

Use Of Post Exposure Prophylaxis Among Exposed Health Workers In A Nigerian Hospital

¹Okpua Nelson C.

Department of Nursing Science, Ebonyi state university Abakaliki

²Okoye, Geraldine Uju

University Of Nigeria Teaching Hospital, Ituku-Ozalla, Enugu

³Anyanwu Emmanuela C.

School of Nursing, Alex Ekwueme Teaching Hospital, Abakaliki

Abstract—The increasing incidence of HIV infection, especially among health workers in clinical practice is fast becoming a serious source of worry. Hospital health workers are exposed to different health hazards daily, including HIV infection. Fortunately, post exposure prophylaxis (PEP) has been reported effective in preventing HIV infection, especially among people who are exposed to HIV infected body fluids. However, the utilization of this preventive package has consistently been low among health workers. This study aims to explore the use of HIV post exposure prophylaxis among exposed health workers at a Nigerian hospital. Method: self-structured and validated questionnaire were distributed to 329 participants. All of whom reported to had been exposed in one way or the other to HIV infected body fluids or persons. Completed questionnaire were retrieved for analysis using frequency tables, charts and percentages. Result: Majority, 65.7% of respondents knew about HIV post exposure prophylaxis. However, only 18% had actually applied PEP after the incidence of their exposure. In addition, specialty of health practice and level of education was associated with the use of HIV post exposure prophylaxis. The factors responsible for under-utilization of PEP among exposed health workers ranged from fear of being stigmatized (42%), perceived side effect of PEP regimen (34%), long duration of regimen (17%) and others (7%). Conclusion: the use of HIV post exposure prophylaxis among health workers is poor. Much awareness and encouragement is required to prevent the increasing incidence of HIV infection among exposed health workers in hospitals

Operational Definition of terms

Healthcare Workers: refer to nurses, physicians, medical laboratory scientists, and cleaners.

Post Exposure Prophylaxis (PEP): This refers to anti-retroviral drugs taken by persons exposed to potential HIV infected fluid in order to avoid being infected by the virus.

Background to the Study

Human immune deficiency virus (HIV) infection and Acquired Immune Deficiency Syndrome (AIDS)

are established public health problems, particularly in Sub-Saharan Africa where everyone is at risk, including health workers (1). In view of the increasing economic challenges posed to public health by HIV, the United Nations declared it one of the biggest global concerns and adopted its prevention as one of its Millennium Development Goals (7). According to the United Nations Agency for International Developments (12), every day, over 6,800 persons become infected with HIV and over 5700 persons die from its related complications. It was estimated that 38.2 million persons were living with HIV worldwide in 2010 with over 2.1 million deaths (5).

Nigeria with a population of over 180 million has an estimated HIV sero-prevalence of 6 million, thus, ranks the third country with largest number of people living with HIV/AIDS (2). Poor access to HIV prevention and treatment services had been documented as the major factor for the increasing incidence and mortality.

Data specific to hospital based prevalence of HIV are limited and vary by regions in Nigeria. According to reports (2), Prevalence of HIV is higher in hospitalized patients than in general population. In the absence of cure in sight, the United Nations had recommended the immediate commencement of anti-retroviral drugs within 2-72 hours after exposure to potential HIV infected blood or body fluid for 28days, to prevent sero-conversion.

Health workers at higher risks of getting infected by various contagious diseases, including HIV virus. This risk increases with as the number of infected patients get higher in the healthcare facility, and the degree of precautionary measure the healthcare workers observe while dealing with these patients. Occupational exposure to blood and other body fluids can result from percutaneous injuries; needle sticks or other medical sharps, mucocutaneous injury, blood splash or other body fluids into the eyes, nose or mouth, contact with open skin and unprotected sexual acts regardless of consent.

Despite these risks, records show poor compliance to PEP guidelines, especially among exposed health workers who should be more informed about the package. The under-utilization or neglect of PEP among exposed health workers is becoming worrisome, as unsuspecting sero-negative patients

would be exposed to the risk of contracting HIV virus from care worker if measures are not taken to lower infection rate among these health workers. The Federal Ministry of Health (FMOH) advocates that within the healthcare sector, post exposure prophylaxis should be provided as part of the comprehensive universal precaution packages that reduces staff exposure to hazards at work (13). However, the utilization of PEP among exposed health workers vary among regions and institutions. It is therefore important to explore the use of HIV post exposure prophylaxis among exposed health workers at the University of Nigeria Teaching Hospital, Ituku Ozalla, Enugu.

METHOD

A cross-sectional descriptive research design was employed and a sample size of three hundred and ten (310) participants was adopted from a target population of one thousand five hundred and ninety-nine (1,599) health workers using Taro Yamane theory. Multi-stage sampling was respectively employed in the following order; purposeful sampling, stratified sampling, quota sampling and simple random sampling techniques, table 1.

Table 1: Quota sample estimation

Health workers	Population	Quota Est.	Sample Size
Physicians	432	432/1599x310	84
Nurses	804	804/1599x310	156
Med. Lab. Scientists	245	245/1599x310	47
Cleaners	118	118/1599x310	23
Total	599		310

Convenient sampling technique was further used to distribute questionnaire among health workers until quota saturation for each group of health workers was reached. Non-consenting potential participants and those who reported not to have had any form of exposure to HIV virus were excluded from the study. Generated data was analyzed using descriptive statistics.

Results:

The study shows that out of 310 participants, 156 (50.3%) were nurses compared to 84 (27.1%) doctors, 44 (15.2%) medical laboratory scientists and 23 (7.4%) cleaners. In addition, 213 (68.7%) were females and higher number 207 (66.8%) were married. Many 82(26.5%) of the participants were specialists in their fields of practice, while only few 28(9%) of them had qualifications less than diploma. Majority of the participants 210(67.7%) have had 5years experiences or more in their respective fields of health practice, table 2.

Table 2: Socio-demographic characteristics of respondents (n = 310)

Age	Frequency	Percentages
20 – 30 years	56	18.1%
31 – 40 years	98	31.6%
41 – 50 years	64	20.6%
Above 50 years	92	29.7%
Gender		
Male	97	31.3%
Female	213	68.7%
Marital status		
Married	207	66.8%
Single	86	27.7%
Widowed	17	5.5%
Educational attainment		
FSLC	10	3.2%
WASC/SSCE/GCE Certificate	18	5.8%
Diploma	50	16.1%
First degree	74	23.9%
Master's Degree	76	24.5%
Specialist	82	26.5%
Occupation		
Physician	84	27.1%
Nurses	156	50.3%
Medical Laboratory scientists	47	15.2%
Cleaners	23	7.4%
Working experience		
Less than 1 year	11	3.5%
1 to 5 years	89	28.7%
Above 5 years	210	67.7%

Furthermore, compared to all other sources of exposure to HIV virus, needle prick injuries consisted the highest source 118(38.1%). Most worrisomely, out of 310 health worker that indicated to have been exposed in one form or the other to HIV infected body fluids, only 79 (25.5%) reported to have had PEP regimen after their exposure incidences. However, their acceptance and use of PEP seem to depend on the nature of their exposure sources. Individuals who had needle stick injury and unprotected coitus, rape or torn condom reported higher rate of utilization of PEP 29(36.7%) and 31(39.2%) respectively after their exposure compared to those who had blood splashes 11(13.9%), table 3.

Table 3: Health workers and exposure to HIV infected fluids (n = 310)

Source of Exposure	Exposed health workers (n = 310)	PEP Use
Splash of blood/ body fluids	72 (23.2%)	11 (13.9%)
Needle-stick injuries	118 (38.1%)	29 (36.7%)
Handling of body fluids/ tissues without gloves	34 (11.0%)	8 (10.2%)
Unprotected sexual intercourse, rape or torn condom	86 (27.4%)	31 (39.2%)
	310	79

Furthermore, enquiry into the factors that influence the uptake of post exposure prophylaxis show that the major factor is the fear of the PEP drugs' side effect 117(37.7%). Other factors includes; believe that exposure is not enough to get one infected 96 (31%), fear of being stigmatized by colleagues 57 (18.4%), protocols required to access PEP care 47 (15.2%), difficulty in getting PEP drugs 18 (5.8%), and the cost of the care 13 (4.2%), table 4.

Table 4: Factors that influences the uptake of pep treatment by exposed health workers

Factors	Frequency	Percentage (%)
Fear of stigmatization	57	18.4
Fear of drugs side effect	117	37.7
Believe that you won't get infected	96	31.0
Inaccessibility of PEP drugs	18	5.8
Protocols required to get PEP drugs	47	15.2
Cost of PEP drugs	13	4.2
	310	

Discussion

This study revealed that needle prick injuries form the commonest source of exposure 118 (38.1%) to HIV infected fluids, table 3. Needle prick injuries occur in many ways, especially in the clinical setting where the use of needles for injection and taking of blood sample from patients with varying diseases by health workers is common. According to the available records, more than two-third of cases of HIV infection among health workers occur as a result of needle prick injuries (4). However, this is common in developing regions where issues of workplace safety is still under-utilized (7). Although, accidents can occur without pre-alarm, strict adherence to universal precautionary measures and standard disposal of unsafe or used needle form a great prevention practice. In practice, needle prick injuries commonly occur as a result of improper handling, disposal or uncooperative patients receiving doses of injections.

Nevertheless, unprotected sexual intercourse another important factor identified in this study as a serious source of exposure of health workers to HIV virus. Sexual intercourse is a vital aspect of human reproductive relationship. However, people have

sexual intercourse for varying reasons. Health workers, particularly the females, had been reportedly sexually harassed and abused by both their patients and others (10). This abuses often occur at workplaces, especially from psychiatric patients, and in many occasions, at home by armed robbers and rapists. According to reports, although every region is culpable of this ugly act, the incidence tend to be higher in developing countries (6).

Worrisomely, despite the high rate of exposure to potentially HIV infectious body fluids, individuals who are exposed hardly take post exposure prophylaxis treatments. Although this attitude is strange, however, it has been documented that the spiritualism of some individual often make them hold by faith that they cannot be infected by certain diseases. Although this belief has no scientific backing, many people had fallen victims of avoidable or preventable infections (11). Also, fear of being stigmatized by others is another important factor identified as reason for low uptake of PEP among exposed health worker. Stigmatization has been a challenge with people accessing or intending to access HIV care services. It has been documented that millions of people living with HIV virus do not want to identify with health care facilities for the fear that they might be stigmatized (2). This had led to increasing late diagnoses of the disease, and rise in HIV-related mortalities.

Finally, growing evidence show that every drug, just like PEP are associated with certain degrees of side effects. Although adverse effects are not limited to anti-retroviral therapies (ART), however, many users seem much concerned with certain adverse effect common with ART (10). This therefore supports the result of this study that higher number of the exposed specifically neglect PEP treatment due to perceived adverse effect associated with anti-retroviral therapies.

Conclusion

There is remarkably low post exposure prophylaxis use among health workers who are exposed to potentially HIV infected fluid. The reasons for neglecting PEP after exposures ranges from beliefs, fear of stigmatization and the perceived adverse effect of anti-retroviral drugs used for PEP.

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