

# Universal Precautions: Awareness and Practice of Patent Medicines Vendors in Enugu Metropolis, South East Nigeria

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## SUMMARY

**Aim:** To determine patent medicine vendor's awareness and practice of universal precautions.

**Methodology:** This study was a descriptive cross-sectional study carried out in Enugu metropolis, Enugu State, Nigeria in November, 2008. Three hundred and thirty seven patent medicine vendors were studied using semi-structured interviewer administered questionnaires. Information on awareness and practice of universal precautions were obtained.

**Results:** Two hundred and four (60.5%) of the patent medicine vendors had secondary education. Two hundred and sixty three (78%) were not aware of the concept of universal precautions. Of the 74 who had heard of the concept, the mass media was the source of information for 38 (51.4%) of them. Most (67.7%) of patent medicine vendors treat open wounds and administer injections. The proportion who take some precaution or the other (50.7%), is similar to those who do not (49.3%). One hundred and forty four (42.7%) of them, dispose of used sharps inappropriately. Two hundred and twenty three (66.2%) of them are aware of the need for appropriate action after a needle prick; i.e., through accessing HIV screening services or consulting a doctor.

**Conclusion and recommendation:** The patent medicine vendor's awareness and practice of universal precautions is poor. Regular training on universal precautions is recommended.

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**Keywords:** Patent medicine vendors, universal precautions, sharps, needle prick.

## INTRODUCTION

Patent medicines refer to proprietary drugs that are considered safe to sell to the general public in prepackaged form and include common drugs like pain-relieving tablets and oral rehydration solution sachets.<sup>1-3</sup> The patent medicines vendor (PMV) is a person without formal pharmacy (and/or health care) training, selling orthodox pharmaceutical products on a retail basis for profit.<sup>4,5</sup> The predominant method of joining this group is by apprenticeship under an existing license holder,

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the apprentices coming from a variety of backgrounds.<sup>6-8</sup>

Pharmacy law in Nigeria simply requires that the holder of a patent medicines vendor license be at least 21 years of age and submit the names of two referees. It also requires that the PMV should sell only prepackaged patent medicines.<sup>1</sup> Several studies in Nigeria have placed their minimum educational attainment at primary school level.<sup>6,9-11</sup> Though not formal health care providers, they have been observed as a very common source of drugs and treatment for minor ailments in developing nations.<sup>4,5</sup> This may be because their stores are ubiquitous, existing in every nook and cranny in Nigeria.<sup>16</sup> They are also responsive to the needs of their customers, giving attention to the complaints on illness; asking questions, giving ideas and educating on medication use.<sup>17</sup> Other studies have however also shown that despite being generally literate, they do not have adequate knowledge of the drugs they stock and the illnesses that their customers come to them with.<sup>11-14</sup> In giving information and care to customers, they vary widely in the amount, accuracy and quality of information that they give out.<sup>18-22</sup>

The PMVs thus have two observed roles: that of a commercial outlet to the majority of customers having a perception of their own health care needs (or who are armed with a prescription). Secondly that of a health care provider to customers who expect advice and guidance from them: a role the PMV is not licensed to carry out.<sup>17</sup> Their second role, though a risk to customers, could also expose these PMVs to blood and body fluids which they may not take adequate precautions to avoid. For despite their ready availability, these PMVs have been found incompetent to administer other aspects of health care. A study in Ilorin Nigeria, reported inadequate perceptions of diarrhoea and its management among them and an existing risk to clients who are usually not immediately referred to hospital.<sup>10</sup>

Universal precautions refer to the practice, in medicine, of avoiding contact with patients' body fluids.<sup>23</sup> It involves a set of precautions designed to prevent transmission of blood borne pathogens like human immunodeficiency virus (HIV), hepatitis B virus (HBV) and others, when providing first aid or health care.<sup>24</sup> Essentially, they are good hygiene habits, where all patients are considered to be possible carriers of blood-borne pathogens. The recommendations of universal precautions include; wearing gloves, gowns and aprons when collecting or handling blood and body fluids contaminated with blood; wearing face shields when there is danger of blood splashing

on mucous membranes. Others include disposing of all needles and sharp objects in puncture-resistant containers. These recommendations are for doctors, nurses, patients, and health care support workers who are required to come into contact with patients or body fluids.<sup>24</sup> Lastly, it is also recommended that all health care workers take precautions to prevent injuries caused by needles, scalpels and other sharp instruments or devices.<sup>25</sup> The PMVs by their second perceived role are exposed to blood and body fluids from customers to whom they serve as the first port of call for health needs.

Compliance with universal precautions among health workers was found to be inversely related to years of experience in the USA.<sup>27</sup> Health workers and medical students in hospitals were found not to have good perceptions of universal precautions.<sup>26</sup> Knowledge about mode of transmission of blood borne pathogens was very low in mixed populations of health workers and caregivers in Pakistan.<sup>28</sup> Among health administrators and service providers in China, selective adherence and nonadherence to universal precautions was reported in their daily medical practice.<sup>29</sup> Similar findings were reported in Ghana with a recommendation to the health service and its institutions to develop and implement specific policies on the practice of universal precautions.<sup>30</sup> In the best of settings, managers need to disseminate policy guidelines and information to all staff on an ongoing basis to improve adherence to these precautions.<sup>31</sup>

Due to their perceived role as health care providers in developing countries, this study seeks to determine, patent medicine vendors awareness and practice of universal precautions, as their exposure to blood and body fluids is possible.

**MATERIALS AND METHOD**

The study was carried out in Enugu Metropolis of Enugu State, Nigeria. The metropolis is constituted of three LGAs in Enugu State (Enugu North, Enugu South and Enugu East) and is inhabited mostly by Ibo speaking people. According to the 2006 National Population Census, the three LGAs have a combined population of 348,902 males and 468,223 females (total of 722,664). The vegetation is tropical rain forest and there are two main seasons: rainy season which runs from April to October and dry season from November to March. There are two tertiary health facilities (Enugu State Teaching Hospital, Park lane and the old site of the university of Nigeria teaching hospital ) with several government owned primary, secondary and also privately owned health care facilities. Many pharmacy stores and patent medicine shops exist in the study area. However only 337 of the patent medicine vendors are registered with their union and these are the ones included in this study.

The study was a descriptive cross-sectional study carried out in November, 2008. Ethical approval was obtained from the Ethics Committee of University of Nigeria Teaching Hospital, Enugu. All the 337 registered patent medicine vendors in the LGAs were studied after obtaining verbal consent from them. The researchers collected data by semi-structured interviewer administered questionnaire. Data was collected, entered and analyzed using Statistical Package for Social Sciences (SPSS)

software version 11 and Microsoft Excel 2003.

**RESULTS**

One hundred and ninety seven (58.5%) of the respondents were males, while one hundred and forty (41.5%) were females. Four (1.2%) of them did not have formal education while ninety seven (28.8%) had post-secondary education. Two hundred and six (61.1%) of the respondents were shop owners, while one hundred and thirty one (38.9%) of them were apprentices. (Table 1).

Only seventy four (22%) of the respondents are aware of the concept of universal precautions. Of the seventy four who had heard of universal precaution, the mass media was the commonest source of this information for thirty eight (51.4%) of them, (Table 2). Two hundred and twenty eight (67.7%) of the PMVs treat open wounds and administer injections. One hundred and nine (32.3%) of them declined these practices in their shops, (Fig. 1).

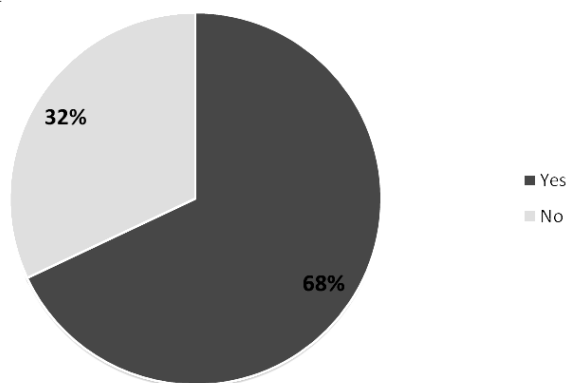
Three (0.9%) of the PMVs combine precautionary measures of wearing gloves to attend to injury, disposing of sharps and referring customers to avoid contact with blood and body fluids. One hundred and seventy one (50.7%) of them take either one of these actions to avoid contact. One hundred and sixty six (49.3%) of them take no precautions, some claiming to be just careful around blood and body fluids, (Table 3).

**Table 1: Sociodemographic characteristics (age range is between 18 –65yrs)**

Feature	Number(%) N = 337
Sex	
Male	197 (58.5)
Female	140 (41.5)
Education	
None	4 (1.2)
Primary	32 (9.5)
Secondary	204 (60.5)
Post Secondary	97 (28.8)
Relationship to store	
Owner	206 (61.1)
Apprentice	131 (38.9)

**Table 2: Awareness and source of information on universal precautions**

	Number (%)
Q: Have you heard of Universal Precautions? (N = 337)	
yes	74 (22.0)
No	263 (78.0)
Q: What is the source of your information? (N = 74)	
Mass media	38 (51.4)
Other health workers	19 (25.7)
Non medical friend	1 (1.4)
Seminar /conference	11 (14.9)
Others	5 (6.8)



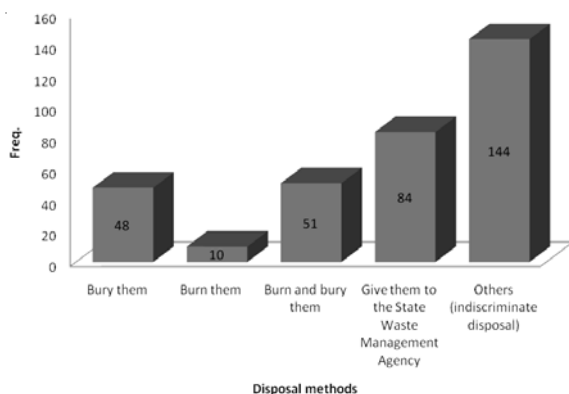
**Figure 1: PMVs who administer injections and treat open wounds**

Eighty four (24.9%) of them turn over their used sharps to the state waste management agency, forty eight (14.2%) of them bury used sharps. Ten (3.0%) of the respondents burn used sharps. Fifty one (15.1%) burn and bury used sharps and one hundred and forty four (42.7%) of them, dispose of used sharps inappropriately, (Fig. 2).

Sixteen (4.7%) respondents stated that they would do nothing about an accidental needle prick. Thirty eight (11.3%) of them will take actions that are not correct e.g. attempt to suck out the 'bad' blood. Sixty (17.8%) of them will at least wash the site and two hundred and twenty three (66.2%) of them will take appropriate action to make contact with formal health care either through accessing HIV screening services or consulting a doctor, (Table 4).

**Table 3: Measures to avoid contact with blood and body fluids**

Measures	N = 337 n (%)
Nothing	103 (30.6)
Wear gloves	91 (27.0)
Being careful	45 (13.4)
Disposing sharps appropriately	11 (3.3)
Covering open wounds and reporting them	5 (1.5)
Wearing gloves/being careful/disposing sharps	29 (8.6)
Wearing gloves and disposing sharps	9 (2.7)
Wearing gloves/ disposing sharps/covering and reporting open wounds	3 (0.9)
Wearing gloves/covering and reporting open wounds	2 (0.6)
Wearing gloves and being careful	21 (6.2)
No response	18 (5.3)



**Fig. 2: Methods for disposal of used sharps by PMVs**

**Table 4: Practices by PMVs following a needle prick injury**

Actions taken soon after needle prick	N = 337 n (%)
Nothing	16 (4.7)
Wash the site	60 (17.8)
Inform a doctor	41 (12.2)
Go for HIV screening after 6 weeks	60 (17.8)
Inform a doctor and go for screening	98 (29.1)
Wash the site/inform the doctor	9 (2.7)
Wash the site/go for screening	12 (3.6)
Wash the site/ inform a doctor/go for screening	3 (0.9)
Others	38 (11.3)

**DISCUSSION**

This study found out that a majority of the respondents, two hundred and four (60.5%), were educated to secondary level. Several other studies in Nigeria have placed the minimum educational attainment of most PMVs at primary school level.<sup>6,9,10,11</sup> This observed increase in the educational level of the PMVs is a reflection of the dwindling employment situation in Nigeria and the ease of obtaining a PMV license,<sup>6,7,8</sup> which attracts better educated people into occupations they would ordinarily not have considered.

The majority of the PMVs had not heard of the concept of universal precautions. Despite their superior educational level, universal precautions was not a familiar concept. Their lack of formal health training should explain this. The concept of universal precautions is however not a very familiar one, even among formal health care providers.<sup>26,27,28,29,30</sup> The mass media is the most common source of information to the PMVs who are familiar with the concept. Despite the observed 'health care provider' role of these PMVs to the population, little seems to have been done to enhance their capacity to take precautions with blood and body fluids. This study found that more than half of the PMVs sell and use injectables and attend to open wounds; practices not covered by the scope of the PMVs license (most of them not having any formal health training). This inadvertently exposes them to infection from blood borne pathogens. This further underscores the need to target this group with appropriate health information on universal precautions to reduce the risk of transmission of blood borne pathogens through their activities as well as protecting their own lives.

Health indices in Nigeria have remained in the doldrums and the different health provider to population ratios remain poor, the patent medicines vendor still serves as the only access to health care delivery for a good number of people in the population. They easily attend to 70 to 200 people in their shops per day, far more than most private and even public health centres.<sup>15</sup> This pressure of customers, their commercial motivation and poor regulatory infrastructure in the country makes it easy for the PMV to assume the role of a poorly trained health care provider. Only three (0.9%) of the PMVs in this study reported that they will combine precautionary measures of wearing gloves, disposing of sharps and referring customers to avoid contact with blood and body fluids. The remaining 99.1% of them who do not take proper precautions reflect almost a

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100% risk of exposure among these people.

The risk of blood borne infections to PMVs and their customers in the PMV enterprise is great, as this study has found few of them taking proper precautions. Other studies have observed their incompetence also in the handling of other aspects of health care delivery with wide variations in the information and care they administer to customers.<sup>10,18,19,20,21,22</sup> It was evident in this study however, that a good number of the PMVs are aware of the need for appropriate action after a needle prick, like accessing HIV screening services or consulting a doctor.

### CONCLUSION AND RECOMMENDATIONS

There is an observed role of the patent medicine vendor in Nigeria as an informal health care provider. This role, however uncomfortable to the formal health sector, cannot be ignored. They present a real risk of exposure and perpetuation of blood borne pathogens in the population. Stricter regulation of their practices are necessary to reduce this risk and efforts need be made to enhance their knowledge of and adherence to universal precautions. Training and mandatory continuing health education on universal precautions as a prerequisite to renewal of their licenses, are recommended.

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