



Work Pressure on Health Care Workers Leads to Addiction

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Abstract

Health care workers are at risk of occupational exposure to blood and body fluids even though very few studies were conducted in Ethiopia. Therefore, this study was aimed to investigate the magnitude of exposure to blood and body fluids among health care workers in governmental health facilities in West Shewa Zone, Ethiopia.

A facility-based cross-sectional study was conducted in June 2018. A total of 381 health care workers were selected by simple random sampling from 31 sampled governmental health facilities using proportional to size allocation. Data were collected through self-administered questionnaires, entered into Epi-info version 7, and analyzed by SPSS version 21. Adjusted Odds Ratio (AOR) with 95% Confidence Interval (CI) computed for variables maintained in the final model of multivariable logistic regression and statistical significance declared at $P < 0.05$.

A total of 377 (98.9%) health care workers participated. The study has shown that 233 (61.2%) of health care workers were exposed to blood and body fluids in their lifetime. Previous needle stick injury (AOR=0.30; 95%CI: 0.12-0.75), place of work (AOR=0.42; 95%CI: 0.26-0.68), and work experience (AOR=1.47; 95%CI: 1.13-1.93) were significantly associated factors with exposure to blood and body fluids.

Exposures to blood and body fluids during patient care were common among health care workers in the study area. Therefore, health care workers should give due attention to their occupation's safety. Vaccination and in-service training with standard precautions should be provided and monitored for newly recruited health care workers by the health facilities.

Keywords: Addiction; Health care workers; Occupational exposure; Ethiopia

Acronyms

AOR: Adjusted Odds Ratio; BBF: Blood and Body Fluid; CI: Confidence Interval; HCW: Health Care Workers; HBV: Hepatitis B Virus; HCV: Hepatitis C Virus; HIV: Human Immunodeficiency Virus; PPE: Personal Protective Equipment

Background

Health-care workers (HCWs), whose occupations involve contact with patients and their body fluids, face a risk of exposure to occupational infections with a subsequent risk of contracting diseases, disability, and even death. HCWs are continuously at risk of acquiring blood-borne infections such as human immunodeficiency virus (HIV) and hepatitis [1, 2].

Transmission of occupational infections may occur by the inhalation route, ingestion of contaminated material, and accidental inoculation by needle stick injury [1]. Needle stick injuries are among the most common methods for occupational transmission. Any HCW handling sharps such as scalpels and blood collection devices are also at risk of self-inoculation or a needle stick injury, and subsequent exposure to blood-borne pathogens [3]. Occupational exposure to blood can result from percutaneous injury (needle sticks or other sharps injury), mucocutaneous (splashes of blood or other body fluids into the eyes, nose, or mouth), or contact with nonintact skin [4].

Health care workers face a wide range of hazards on the job; including needle stick injuries, back injuries, latex allergy, violence, and stress [5]. The occupational risk of exposure to BBFs and needle stick injuries not only affects the safety and wellbeing of HCPs but also compromises the quality of health care delivered [6]. The risk of infection for HCWs from blood-borne pathogens depends on the prevalence of these pathogens among the patient population and the nature and frequency of exposure [7]. Most of these infections, however, can be prevented

by practicing standard precautions, immunization against Hepatitis B, provision of personal protective equipment, and the management of exposure [4]. The transmission of HBV, HIV, and HCV to patients by infected healthcare workers has also been documented [8].

Standard precautions are based on the principle that all blood, body fluids, secretions, excretions except sweat, nonintact skin, and mucous membranes may contain transmissible infectious agents. Standard precautions include hand hygiene, and depending on the anticipated exposure, use of gloves, gowns, masks, eye protection, or face shield. It also includes equipment or items in the patient environment that are likely to have been contaminated with infectious fluid and that must be handled in a manner to prevent transmission of infectious agents [9].

Of 35 million HCWs worldwide, the World Health Organization estimates that approximately 3 million experience percutaneous injuries each year. Of those injured HCWs, 70,000 are likely to be infected with hepatitis B virus as a result of exposure, 15,000 with HCV, and 1,000 with HIV. [10] and 90% of the infections that result from these exposures are borne by developing countries [11].

Needle stick injury exposure in African countries is higher than elsewhere and a significant public health issue due to overworked healthcare workers. Similar studies in Ethiopia show that 32% of

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the needle stick injuries were reported in the Sidama zone, 31% in northwestern Ethiopia, and 66% in 52 of the health facilities [12].

Few studies conducted in Ethiopia to assess the status of exposure to blood and body fluids among health care workers and factors in health facilities showed the risk of exposure to BBF especially needle stick injuries were common [3, 4]. The proportions of exposure to patients' body fluid among the different professionals differ significantly [10].

Therefore, this study was aimed to assess the magnitude of exposure to blood and body fluids among health care workers in governmental health facilities of West Shewa Zone, Ethiopia, which provides information for program managers and decision-makers to design and focus on appropriate interventions; moreover, it helps the healthcare workers to know the severity and prevalence, to minimize its impact, and to be safe in their working environment.

Discussion

This study was conducted to assess the magnitude of exposure to blood and body fluids among health care workers in the West Shewa Zone. The study involved 381 health care workers among which 377 responded making the response rate 98.9%.

This study revealed the magnitude of exposure to blood and body fluids among health care workers in their lifetime at governmental health facilities was very high, 230 (61.2%) which was above the reports from Harari and Dire Dawa Towns (28.8%), Georgia 53% [10] and Lebanon (30%) and lower than a report from Wolaita (73.8%) and University of Gondar Hospital (70.2%) [11]. This indicates that the exposure of health care workers to blood and body fluids might be due to different routes of exposure and lack of PPEs at their health facilities, which in turn, expose them to various blood and body fluids.

In this study, 81(21.5%) of the study participants had exposure to blood and body fluids in the past six months which is lower than the study done in Wolaita 386(62%) [11] and Bahir Dar Town 145(45.7%) [2]. This difference may be due to the presence of safety signs in health care institutions and on-job training delivered to HCWs.

About 195(51.7%) of the study subjects were injured by needle sticks in their life as indicated by this study, which is higher than a study in Harari and Dire Dawa town, 145(30.5%) [12] and less than a finding from Nigeria 92(53.5%) [2]. This indicates that HCWs are at increased risk of acquiring occupational infection due to blood and body fluids unless effective measures are implemented.

In this study, 134 (35.5%) HCWs were injured by needle stick in the past year which is much higher than the finding from Awi Zone 36(18.7%), Bahir Dar Town 92(29.0%) but lower than a finding from Bale Zone 126(37.1%). This difference could be due to the socio-demographic and economic differences in the study areas and the experience of HCWs to adhere to standard precautions.

In this study, health care providers who were exposed to needle stick injury were found 70% times less likely to be exposed to blood and body fluids compared to their counterparts. This could be because those health care workers who were previously exposed practically to needle stick injury care of themselves because they faced the problem.

This research revealed the place in the level of health care system matter for occupational exposure to blood and body fluids. Health care workers working in the health center were 58% times less likely to be exposed to blood and body fluids compared to those who work in the hospital. This might be because health care providers working in hospitals have an increased chance of contact with blood and body fluids

from patients, more involved in patient care activities, and more contact with sharp instruments.

Health care worker's perception of whether they were at or not was found to be an associated factor of exposure to blood and body fluids. HCWs who were perceived as being at risk of body fluid and blood-borne infection were 85% times less likely to have had occupational exposure to blood and body fluids than those HCWs who perceived not at risk. There was no similar or dissimilar finding discovered in the literature reviewed yet. However, it seems due to increased self-care using personal protective equipment.

The service year in the health system was also found to play a role in the occurrence of BBFs exposure. In this study, health care workers who had less than or equal to 2 years' service experience were 47% times more likely exposed to blood and body fluids than those health care workers who had 10 and above years of work experience. This might be that the junior HCWs might be with less chance of being trained on infection prevention due to less stay in the system.

Health care workers who practice hand washing before and after any procedure were found 85% less likely to be exposed to blood and body fluid than their counterparts. This might be HCWs who washed their hands were more knowledgeable than those who did not wash their hands. Since hand washing is a component of personal protection practices, these workers might be those who usually take care of themselves.

Limitation

The study relies on self-report rather than having a record review of healthcare workers. Therefore, recall bias likely occurred as the information was obtained retrospectively.

Conclusions

Exposure to blood and body fluids during patient care was common among health care workers in the study area. During their lifetime, 195(51.7%) and 230(61%) of the workers encountered needle stick injury and exposure to blood and body fluids, respectively. History of previous needle stick injury, place of work, and hand washing were protective factors, whereas long work experience was a risk factor associated with blood and body fluid exposure.

Recommendations

Appropriate infection prevention protocols should be available at health facilities and implemented properly by the health care workers to reduce the risk of health institution acquiring infection. Vaccination and in-service training with standard precautions should be provided and monitored for newly recruited health care workers by the health facilities. Health care workers should give due attention to their occupation's safety.

Ethical Approval and Consent to Participate

Ethical clearance was obtained from the Ethical Review Committee of Arsi University. A formal letter of permission was produced from West Shewa Zonal Health Department to the respective governmental health facilities. Oral consent was obtained from each study participant during the data collection time after the objective of the study was explained to the participants by data collectors. Confidentiality was assured for the information provided.

Consent for Publication

The study participants were informed that the findings of the study would be published. Identifying images or clinical details of participants that compromise anonymity was not applicable in this manuscript.

Availability of Data and Materials

The data supporting our findings were already included in the manuscript.

Conflict of Interest

We declare that the study has no competing interests.

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We received no funds from any organization.

Authors' Contributions

DL developed the proposal, carried out the data collection, conducted the analysis, was involved in reviewing the manuscript, and had full access to all data in the study. TS provided general guidance on overall study process, participated in reviewing the proposal, reviewing the analysis, participated in the final study document development, and had final responsibility for the decision to submit for publication. Both authors read and approved the final manuscript.

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