conflict with Sarani et al. [37] in Iran who observed low level awareness and moderate perception. This discrepancy could have resulted because only among nurses in 2 wards and 1 unit in two hospitals were used. Oguntona & Adedeji [27] observed that HWs' perception of SSRs in Nigeria is below tolerable limits, though only funeral home workers in Lagos were used in their study. This could have led to the different results obtained in both studies.

**Table 2: HWs' Perception of Health Hazards**

| S/N | Items                                                                                                                                                   | SA             | A              | D             | SD            | Total         | Mean | STD  | Decision |
|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------------|---------------|---------------|---------------|------|------|----------|
| 1   | Doctors, nurses & some HWs are at high risk of contracting blood-borne viruses (e.g. HIV,HBV)                                                           | 93<br>(26.8)   | 119<br>(34.3)  | 78<br>(22.5)  | 57<br>(16.4)  | 347<br>(100)  | 2.71 | 1.04 | Agreed   |
| 2   | Prevention HHs is the joint responsibility of hospital managements and staffs                                                                           | 64<br>(18.4)   | 113<br>(32.6)  | 99<br>(28.5)  | 71<br>(20.5)  | 347<br>(100)  | 2.50 | 1.02 | Agreed   |
| 3   | Periodic training of staffs on prevention of hazards and provision of personnel protective equipment is necessary to reduce the risk of exposure to HHs | 106<br>(30.5)  | 117<br>(33.7)  | 73<br>(21)    | 51<br>(14.7)  | 347<br>(100)  | 2.80 | 1.03 | Agreed   |
| 4   | HBV, mumps, rubella, meningitis & influenza vaccine should be received by all HWs                                                                       | 104<br>(30)    | 137<br>(39.5)  | 61<br>(17.6)  | 45<br>(13)    | 347<br>(100)  | 2.86 | 0.99 | Agreed   |
| 5   | Adequate staffing in healthcare facilities will reduce HHs                                                                                              | 96<br>(27.7)   | 126<br>(36.3)  | 89<br>(25.6)  | 36<br>(10.4)  | 347<br>(100)  | 2.81 | 0.96 | Agreed   |
| 6   | Exposure and infection control policies (Standard Operating Procedures) should be regularly reviewed & updated by the hospital management               | 101<br>(29.1)  | 102<br>(29.4)  | 98<br>(28.2)  | 46<br>(13.3)  | 347<br>(100)  | 2.74 | 1.02 | Agreed   |
| 7   | Punitive actions should be taken against health workers that violate SSR and practices                                                                  | 94<br>(27.1)   | 107<br>(30.8)  | 80<br>(23.1)  | 66<br>(19)    | 347<br>(100)  | 2.66 | 1.07 | Agreed   |
| 8   | Means of reporting of incidents, where & whom to report to, should be clearly communicated to all staff                                                 | 110<br>(31.7)  | 106<br>(30.5)  | 83<br>(23.9)  | 48<br>(13.8)  | 347<br>(100)  | 2.80 | 1.04 | Agreed   |
| 9   | Protective measures & procedures will help reduce the risk of exposure to infections                                                                    | 85<br>(24.5)   | 120<br>(34.6)  | 90<br>(25.9)  | 52<br>(15)    | 347<br>(100)  | 2.69 | 1.00 | Agreed   |
| 10  | Availability of handbook/flyers can promote adherence to SSR by HWs                                                                                     | 112<br>(32.3)  | 124<br>(35.7)  | 55<br>(15.9)  | 56<br>(16.1)  | 347<br>(100)  | 2.84 | 1.05 | Agreed   |
| 11  | Giving incentive compensation to HWs who completely adhere to SSR can promote more compliance by HWs                                                    | 105<br>(30.3)  | 111<br>(32)    | 69<br>(19.9)  | 62<br>(17.9)  | 347<br>(100)  | 2.75 | 1.07 | Agreed   |
| 12  | Availability of free vaccines to all staff can lead to a reduction in exposure to vaccine preventable diseases.                                         | 123<br>(35.4)  | 124<br>(35.7)  | 55<br>(15.9)  | 45<br>(13)    | 347<br>(100)  | 2.94 | 1.02 | Agreed   |
|     | Grand Total                                                                                                                                             | 1193<br>(28.7) | 1406<br>(33.8) | 930<br>(22.3) | 635<br>(15.2) | 4164<br>(100) | 2.76 | 1.03 | Agreed   |

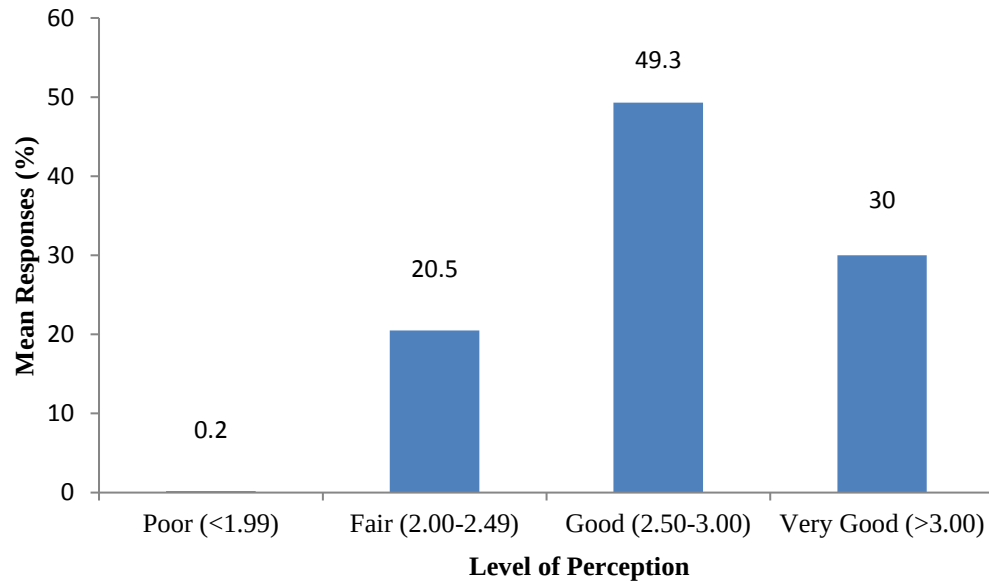


**Figure 1: Level of HWs' Perception of HHs**

**Table 3: Association between Socio-Demographic Variables and HW's perception of HHs**

| Sex                           | Very Good (%) | Good (%)  | Fair (%) | Poor (%) | Total (%) | Chi-Square (p-value) | Decision |
|-------------------------------|---------------|-----------|----------|----------|-----------|----------------------|----------|
| Female                        | 56(31.5)      | 84(47.2)  | 37(20.8) | 1(0.6)   | 178(100)  | 1.562                | No Sign. |
| Male                          | 48(28.4)      | 87(51.5)  | 34(20.1) | 0(0)     | 169(100)  | 0.668                |          |
| <b>Total</b>                  | 104(30)       | 171(49.3) | 71(20.5) | 1(0.3)   | 347(100)  |                      |          |
| <b>Marital Status</b>         |               |           |          |          |           |                      |          |
| Single                        | 41(29.3)      | 69(49.3)  | 30(21.4) | 0(0)     | 140(100)  | 9.913                | No Sign. |
| Married                       | 58(29.6)      | 98(50)    | 39(19.9) | 1(0.5)   | 196(100)  | 0.624                |          |
| Divorced                      | 3(100)        | 0(0)      | 0(0)     | 0(0)     | 3(100)    |                      |          |
| Co-habiting                   | 1(20)         | 2(40)     | 2(40)    | 0(0)     | 5(100)    |                      |          |
| Widow/Widower                 | 1(33.3)       | 2(66.7)   | 0(0)     | 0(0)     | 3(100)    |                      |          |
| <b>Total</b>                  | 104(30)       | 171(49.3) | 71(20.5) | 1(0.3)   | 347(100)  |                      |          |
| <b>Job Experience (Years)</b> |               |           |          |          |           |                      |          |
| ≤5                            | 25(25)        | 59(59)    | 16(16)   | 0(0)     | 100(100)  | 12.593               | No Sign. |
| 6-10                          | 49(33.6)      | 66(45.2)  | 30(20.5) | 1(0.7)   | 146(100)  | 0.634                |          |
| 11-15                         | 19(28.4)      | 32(47.8)  | 16(23.9) | 0(0)     | 67(100)   |                      |          |
| 16-20                         | 6(46.2)       | 4(30.8)   | 3(23.1)  | 0(0)     | 13(100)   |                      |          |
| 20-25                         | 0(0)          | 4(80)     | 1(20)    | 0(0)     | 5(100)    |                      |          |
| ≥26                           | 5(31.2)       | 6(37.5)   | 5(31.2)  | 0(0)     | 16(100)   |                      |          |
| <b>Total</b>                  | 104(30)       | 171(49.3) | 71(20.5) | 1(0.3)   | 347(100)  |                      |          |
| <b>Job Categories</b>         |               |           |          |          |           |                      |          |
| Doctor                        | 24(33.3)      | 34(47.2)  | 14(19.4) | 0(0)     | 72(100)   | 23.627               | No Sign. |

|                       |          |           |          |        |          |       |          |
|-----------------------|----------|-----------|----------|--------|----------|-------|----------|
| Nurse                 | 26(28.3) | 45(48.9)  | 21(22.8) | 0(0)   | 92(100)  | 0.168 |          |
| Pharmacist            | 12(42.9) | 15(53.6)  | 1(3.6)   | 0(0)   | 28(100)  |       |          |
| Radiographer          | 10(26.3) | 19(50)    | 9(23.7)  | 0(0)   | 38(100)  |       |          |
| Cleaners/Porters      | 17(32.1) | 19(35.8)  | 17(32.1) | 0(0)   | 53(100)  |       |          |
| Clinical Lab. Workers | 11(23.9) | 29(63)    | 5(10.9)  | 1(2.2) | 46(100)  |       |          |
| Mortuary Attendant    | 4(22.2)  | 10(55.6)  | 4(22.2)  | 0(0)   | 18(100)  |       |          |
| <b>Total</b>          | 104(30)  | 171(49.3) | 71(20.5) | 1(0.3) | 347(100) |       |          |
| <b>Age (Years)</b>    |          |           |          |        |          |       |          |
| ≤25                   | 7(36.8)  | 8(42.1)   | 4(21.1)  | 0(0)   | 19(100)  | 8.033 | No Sign. |
| 26-35                 | 45(29.8) | 80(53)    | 26(17.2) | 0(0)   | 151(100) | 0.531 |          |
| 36-45                 | 29(25.4) | 59(51.8)  | 25(21.9) | 1(0.9) | 114(100) |       |          |
| ≥46                   | 23(36.5) | 24(38.1)  | 16(25.4) | 0(0)   | 63(100)  |       |          |
| <b>Total</b>          | 104(30)  | 171(49.3) | 71(20.5) | 1(0.3) | 347(100) |       |          |

### HWs' Perception of Management's Safety Practices

Weighted mean reveals that HWs opined that the chief medical directors (CMDs) views HWs as prime importance ( $2.80 \pm 1.03$ ), and team work is highly practiced ( $2.88 \pm 1.11$ ). However, HWs disagreed that there is a laid out emergency evacuation procedure plan that is visible & well communicated in this hospital ( $2.15 \pm 0.93$ ), hospital provides and makes it compulsory that all HWs take necessary vaccination especially HBV vaccine ( $2.04 \pm 0.99$ ), the head of hospital encourages HWs to report incidents/accidents as it has to do with hazard exposure ( $2.37 \pm 1.00$ ). Also, HWs disagreed that the process of reporting, where & whom to report to, is clearly communicated ( $1.97 \pm 0.94$ ), hospital have organized training sections on SSR & prevention of hospital hazards at least once in the past 2 years ( $2.31 \pm 1.05$ ). In general, HW's perception of management safety practices are not significant ( $2.36 \pm 1.06$ ), because the mean is below the criterion mean of 2.5. Thus, result reveals that 14.7% of HWs opined very poor management safety practices; while 48.1%, 30.8% and 6.3% opined poor, good and very good management safety practices respectively (see Figure 2). Finding agrees with Sarani et al., [37] who opined low safety culture practice among Iranian nurses. This was as a result of HWs shortage and lack of punitive actions on defaulters which led to poor level of care. HWs shortage may be due to lack of funding [5, 8, 9, 24, 30, 35, 36 and 38]. Pruss-Ustun et al., [33] observed high rates of NSIs and low compliance with infection-control procedures among HWs contributes to BBP infection susceptibility. The fraction of infections, ascribed to occupational susceptibility to percutaneous injuries reaches 39% to 54%. It is projected that more than 600,000 NSIs occur annually in developing countries as a result of poor management safety practice and virtually half of these events are unreported [32]. The incidence of NSIs in Taiwan due to management non-safety practice is 1.3 per person per year and this is meaningfully higher than in other Asian countries [40].

**Table 4: HWs Perception of Management's Safety Practices**

| S/N | Items                                                                                                               | SA (%)        | A (%)         | D (%)         | SD (%)        | Total (%)     | Mean | STD  | Decision  |
|-----|---------------------------------------------------------------------------------------------------------------------|---------------|---------------|---------------|---------------|---------------|------|------|-----------|
| 1   | There is a laid out emergency evacuation procedure plan that is visible & well communicated in this hospital        | 28<br>(8.1)   | 95<br>(27.4)  | 125<br>(36)   | 99<br>(28.5)  | 347<br>(100)  | 2.15 | 0.93 | Disagreed |
| 2   | The CMD hospital views HWs as prime importance                                                                      | 120<br>(34.6) | 73<br>(21)    | 119<br>(34.3) | 35<br>(10.1)  | 347<br>(100)  | 2.80 | 1.03 | Agreed    |
| 3   | This hospital provides and makes it compulsory that all HWs take necessary vaccination especially HBV vaccine       | 33<br>(9.5)   | 78<br>(22.5)  | 106<br>(30.5) | 130<br>(37.5) | 347<br>(100)  | 2.04 | 0.99 | Disagreed |
| 4   | Team work is highly practiced in the hospital                                                                       | 135<br>(38.9) | 97<br>(28)    | 54<br>(15.6)  | 61<br>(17.6)  | 347<br>(100)  | 2.88 | 1.11 | Agreed    |
| 5   | The head of this hospital encourages staffs to report incidents/accidents as it has to do with hazard exposure      | 56<br>(16.1)  | 92<br>(26.5)  | 122<br>(35.2) | 77<br>(22.2)  | 347<br>(100)  | 2.37 | 1.00 | Disagreed |
| 6   | The process of reporting, where & whom to report to, is clearly communicated in this hospital                       | 26<br>(7.5)   | 68<br>(19.6)  | 122<br>(35.2) | 131<br>(37.8) | 347<br>(100)  | 1.97 | 0.94 | Disagreed |
| 7   | Hospital have organized training sections on SSR & prevention of hospital hazards at least once in the past 2 years | 57<br>(16.4)  | 89<br>(25.6)  | 104<br>(30)   | 97<br>(28)    | 347<br>(100)  | 2.31 | 1.05 | Disagreed |
|     | <b>Grand Total</b>                                                                                                  | 455<br>(18.7) | 592<br>(24.4) | 752<br>(31)   | 630<br>(25.9) | 2429<br>(100) | 2.36 | 1.06 | Disagreed |

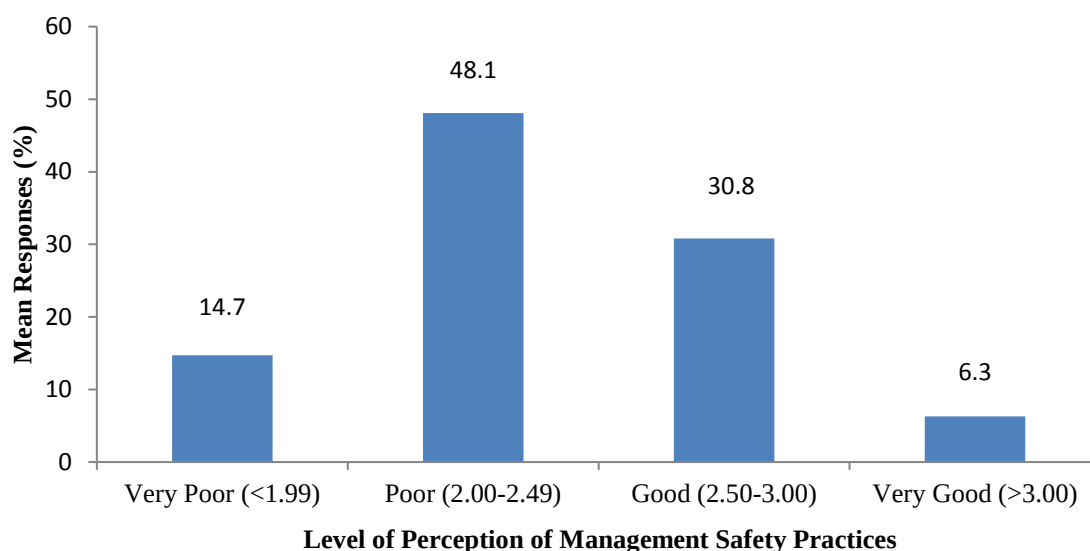


**Figure 2: Level of Perception of Management Safety Practices**

### SUMMARY AND CONCLUSION

The non-existence of robust and noticeable management safety practice absence of sufficient protocols modulating the health facilities is a concern to health specialists and specialized bodies. This study revealed that HWs' perception of senior managements' safety practices is not significant as only 30.8% and 6.3% opined good and very good management safety practices respectively. Although senior management opined that there are protective measures meant to reduce risk of OHHs. Furthermore, this study revealed that the Health Belief Model (HBM) is not obtainable or practiced in public hospitals in Rivers State. Even with high probability of susceptibility to infection, or high sensitivity of the seriousness of the problem, senior managements still did not comply with Standard Safety Rules, despite good HW's perception of HHs. On this premise, it is fundamental to state that improving senior managements' safety practices will enhance HWs' perception of health hazards, thus reducing the prevalence of OHHs in the health sector. The reduction in OHHs will eventually enhance HWs' confidence and job contentment, reduce HWs' job apathy and improve the socio-economic life of HWs. It will also decrease morbidity and mortality likened with hospital infections, resulting in a sustainable development, evolution in the health sector and a strong society at large. We therefore recommend that the government should always review enacted laws and policies on Standard Safety Rules in the health sector as well as increase funding that gear towards improving hospital senior managements' safety practices.

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