

**JIMMA UNIVERSITY INSTITUTE OF HEALTH SCIENCE SCHOOL OF MEDICINE
DEPARTMENT OF PEDIATRICS AND CHILD HEALTH**



**WORKPLACE VIOLENCE AND ASSOCIATED FACTORS AMONG HEALTH
PROFESSIONALS AT JIMMA MEDICAL CENTER, SOUTHWEST ETHIOPIA**

**A Research thesis to be submitted to the Department of Pediatrics and Child Health,
Jimma University Institute of Health as a partial fulfillment for specialty certificate in
Pediatrics and Child Health.**

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WORKPLACE VIOLENCE AND ASSOCIATED FACTORS AMONG HEALTH PROFESSIONALS AT JIMMA MEDICAL CENTER, SOUTHWEST ETHIOPIA

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DECLARATION

I agree to accept responsibility for the scientific ethical and technical conduct of the research project and for provision of required progress reports as per terms and conditions of the faculty of Medical Sciences in effect at the time of grant is forwarded as the result of this application.

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Abstract

Background: *Workplace violence is one of the global health concerns worldwide. The violence toward health care workers is considered a global community health concern. Since they are at the front of the health care system and with the closest contact with patients, identifying the prevalence and associated factors is crucial for prevention. Nevertheless, there is a paucity of study in our setup addressing this issue. Hence this study aimed to fill the literature gap and the study finding might give a clue for intervention.*

Objective: *This study aimed to assess the prevalence of workplace violence and associated factors among health professionals working in JMC, Southwest Ethiopia, 2023.*

Methods: *An institutional-based cross-sectional study was conducted among health care professionals working at Jimma medical center from Oct 1-30, 2023. The data were recruited from 303. The study participants were selected using Stratified random sampling method. Data was collected using self-administered questionnaire, which is adapted from ILO/ICN/WHO/PSI country based survey questionnaire. The collected data entered into EpiData 3.1 and exported to SPSS 25 for further analysis. Logistic regression analysis was done to identify covariates associated with the outcome variables. Statistical significance was considered at a p-value of less than 0.05(95% CI).*

Results: *WPV among health care workers was 71% in the last 12 month, of these 69.6% was verbal followed by 21.5% physical and 4.3% sexual. Females & those with work experience 1-4yr countered more violence. The perceived contributing factors were Misunderstanding, long waiting time for service & stressful emergency situation. Nurses had increased odds of WPV by 3 (AOR: 3.370, 95%CI: 1.605, 7.075) than Medical interns and Resident had increased odds of WPV by 2 (AOR: 2.288, 95%CI: 1.062, 4.932) times than Medical intern. Health professional working in Surgical department had increased risk by 5.5 (AOR: 5.517, 95%CI: 1.814, 16.78) times than those working Pediatrics department. Absence of reporting procedures increases the probability of WPV by 5 times (AOR: 5.476, 95%CI: 3.026, 9.485) & Absence of satisfaction increase the risk of WPV by 2 times (AOR: 2.649, 95%CI: 1.051, 4.813).*

Conclusion and Recommendation: *The prevalence of workplace violence is high among health professionals. Profession, working department, reporting procedures and satisfaction with the organizations measures were found statistically significant factors influencing workplace violence. Preparing standardize reporting procedure and maintain constant monitoring of the prevalence, reporting system and the prevention strategies.*

Keywords: *Workplace violence, health care professionals, Jimma medical center*

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Abbreviations and Acronyms

CI: Confidence interval

FTE: Full-time Equivalents

HCW: Health care workers

ICN: International Council of Nurses

OSH: Occupational safety and health

PSI: Public Services International

ILO: The International Labor Office

JUMC - Jimma University Medical Center

NIOSH: The National Institute for Occupational Safety and Health

SPSS: Statistical Package for Social Science

WPV: Workplace violence

WPS: Workplace safety

WHO: World Health Organization

BLS: Bureau of Labor Statistics

CHAPTER ONE: Introduction

1.1 Background

WHO defined Work Place Violence as “The intentional use of power, threatened or actual, against another person or against a group, in work-related circumstances, that either results in or has a high degree of likelihood of resulting in injury, death, psychological harm, maldevelopment, or deprivation”(1). NIOSH defines workplace violence as violent acts (including physical assaults and threats of assaults) directed toward persons at work or on duty(2). Though workplace violence affects all sectors and all categories of workers, health sector is at major risk. Violence in health sector constitutes almost a quarter of all violence at work(3). Violence in health sector takes a variety of forms, ranging from verbal aggression to physical assault, including the use of deadly weapons against physicians, other workers, and patients(4). Healthcare and social service workers are at increased risk of work-related assaults resulting primarily from violent behavior of their patients, clients and/or residents(5).

The true incidence of violence in the health-care setting is difficult to estimate, due to different definitions of workplace violence, different data collection systems for different types of violence, and significant under-reporting of violence incidents by health-care workers(1). The Occupational Safety and Health Administration (OSHA) reports that in each year from 2011 to 2013, U.S. healthcare workers suffered 15,000 to 20,000 serious workplace-violence-related injuries(4).

WHO conducted a research in different countries and the result as follows: In the United Kingdom, compared to the average risk for assaults and threats across all occupations, health-care workers have a three to four times higher risk for these forms of violence(1); In Finland, one in ten health-care workers reports experiencing a work-related violent incident within the past year, and approximately one-third of Swedish nurses have experienced violence at some point within their careers(1); In British Columbia, nurses have nearly four times the incidence of violence of any other profession, 11 and 73 % of the doctors working in rural areas(1); In Australia report experiencing work-related verbal abuse and threats(1). A systematic review on

WPV in Africa done 2019 shows high prevalence of WPV ranging from 9% to 100% was reported with the highest in South Africa (54%–100%) and Egypt (59.7%–86.1%)(6).

The Risk Factors for Healthcare workers include: Working directly with who have a previous history of violence, people who are drug abusers or use alcohol, or distressed attendants of patients; Lifting, moving, and transporting patients; Working alone in the facility; Poor environmental design of the workplace that can interfere with their escape from a violent incident; Poorly lit corridors, rooms, parking lots; Lack of a means of emergency communication; Prevalence of firearms, knives, and other weapons among patients and their attendants(3). Violence also occurs when service is denied, when a patient is involuntarily admitted, or when a health care worker attempts to set limits on eating, drinking, or tobacco or alcohol use(2). Pain, devastating prognoses, unfamiliar surroundings, mind and mood altering medications and drugs, and disease progression can be a cause(5).

Violent events can happen any workplace, and being unprepared is unacceptable. Even though it is difficult to completely prevent violence in healthcare settings, and there is no "one-size-fits-all" approach, there are preventive ways postulated(4). According to Ethiopian labor proclamation No. 377/2003, article 92 clearly forwarded that the employers have the legal obligation to protect the health and safety of their workers. It is reported that there was no national OSH policy and professionally established body or association, which deals with how the incident should be handled and monitored(7).

Any prevention programme requires strong commitment from the health-care administration, and a clear written programme/policy for job safety and security which is communicated to all worker(1). One of the important strategies to provide safe work place environment for health care professionals is knowing the prevalence and associated factors and developing prevention program in health sector. Therefore, this study is aimed to assess the prevalence and associated factors of workplace violence among health professionals working at Jimma Univesity medical center.

1.2 Statement of the Problem

Violence at work has become an alarming phenomenon worldwide. The exact magnitude of the problem is unknown and recent information shows that the current knowledge is only the tip of the iceberg(1). World wide 8% - 38% of health workers experienced physical violence at some point in their careers(8). Studies shows that high prevalence of WPV in health care systems all over the world such as 30% in USA, 9.5% in England, 36.4% in Japan, 91.4% in Jordan, 67.4% in Saudi Arabia, 85.2% in Turkey, and 66.8% in China(9). About 88% of healthcare workers in the developing countries reported violence of various types while at work with bullying, abuse and hitting with objects being the most common(3). Although WPV occurs in high numbers of HCWs, the studies show that 80% of the affected didn't report it. Some of the reasons are; fear of lack of support from the hospital authority; the absence of institutional reporting policies; the perception that violence is a part of the job and reporting will not benefit them and assaults may be viewed as worker negligence or poor job performance(10).

In Great Britain half of all assaults caused some type of physical injury, ranging from bruises to broken bones. Emotional experiences to physical and emotional violence can include anger, shock, fear, depression, anxiety, sleep disruption and time off work or negative coping strategies, such as increased intake of drugs, alcohol and cigarettes. Additionally, worker's who are bullied at work are much more likely to report planning to leave their jobs. If health-care providers fear a population they are serving, the quality of care they deliver may suffer as a consequence(1). Generally the consequences of violence can range in intensity and include: Minor physical injuries, Serious physical injuries, Temporary and permanent physical disability, Psychological trauma and Death(11). WPV also have negative outcome for the organizational like low worker morale, increased job stress, increased worker turnover, reduced trust of management and coworkers, and a hostile working environment(11).

In U.S. more than half of organizations have workplace violence, and 70% have no programs or policies to deal with this problem(12). ECRI in its health system guidance recommends that: Develop comprehensive policies and strategies against workplace violence and enforce it; Evaluate measures of violence and identify risks; Train workers to identify the early signs of

violence and respond; Establish a prevention strategies; Encourage all workers to report incidents of violence; Ensure appropriate follow-up to violent events, including communication, post incident support, and investigation(4).

Under-reporting of workplace violence hinder the development and implementation of effective prevention and management strategies(13). Other obstacles include the lack of evidence in the absence of physical injuries, inconvenient and time consuming reporting procedures, lack of support from management, and fear of revenge, blame or unfavourable treatment from managers and/or colleagues(13).

Violence in health care settings is not only prevalent, but is increasing(14). Efforts must be directed at describing the risk of violence in high risk settings and identifying risk factors so that measures can be instituted to prevent future assaults(14). Several studies conducted in Ethiopia for example (Hawassa City Administration(15), Gamo Gofa Zone(16), Addis Ababa(17), Oromia Regional State(18), Amhara Regional State(19) and Harari Regional State(7)) on WPV among health workers and most studied on nurses. There is paucity of data among physicians. For the provision of safe and hostile environment for health professionals the institutions have to assess and prevent WPV. This research tried to answer question what is the prevalence of WPV among HCWs and factors affecting violence experiences at Jimma medical center.

1.3 Significance of the study

This study determined the prevalence WPV and its associated factors among health professionals working at JMC. Its the first study in the hospital and the finding is primarily beneficial to health professionals in the hospital. Currently there is no functional preventive strategies and reporting procedures in the hospital. So that knowing the prevalence and associated factors of WPV among its health care workers: serve as an input and the organization may revise and implement its policies and procedures, develop effective preventive strategies, emergency response plans and perform ongoing assessment. For the HCWs timely and appropriately recognized and dealt violence provide positive emotions toward their work places, prevent work burnout and medical errors.

It also serve as a baseline for evaluating the implemented preventive strategies and ongoing assessment. The findings of this research could also provide as the baseline for further research in these challenges in the future.

CHAPTER TWO: Literature Review

2.1 Overview

Workplace Violence defined as Incidents where staff are abused, threatened or assaulted in circumstances related to their work, including commuting to and from work, involving an explicit or implicit challenge to their safety, well-being or health(20). Workplace violence has come a global problem crossing borders, work settings and occupational groups(20).

A systematic review on prevalence of workplace violence among healthcare workers shows WPV committed by patients or visitors is high towards healthcare professionals globally, with disparities in regions and practice settings(21). The review also analyzed, 61.9% reported exposure to any form of WPV, 42.5% reported exposure to non-physical violence, and 24.4% reported experiencing physical violence in the past year. Verbal abuse 57.6%; was the most common form of non-physical violence, followed by threats 33.2%; and sexual harassment 12.4%(21).

2.2 Prevalence

In Italian general hospital 45% of health professionals reported WPV(22). Verbal violence was the commonest 51% and often committed by people in a clear and normal state of consciousness; physical violence 49% was most often perpetrated by people affected by dementia, mental retardation, drug and substance abuse, or other psychiatric disorders(22).

In China's tertiary and county-level hospitals the prevalence was 65.8%; of this, 64.9% was verbal violence, and physical violence and sexual harassment accounted for 11.8% and 3.9%, respectively. From the research that patients' relatives were the main perpetrators in tertiary and county-level hospitals(23). From 44 studies on WPV against health-care professionals in china the prevalence is significant 62.4%. The predicted physical violence was 13.7%, psychological violence 50.8%, verbal abuse 61.2%, threats 39.4%, and sexual harassment 6.3%(24).

In Saudi Arabia, Dammam public hospital emergency department 47.8% health-care workers had experienced at least 1 type of violent incident in the preceding 12 months. Of all violence incidents, 52% verbal abuse, 19% physical violence, and 3% sexual harassment reported(25). In Palestinian public hospitals the research on Workplace violence against physicians and nurses: 80.4% of respondents reported exposure to violence in the previous 12 months; 20.8% physical and 59.6% non-physical(26). The perpetrators were mostly the patients' relatives or visitors, followed by the patients themselves, and co-workers(26).

In Pokhara 64.5% nurses experienced some type of violence in the last six months at their workplace. Verbal violence was most prevalent 61.5% than physical 15.5% and sexual violence 9%. Most perpetrators of the violence were the relatives of patients and hospital employees(27). In Syria 84.74% of resident doctors reported exposure to WPV in the past 12 months. Specifically 84.74% experienced verbal violence and 19.08% to physical violence. The assailants were Patients'. Both Verbal and physical violence showed a significant positive correlation with each item of depression and stress, and a significant negative correlation with both subjective sleep quality and subjective health(28).

Across the literature review of WPV in Africa, common physical forms of WPV were verbal (53.1%–73%); bullying (18.2%–50.8%), shouting (50%), threat (22.7%), swearing (2.3%), Vertical (33%), covert (30%), horizontal (29%) hitting (41.1%), kicking (21.8%), pushing (20.2%) and shaking (12.1%). Psychological violence ranged from 39.8% -46%. Sexual harassment was reported to be 7.2% - 84.6% among the healthcare workers(6).

The violence in workplace at obstetrics and gynecology departments in Cairo hospitals shows the majority of nurses 86.1% had been exposed to workplace violence. Patients' relatives were the major source of violence 38.5% and psychological violence was the most common form 78.1%(29). In radiology department in Windhoek Namibia, all the respondents had experienced verbal abuse (100%) followed by verbal threats (84.6%), sexual harassment (84.6%), and physical assault (46.2%)(30).

A research on prevalence of workplace violence in Oral healthcare centers against Nigerian dental professionals. The prevalence of violence was 31.9%. Loud shouting (50.0%), threat (22.7%), sexual harassment (6.8%) and swearing (2.3%) constituted the majority non-physical violence while 18.2% of physical violence were in form of bullying and hitting. The majority perpetrators of the violence were patients (54.5%) and patient's relatives/friends (18.2%)(31). Another research in Nigeria at the University of Nigeria Teaching Hospital Enugu State and the result shows Prevalence of psychological violence among the participants was 49.7%. 40.8% were verbal abuse followed by bullying 7.0%, while sexual abuse was reported by 1.9%. Majorly 55.6% of the perpetrators of the psychological violence were patient's relative, whereas 23.4% were staff members. There was a significant association between verbal abuse and frequent interaction with patients(32).

In Congo, Congolese health care workers 80.1% of the health-care workers reported one or more types of workplace violence. Verbal aggression 57.4% and harassment 15.2% to physical violence 7.5%(33). In Gambia 62.1% reported exposure to violence in the 12 months prior to the survey; exposure to verbal abuse, physical violence, and sexual harassment was 59.8%, 17.2%, and 10% respectively. The perpetrators were mostly patients' attendants/relatives followed by patients themselves(34).

In Malawi the prevalence of violence in five facilities were 71% in the preceding 12 months and at the psychiatric hospital 100% was the highest. The types of violence experienced include verbal abuse (95%), threatening behaviors (73%), physical assaults (22%), sexual harassments (16%) and other (3%). The commonest Perpetrators of violence were: patients (71%); patients' relatives (47%); and work colleagues (43%)(35).

In Ethiopia some researches done on work place violence and associated factors among health workers. In Gondar the prevalence of workplace violence was found to be 58.2% with in which verbal abuse 53.1% followed by physical attack 22.0% and 7.2% sexual harassment(36). In Oromia region study conducted on prevalence and predictors of workplace violence against nurses working in referral hospitals, 82.2% of the nurses have experienced workplace violence during the previous 12 months. Among these 81.8%, 9.9%, 47.3%, and 23.2% had history of

verbal abuse, sexual harassment, bullying/mobbing and physical violence respectively within the past 12 months(18). An institution-based cross-sectional study was conducted on public health facilities in Hawassa City Administration in April 2014, the prevalence of workplace violence was 29.9% of which physical violence accounted for 18.22%, verbal abuse for 89.58% and sexual harassment for 13.02%(15). In Gamo Gofa zone, 43.1% nurses had experienced workplace violence. Among these 13.5% had faced physical violence, 28.2% had verbal abuse, 10.3% were bullied/mobbed, and 7.2% faced sexual harassment at least once in the last 12 months. Patients' relatives were the leading perpetrators in physical, verbal violence, and bullying, accounting 55.3%, 46.9%, and 36.1%, respectively(16). Prevalence of workplace violence in Northwest Ethiopia found to be 26.7 %. Among these physical violence was 60.2 % while 39.8 % of them were facing the psychological violence(19). In Harar Regional State, Dire dawa city, workplace violence among nurse in the last 12 months was 64.0%(7). In Amanuel Mental Specialized Hospital in Addis Ababa there is high prevalence of violence and we have got that staff had been exposed to physical violence 36.8%, verbal violence 62.1%, and sexual violence 21.8% over the past year(17).

2.3 Factors

2.3.1 Individual factors

From the study in Italian general hospital the most frequently assaulted were nurses (67%), followed by nursing assistants (18%) and physicians (12%)(22). In China's tertiary and country level hospitals frequent workplace violence occurred primarily in emergency and pediatric departments(23).

In Palestinian public hospitals the study shows no documented difference in exposure to violence between physicians and nurses was observed. Males' significantly experienced higher exposure to physical violence in comparison with females(24). The study in Democratic Republic of Congo also shows that male health-care workers were more likely to be victims of physical violence, whereas female health-care workers were the prime target for harassment(33).

A literature in Africa shows prevalence is different according to work setting, emergency unit (59–100%), psychiatric setting (>78.1%), obstetrics and gynecology (86.1%) and outpatient units had the highest prevalence rate(6). Among the doctors, studies revealed the prevalence of WPV to be 21.5%–45.3%. Females expose more 60.9% than males 20%; 57.1% (verbal), physical attack(59%), sexual (100%) than the males were reported among female health workers in Ethiopia; 59.2% male and 40.8% females(6).

From the literatures in Ethiopia: In Gondar females are most exposed in all forms of workplace violence: verbal abuse 57.1%, physical attack 59.0% & sexual harassment 100% than men. A total of 54.7% of health care workers with fewer than 5 years of experience reported physical violence. Working as nurse & midwife in the health care facilities is four times more likely to experience violence than the general practitioners(36). In Hawassa female sex, short work experience, age group of 26–35(15). Unlike others in Northwest Ethiopia 59.2 % of work place violence was found among male nurses as compared to females 40.8 %(19).

2.3.2 Situational factors

From the cross sectional study in an Italian general hospital the violent incidents more frequently occurred in psychiatry department (86%), emergency department (71%), and in geriatric wards (57%)(22).

A Cross-Sectional Descriptive Study of Ghanaian Nurses on Workplace Violence Against Nurses: 9.0% had experienced physical violence in the 12 months prior to the study. Of these, 79.2% were females and 20.8% were males. In terms of incidence across units, it was found that 35.8% of nurses who suffered workplace physical violence worked at the medical and surgical units. This was followed by the special units (24.5%) and then the OPD (20.8%)(37).

From research done in India shows A total of 617 responses were received from doctors all over India; out of which 477 (77.3%) doctors had ever faced workplace violence. “Actual or perceived non-improvement or deterioration of patient’s condition” (40.0%), followed by “perception of wrong treatment given” (37.3%) were the main causes of workplace violence; and

the family members/relatives were the major perpetrators (82.2%). More than half of the participants reported “loss of self-esteem”, “feeling of shame” and “stress/depression/anxiety/ideas of persecution” after the incident(38). The chance of facing violence was found to be inversely related to the age of doctors. More male (78.3%) and unmarried (81.1%) Doctors who faced WPV in comparison to females (74.5%) and ever married (76.3%) doctors, respectively(38).

In Nigerian dental professionals the study shows assaults often associated with long waiting time (27.3%), cancellation of appointment (13.6%), outcome of patient’s treatment (11.4%), alcohol intake (9.1%), psychiatric patient (6.8%,) patient’s fee (4.5%) and others (27.3%)(31). The reasons in Gambia were mainly attributed to nurse-client disagreement, shortage of co-workers, unavailability of drugs and supplies, minimum security persons, and lack of management attention to workplace violence(34).

From the research on violence in workplace at obstetrics and gynecology departments in Cairo carelessness 40.5% and malpractice of nurses 35.8% were reported as the usual causes of violence(29). And in radiology department in Windhoek Namibia all had experienced WPV that predominately occurred during night duty. The causes of WPV included intoxicated patients (100%), long waiting times (61.5%), overcrowding (30.8%), and failure to meet the expectations of patients and their family members(23.1%)(30).

From the studies in Ethiopia: In Gonder it shows violence was nearly about four times higher among emergency department workers than those served in outpatient department. Working as nurse & midwife in the health care facilities is four times more likely to experience violence than the general practitioners(36). In Oromia region nurses working in inpatient departments were 4 times more likely to experience workplace violence than those who did not. Clients who wait long for service above the recommended time were 3 times more likely to create workplace violence than those who did not(18). In Hawassa working in emergency and Inpatient Department were the factors positively associated with workplace violence(15). In Dire dawa working in Gyn/Obs, emergency department, psychiatric and medical wards were significantly associated with workplace violence against nurses(7).

2.3.3 Organizational factors

In 2014 research done on Workplace Violence Against Emergency Versus Non-Emergency Nurses in Mansoura University Hospitals, Egypt and most of violent incidents occurred during the afternoon and night shifts in both emergency 74% and non-emergency 66.6% units(33).

From the study done in South Africa Vhembe District Hospitals, 85% of the respondents had experienced workplace violence in the last 12 months with a range of 95% for threats to 60% for bullying. Regarding the gender of the perpetrators, females (71%) were the main perpetrators. Most of the violent incidents 61% were in the wards. 59% indicated that violence occurred mostly in the afternoon, 15% evening and 26% morning. Regarding the factors related to the perpetrators, alcohol consumption was regarded as the major cause (74.3%), followed by mental health disorder (66.3%)(39).

Among a Study on Workplace Violence against Health Workers in a Nigerian Tertiary Hospital 88.1% of the respondents had experienced workplace violence with 54.4% of all violent incidents occurring in the wards. The study states that Psychological violence was more prevalent than physical violence and the commonest was Verbal abuse 85.4% while the least was sexual harassment 4.5%. About 25.1% of all the respondents experienced physical assault in the preceding year. The main perpetrators were patients and their relatives for physical assault and threats(40).

Though the data are limited in Ethiopia: In Gondar working at shifts revealed that it exposed to violence two times compared to those who worked at day shifts(36). In Northwest Ethiopia its found 36.9 % group of the victims experienced the violence between 13:00 and 17:59 h(19).

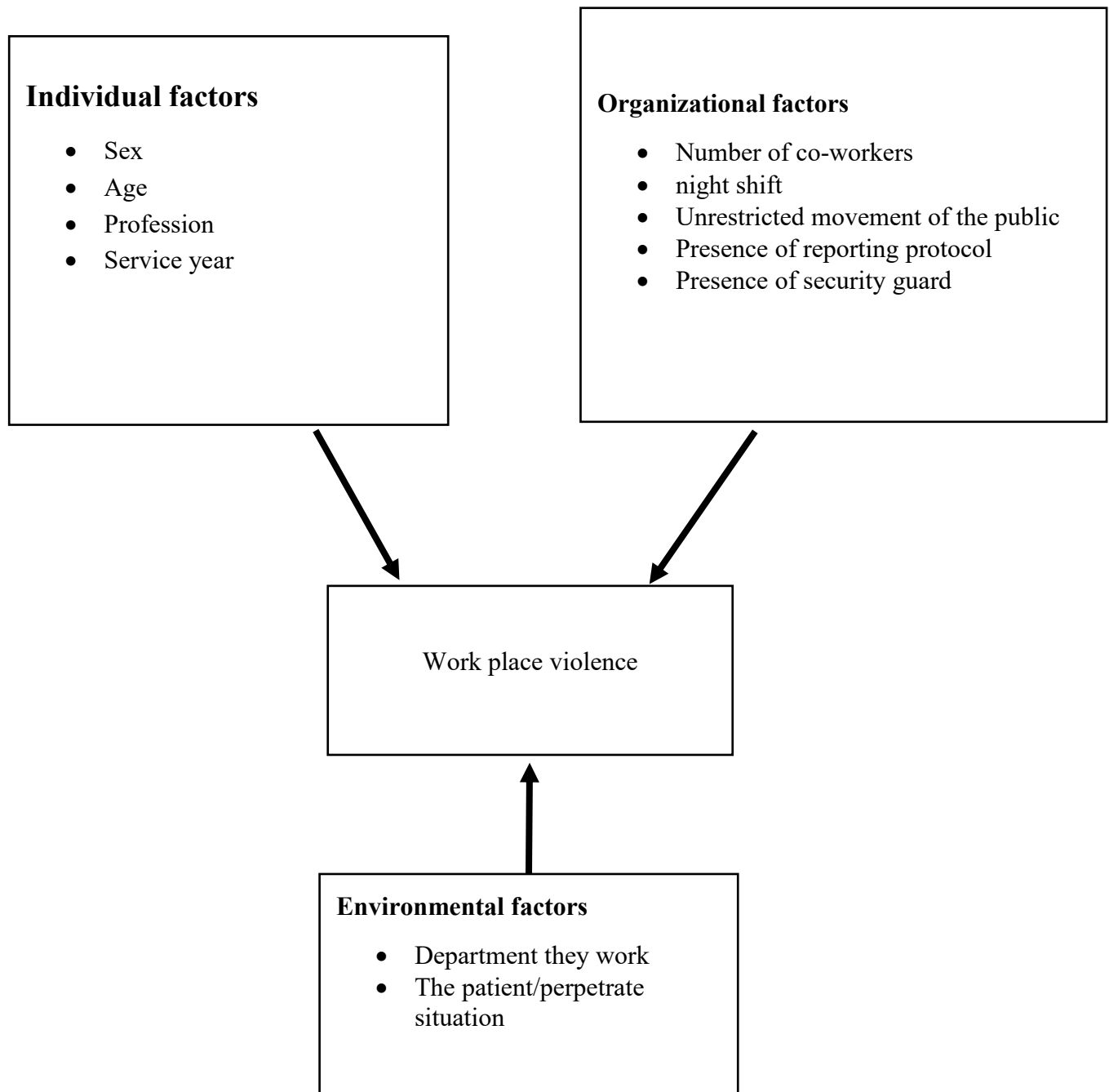


Figure 1: Conceptual Framework

(Conceptual framework developed after reviewing different literature's (20), (8))

CHAPTER THREE: Objective

3.1 General objective

To assess the prevalence of workplace violence and associated factors among health professionals working in Jimma University Medical Center from Oct 1-30 2023, Southwest Ethiopia.

3.2 Specific objectives

- To determine the prevalence of workplace violence against health professionals in JMC, Jimma, Southwest Ethiopia.
- To identify factors associated with workplace violence against health professionals in JMC, Jimma, Southwest Ethiopia.

CHAPTER FOUR: Methodology

4.1 Study area

The study was conducted in Jimma medical center, Jimma, South-west Ethiopia. Jimma town is located in south western part of Ethiopia, Oromia region, 352km from Addis Ababa. JMC is the teaching and referral hospital in southwest Ethiopia with 800 bed capacity with total HCP of 1605(168 seniors, 364 residents, 50 general practitioners, 678 nurses/midwives/laboratory technicians and 345 medical interns). It gives service as outpatient and inpatient in different specialty with major departments Medical, Surgical, Pediatrics, Emergency and critical care, Oby-Gyn, Psychiatry, Ophthalmology and Maxillofacial department and subspecialty fields. The total flow of 327,100 patients annually with 151,60 inpatient admission, 160,000 outpatient visits, 11,000 emergency and 4,500 delivery per year. The center has no structured reporting system when WPV occur and there is no office regarding, the trend is just the victim report for HR or follow some informal path.

4.2 Study period

The study was conducted from Oct 1-30, 2023.

4.3 Study design

Institution-based Cross-sectional study design was employed.

4.4 Population

4.4.1 Source population: All health care professionals working at Jimma medical center

4.4.2 Study Population: Health care professionals working at Jimma medical center who meet the inclusion criteria

4.43 Inclusion and Exclusion criteria

Inclusion criteria

Health care professionals working at major wards: pediatrics, emergency and critical care, obstetrics and gynecology, surgery and internal medicine, and willing to participate.

Exclusion criteria

Professionals who didn't fulfil inclusion criteria.

4.5 Sample size determination and Sampling method

The required sample size for this study was determined by using single population proportion estimation formula and considering the following assumptions: since there is no previous study with similar topic for all health care workers we use (p)50%, significance level ($Z_{\alpha/2}$) =1.96, margin of error = 0.05.. Accordingly, the initial calculated sample size is

$$No = \frac{[(Z_{1-\alpha/2})^2 pq]}{d^2}$$

Where

- No = Initial sample size.
- d = Precision of measurement (acceptable marginal error) = 0.05
- ($Z_{1-\alpha/2}$)= the critical value at 95% level of significance (1.96)
- P = prevalence of work place violence 50%.
- q = 1-p =0.5%.
- NR = Non response Rate

$$\text{Hence; } No = \frac{(1.96)^2 0.5(0.5)}{(0.05)^2} \quad No = \underline{384}$$

Since the source population is < 10,000; final sample size is determined by applying the finite population correction formula and adding 10% non-response rate. Accordingly, the calculated final sample size became.

$$N_f = \frac{N_o}{1 + \{(N_o - 1)/N\}}$$

Where

- N_o = Initial sample size (384)
- N_f = final sample size
- N = Total number of Health care professionals working at pediatrics, emergency and critical care, obstetrics and gynecology, surgery and internal medicine is 1051.
- NR = Non response rate

$$\text{Hence, } N_f = \frac{384}{1 + \{(384 - 1)/1051\}} = 281$$

By taking 10% NR; the final sample size becomes 309.

Sampling methods

Stratified random sampling method used. Strata is by profession (medical intern, nurse, residents, seniors) from each stratum samples is drawn proportionally based on percentage they contribute to final sample size and individuals is selected by using convenient sampling technique among those who are available at the time of data collection from each stratum (259 residents, 71 seniors, 345 medical interns, 376 nurses) giving total of 1051.

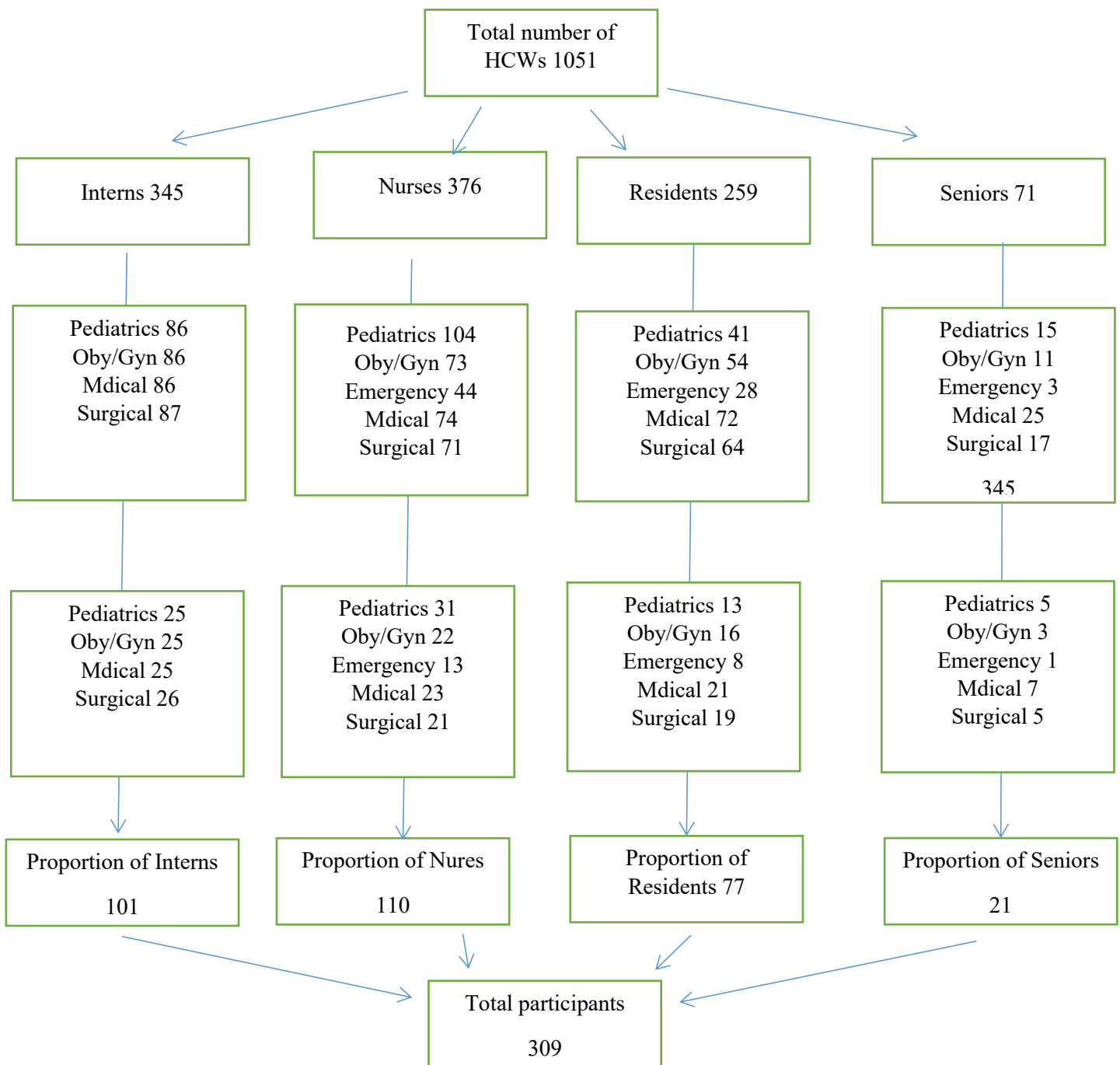


Figure 2: Schematic representation of sampling procedure for the research on workplace violence and associated factors among health professionals working at Jimma medical center.

4.6 variables

Dependent variable

- Work place violence

Independent variables

- Individual factors (age, sex, profession, Position, Service year)
- Environmental factors
 - department they work
 - The patient/perpetrate situation; Delay in medical care/long waiting time, Perception of non-improvement, Perception of wrong treatment given, death of the patient, Refusing patient's admission to the hospital, Alcohol or drug addict patient, Lack of prescribed drug, Psychological problems, Fee related
- Organizational factors (Number of co-workers, night shift, Unrestricted movement of the public, reporting protocol and encouragement, presence of security)

4.7 Data collection tools and procedures

4.71 Data collection instrument

Data was collected using structured, self-administered questionnaire. The questionnaire was adapted from International Labor Office (ILO), International Council of Nurses (ICN), World Health Organization (WHO), and Public Services International (ILO/ICN/WHO/PSI) country based survey questionnaire(41). The questionnaire from [ILO/ICN/WHO/PSI] survey part A, B, C (I, II, III) and D was adapted to fit with these research objectives and study context. Part A Inquires about socio-demographic & occupational characteristics; Part B assesses physical workplace violence; Part C assesses psychological workplace violence (I. verbal abuse, II. sexual harassment) and Part D assesses health sector employer. The questionnaire have multiple choice questions. Since the study participants are educated and able to understand the original version, the English version questionnaire with some glossary of basic words was used. .

4.72 Data Collection procedure

Data was collected from proportionally allocated participants (seniors, residents, nurses and medical interns) working in major wards (Internal medicine, pediatrics, surgery, emergency and critical care and oby/gyn) during study period by individuals who had previous experience on

data collection. 2 data collectors were allocated and brief orientation was given on the objective, samples and on questionnaire for any clarity. Confidentiality of information collected from each study participant was maintained at all levels.

4.8 Data quality control

To improve the data quality pre-test was done for the questionnaires on five percent of health professionals of ophthalmology ward on September reliability test was done with Cronbach's Alpha value of 0.634. The completeness of questionnaires was checked every day by investigator before actual data analysis and interpretation.

4.9 Data processing and statistical analysis

The data collected was checked for completeness and consistency and then it will be cleaned, coded, and entered into EpiData version 3.1 and was exported, cleaned and analyzed using Statistical Package for Social Sciences (SPSS) version 25. Descriptive statistics such as frequency distribution and proportions was computed to describe the prevalence of the study. Then bivariate and multivariable logistic regression analyses was conducted to see the association between dependent and independent variables. The Significance level for each analysis was taken at $p < 0.05$ (AOR, 95% CI).

4.10 Operational Definition

Workplace violence - When a health worker had experience any kind of physical violence or psychological violence (verbal abuse, sexual harassment, bullying/mobbing) or both physical and psychological violence from a patient and/or attendant.

Physical violence: When a health worker experience any of beating, kicking, slapping, stabbing, shooting, pushing, biting, spit on and/or pinching from a patient and/or attendant..

Psychological violence (Emotional abuse)- When a health worker experience a threat of physical force from a patient and/or attendant that can result in harm to mental, spiritual, moral or social development. Includes; verbal abuse, bullying/Mobbing and sexual harassment.

Verbal abuse: when a health worker experienced sworn or cursed at, yelled or shouted at, threaten from a patient and/or attendant.

Assault/attack: When a health worker experience an intentional behaviour that harms physically, including sexual assault from a patient and/or attendant.(20).

Abuse: When a health worker experiences a behaviour that humiliates, degrades or otherwise indicates a lack of respect for the dignity from a patient and/or attendant(20).

Bullying/mobbing: When a health worker experience repeated and over time offensive behaviour through vindictive, cruel or malicious attempts to humiliate or undermine the health workers from a patient and/or attendant.(20).

Sexual harassment- When a health worker experience any unwanted, unreciprocated and unwelcome behavior of a sexual nature that is offensive to the health worker involved, and causes that him/her to be threatened, humiliated or embarrassed from a patient and/or attendant. It involved attempts to establish or force sexual relations, to threaten into having sex (sexual blackmail), and to offering money, gifts, or privileges in exchange for sexual favors(20).

Health care professionals: includes nurses, medical interns, residents and specialists.

Medical intern: a final year medical student who is practicing practical medicine with supervision.

Perpetrator: Any person who commits act(s) of violence or engages in violent behaviour(s)(20).

Resident: Refers to any doctor who has graduated from Medical School and is in a Specialty program.

Specialist: a senior medical doctor who specialize in a particular area of medicine.

Threat: When a health worker experience a promised use of physical force or power (i.e. psychological force) resulting in fear of physical, sexual, psychological harm or other negative consequences from a patient and/or attendant(20).

Victim: Any health worker who is the object of act(s) of violence or violent behaviour(s)(20).

Workplace: The unit in the hospital that the patients get services from the health care worker.

4.11 Ethical consideration

Ethical clearance was obtained from Institutional Review Board (IRB) of Jimma University. Written informed consent was obtained from participants clearly informing them the purpose and procedure of the study. All steps in data collection and compilation was supervised by the principal investigator. Strict confidentiality were assured through anonymous recording and coding of questionnaires and placed in a safe place. Participation in this study was completely voluntary. Participants had full right to withdraw the consent and leave the study at any time.

4.12 Dissemination of Results

The result of the study will be presented to the department of pediatrics and child health, Jimma University. The final result from the study will be submitted to the Research and Postgraduate Office, Jimma University in a form of written report. Subsequently, the study result will be published on peer reviewed journal.

CHAPTER FIVE: Results

5.1. Socio-demographic characteristics of the study participants

Three hundred three health care professionals working at Jimma medical center were involved in this study yielded 303(98.05%) response rate. Most 221(72.9%) of study participants were between 26 to 35yrs old and 119(63.4%) of them were male. With regard to professional status; 110(36.3%) were nurse, 75(24.85%) residents, 100(33%) medical interns and 18(5.9%) of them were senior. Among them 112(37%) have less 1 yr work experience, 95(31.4%) had work of experience 1-4 yr and 96(31.7%) had 5-9 yr of work experience in the JMC.

Table 1: Individual characteristics of health care professionals working at JMC, South-West Ethiopia, 2023.

Variables	Category	Frequency	Percent
Age	<= 25 yr	72	23.8
	26 to 35yrs	221	72.9
	>= 36 yr	10	3.3
Sex	Female	111	36.6
	Male	192	63.4
Profession	Nurse	110	36.3
	Resident	75	24.8
	Medical intern	100	33.0
	Senior	18	5.9
Work experience	=/<1yr	112	37.0
	1 - 4 yr	95	31.4
	5 - 9 yr	96	31.7

5.2 Workplace related characteristics of the study participants

Among the responded participants majority 229(75.6%) of respondents have been working in shifts and almost all 297(98%) of them had routine direct Physical contact with Patient. Regarding respondents working department; 72(23.8%) were pediatrics, 75(24.8%) medical, 65(21.5%) oby/gyn, 68(22.4%) surgical and 23(7.6%) of them were from emergency departments. Most 214(70.6%) of the patients they worked with were both male and female in sex category. More than 10 staffs were present in the same works for more than half 198(65.3%) of study participants. About 247(81.5%) responded that there is no reporting procedure in the institution and 54(17.8%) of respondents replied yes, of whom responded yes 34(63%) do not know how to use them.

Table 2: Workplace related characteristics of the health care professionals working at JMC, South-West Ethiopia, 2023

Variables	Category	Frequency	Percent
Do you work in shifts	Yes	229	75.6
	No	74	24.4
Do you have routine direct Physical contact with Patient	Yes	297	98.0
	No	6	2.0
The sex of the patients you most frequently work with are	Female	69	22.8
	male	20	6.6
	Both	214	70.6
Where is your working department	Pediatrics	72	23.8
	oby/gyn	65	21.5
	Emergency	23	7.6
	Medical	75	24.8
	Surgical	68	22.4
Number of staff present in the same work	1 - 4	18	5.9
	5 - 9	87	28.7
	>= 10	198	65.3

Are there procedures for the reporting of violence in your workplace	Yes	54	17.8
	No	247	81.5
	I don't know	1	.7
If YES, Do you know how to use them	Yes	20	37
	No	34	63

5.3 Institutional factors of the study participants

From the study only 46(15.2%) of respondents were replied yes for existence of institution policy on workplace violence in JMC and more than half 185(61.1%) had yes response to presence of some form of measures to deal with workplace violence in which, only 40(21.6%) of them were satisfied with the measures.

From measures available to deal with workplace violence; majority of the participants reported there is security measures 91.9% followed by improved surroundings (e.g. lighting, noise, privacy) 29.2% and there is restricted public access 17.3% in JMC.

The main perceived contributing factors of workplace violence in the institution suggested by the respondents were Misunderstanding 69.6%, long waiting time for service 60.7% and stressful emergency situation 39.6%.

Table 3: Institutional factors of the health care professionals working at JMC, South-West Ethiopia, 2023

Institutional factors	Category	Frequency	Percent
Is there an institution policy on Workplace violence	yes	46	15.2
	no	257	84.8
Is there Measures to deal with workplace violence in your organization	yes	185	61.1
	no	118	38.9
Satisfied with the organizations measures	Yes	40	21.6
	No	145	78.4

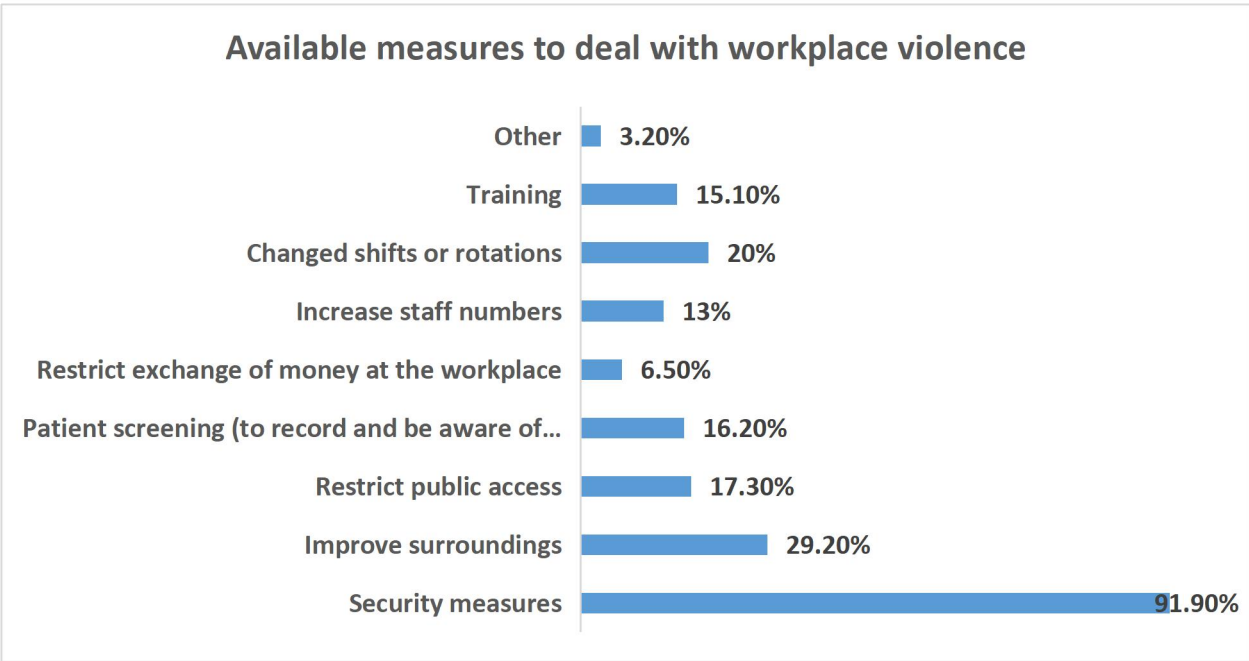


Figure 3: Response to institutional available measures existence among health care profession working at JMC, South-West Ethiopia, 2023

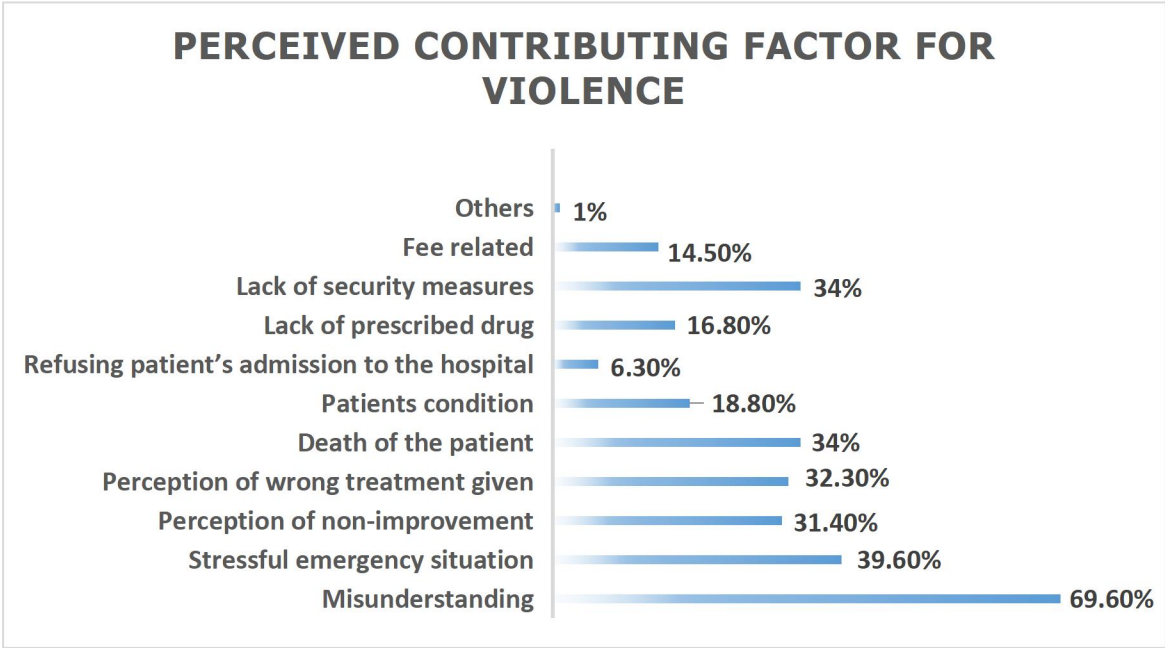


Figure 4: The perceived contributing factors towards workplace violence among health care professionals working at JMC, South-West Ethiopia, 2023

5.4 Magnitude of Workplace violence among health care professionals

According to this study, the prevalence of work place violence for any types in the last 12 month was 215(71%). From those Females 85(76.6%) countered more than males 130(67.7%), regarding work experience those who had 1-4yr experience 73(76.8%) encountered more violence. The study also shows that the level of violence is differ based on the profession which are Nurses 94(85.5%) encounter more violence then Residents 61(81.3%) and Medical Interns 60(60%), there no workplace violence report among the Senior respondents. Major departments included in the study and the result shows that about Emergency 23(100%) is the most violated department which is followed by Surgical 54(79.4%), Oby/gyn 47(72.3%), Medical 47(62.7%) and Pediatrics 44(61.1%).

Of the total of respondents who encounter verbal abuse 211(69.6%), patient relatives 150(71.1%) are responsible for verbal workplace violence and almost all 202(95.7%) of them were occurred inside health facility. About 124(58.8%) of the workers who encountered verbal violence didn't took no action. And 168(79.6%) no action was taken by the organization on the perpetrators.

From physical 65(21.5%) violence that happened in the last 12 months, 58(89.2%) was physical violence without a weapons. among the physical violence experienced by the Health professionals, 58(89.2%) instances were committed by patients' relatives. Out of the total physical violence committed against the professionals, 26(40%) happened during daytime 13;00-18;00hr. About 35(53.8%) physical violence happened during weekdays and 26(40%) happened during weekends. Majority of health workers those who encountered physical violence did not took any action 24(36.9%) and some defend by themselves physically 17(26.2%). Action was taken only for 4(6.3%). Almost around half 142(46.9%) of participants were witnessed incidents of physical violence in which, most 93(65.5%) of them were 2 to 4 times and only 24(16.9%) were reported.

Of the respondents 13(4.3%) had at least one incident of of sexual harassment in the past 12 month. Of these that half 7(50%) was committed by patient relative and out of the total sexual harassment committed 9(69.2%) inside health institution. About 6(46.2%) of workers didn't took any action and only 3(23.3%) are investigated.

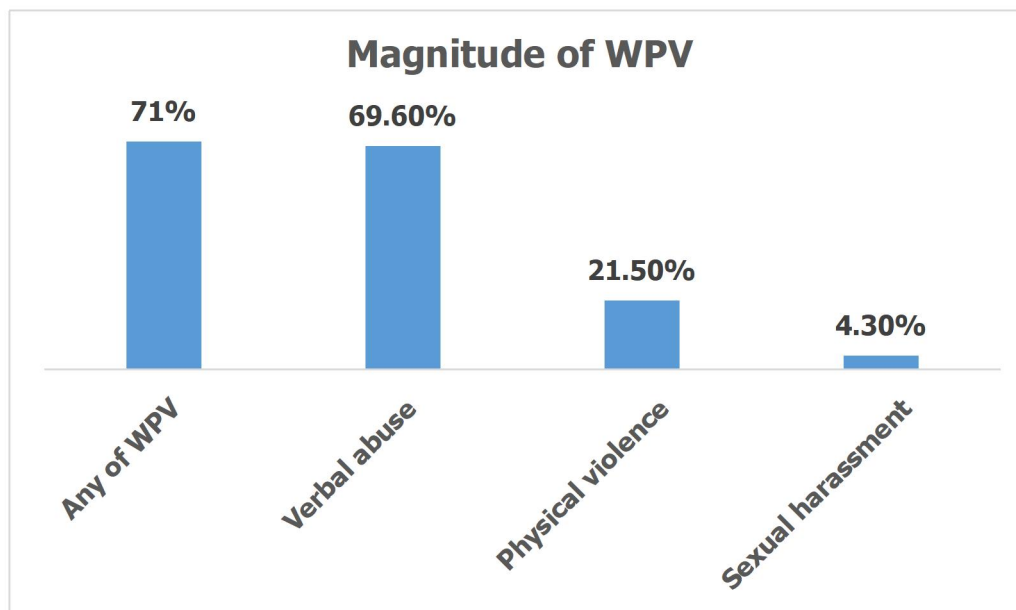


Figure 5: Magnitude of WPV and its forms among health care professionals working at JMC, South-West Ethiopia, 2023

Table 4: Frequencies of WPV in different categories among health care professionals working at JMC, South-West Ethiopia, 2023

Variables	Category	WPV	
		No(%)	Yes(%)
Sex	Female	26(23.4)	85(76.6)
	Male	62(32.3)	130(67.7)
Work experience	5 - 9	25(26)	71(74)
	=/<1	41(36.6)	71(63.4)
	1 - 4	22(23.2)	73(76.8)
Staff number	>/= 10	53(26.8)	145(73.2)
	1 - 4	8(44.4)	10(55.6)
	5 - 9	27(31)	60(69)
Profession	Nurse	16(14.5)	94(85.5)
	Resident	14(18.7)	61(81.3)

	Medical intern	40(40)	60(60)
	Senior	18(100)	0
Working department	Surgical	14(20.6)	54(79.4)
	Pediatrics	28(38.9)	44(61.1)
	oby/gyn	18(27.7)	47(72.3)
	Emergency	0	23(100)
	Medical	28(37.2)	47(62.7)

Table 5: Verbal workplace violence among health care professionals working at JMC, South-West Ethiopia, 2023

	Category	Frequency	Percent
have you been verbally abused in your workplace	Yes	211	69.6
	No	92	30.4
How often have you been verbally abused	All the time	38	17.9
	Sometimes	152	71.7
	Once	22	10.4
Who verbally abused you in your place of work	Patient	37	17.5
	patient relative	150	71.1
	others	24	11.4
Where did the verbal abuse take place	inside health facility	202	95.7
	outside	9	4.3
How did you respond	Took no action	124	58.8
	Pretend it never happened	32	15.2
	Told the person to stop	36	17.1
	Defend myself physically	7	3.3
	Told friends/family	26	12.3
	Sought counseling	4	1.9
	Told a colleague	25	11.8
	Reported to a senior staff	20	9.5
	Transferred to another position	3	1.4

Action taken to investigate	Yes	22	10.4
	No	168	79.6
	don't know	21	10

Table 6: Physical workplace violence among health care professionals working at JMC, South-West Ethiopia, 2023

	Responses	Frequency	Percent
Have you been physically attacked in your workplace	Yes	65	21.5
	No	238	78.5
How would you describe this incident	Physical violence without a weapon	58	89.2
	Physical violence with a weapon	7	10.8
Who attacked you	Patient	5	7.7
	Patients relative	58	89.2
	Others	2	3.1
At which time did it happen	07.00h. - before 13.00 h	2	3.1
	13.00 h. - before 18.00 h	26	40.0
	18.00h. - before 24.00 h	22	33.8
	24.00h - before 07.00h	4	6.2
	Don't remember	11	16.9
Have you witnessed incidents of physical violence	Yes	142	46.9
	No	161	53.1
how often has this occurred in the last 12 months	Once	24	16.9
	2-4 times	93	65.5
	5-10 times	13	9.2
	Several times a month	12	8.5
Which day of the week did it happen	Weekdays	35	53.8
	Weekend	26	40.0
	Don't remember	4	6.2
Have you reported an incident of	Yes	24	16.9

workplace violence	No	118	83.1
How did you respond	Took no action	24	36.9
	Pretend it never happened	2	3.1
	Told the person to stop	9	13.8
	Defend myself physically	17	26.2
	Told friends/family	11	16.9
	Sought counseling	6	9.2
	Told a colleague	6	9.2
	Reported to a senior staff	5	7.7
	Transferred to another position	1	1.5
Action taken to investigate	Yes	4	6.3
	No	60	93.8

Table 7: Sexual harassment among health care professionals working at JMC, South-West Ethiopia, 2023

	Category	Frequency	Percent
Have you been sexually harassed in your workplace	yes	13	4.3
	no	290	95.7
How often have you been sexually harassed	All the time	2	14.3
	Sometimes	8	57.1
	Once	4	28.6
Who sexually harassed you in your place of work	patient	1	7.1
	patient relative	7	50.0
	others	6	42.9
Where did the sexual harassment take place	inside health institution	9	69.2
	outside	4	30.8
Respond to the sexual abuse	Took no action	6	46.2
	Pretend it never happened	1	7.7
	Told the person to stop	3	23.1
	Defend myself physically	1	7.7

	Reported to a senior staff	3	23.1
Action taken to investigate	Yes	3	23.1
	No	5	38.5
	don't know	5	38.5

5.5 Factors associated with workplace violence against health care professionals

Bi-variate logistic analysis conducted at p value ≤ 0.25 to select the candidate variables for multivariable logistic regression analysis. After knowing the candidate variables through bivariate logistic regression analysis multivariate logistic regression was conducted to declare the level of statically significance variables associated with workplace violence. On bi-variate analysis; Sex, work experience, staff number, profession, working department, reporting procedures and respondent's satisfaction with the organizations measures were the variables candidates ($P < 0.25$) for multi-variate logistic regression. On final models the variables such as; profession, working department, reporting procedures and satisfaction with the organizations measures were significantly associated ($P < 0.05$) with WPV.

Nurses had increased odds of WPV by 3 (AOR: 3.370, 95%CI: 1.605, 7.075) times than Medical interns and Residents had increased odds of WPV by 2 (AOR: 2.288, 95%CI: 1.062, 4.932) times than medical interns. Health professional working in Surgical department had increased risk of WPV by 5.5 (AOR: 5.517, 95%CI: 1.814, 16.78) times than those working Pediatrics department. Absence of reporting procedures in working departments increases the probability of WPV by 5 times (AOR: 5.476, 95%CI: 3.026, 9.485). Absence of satisfaction towards the organizations measures increase the risk of WPV by 2 times (AOR: 2.649, 95%CI: 1.051, 4.813) when compared with its counterpart.

Table 8: Bivariate analysis of factors associated with WPV among health care professionals working at JMC, South-West Ethiopia, 2023 (n=303)

Variables	Category	COR	95%CI		P
			Low	High	
Age	≥ 36 yr				
	≤ 25 yr	1.852	1.061	3.233	.030

	26 to 35yrs	108289.365	.000	.	.999
Number of staff	>= 10				
	1 - 4	.457	.171	1.219	.118
	5 - 9	.812	.467	1.411	.461
sex		.641	.376	1.093	.103
Profession	Senior				
	Nurse	43.765	9.213	207.901	.000
	Resident	32.000	6.624	154.599	.000
	Medical intern	12.000	2.616	55.056	.001
Working experience	5-9 yr				
	=/<1 yr	.610	.336	1.107	.104
	1 - 4 yr	1.168	.604	2.260	.644
Working department	pediatrics				
	oby/gyn	1.949	.933	4.072	.076
	emergency	1028029445.451	.000	.	.998
	medical	1.068	.549	2.079	.846
	surgical	2.068	.993	4.308	.052
Do you work in shifts		.497	.287	.863	.013
Routine direct Physical contact with Patients		680199933.832	.000	.	.9999
Sex of the patients		.710	.514	.982	.038
Presence of reporting procedures		.855	.446	1.641	.639
Satisfied with the available measures		2.249	1.051	4.813	.037

Table 9: Multivariate analysis of factors associated with WPV among health care professionals working at JMC, South-West Ethiopia, 2023 (n=303)

Variables	Category	WPV		COR	AOR	95%CI	P
		No	Yes				
Sex	Female	26(23.4)	85(76.6)	1	1		
	Male	62(32.3)	130(67.7)	0.641	.741	.366,1.498	.404
Work experience	5 - 9 yr	25(26)	71(74)	1	1		
	=/<1 yr	41(36.6)	71(63.4)	.610	.690	.234,12.248	.602
	1 - 4 yr	22(23.2)	73(76.8)	1.168	1.693	.207,2.302	.546
Staff number	>= 10	53(26.8)	145(73.2)	1	1		

	1 - 4	8(44.4)	10(55.6)	.457	.666	.197,2.246	.512
	5 - 9	27(31)	60(69)	.812	.922	.441,1.929	.829
Profession	Medical intern	40(40)	60(60)	1	1		
	Nurse	16(14.5)	94(85.5)	3.917	3.370	1.605,7.075	.001
	Resident	14(18.7)	61(81.3)	2.905	2.288	1.062, 4.932	.035
	Senior	18(100)	0				
Working department	Pediatrics	28(38.9)	44(61.1)	1	1		
	Oby/gyn	18(27.7)	47(72.3)	1.662	.065	2.191, .953, 5.037	.065
	Emergency	0	23(100)	10280.4	.998	65389.657	.998
	Medical	28(37.2)	47(62.7)	1.068	.537	1.276, .588, 2.769	.537
	Surgical	14(20.6)	54(79.4)	2.455	5.517	1.814, 16.78	.003
Reporting procedures	Yes	34(63)	20(37)	1	1		
	No/I dont know	54(21.7)	195(78.3)	6.138	5.476	3.026,9.485	.048
Satisfied with the organizations measures	Yes	14(45.2)	17(54.8)	1	1		
	No	67(26.8)	183(73.2)	2.249	2.649	1.051,4.813	.037

CHAPTER SIX: Discussion

Workplace violence is a major problem in the health sector for health professionals. This study showed that the prevalence of workplace violence among health professionals in JMC is 71% in the past 12 months. This finding is similar to finding in Malawi which is 71%(35). This similarity could be due to similarity socioeconomic status. However it is lower when compared with 82.2% of Oromia region(18). This is due to the study was conducted in four referral hospitals of Oromia Regional State. On the other hand this study shows higher workplace violence than 30% in USA, 9.5% in England, 36.4% in Japan(9), 45% in Italy(22), 47.8% in Saudi Arabia(25), 62.1 in Gambia(34), 59.7% in emergency department of Ismailia, Egypt(10). This magnitude gap is possibly due to the socio-economic level difference noted between the developed and developing countries and it might be related to the violence prevention regulations, strategies and policies existed in those countries. From researches done on nurses in Ethiopia this study shows higher WPV than 58.2% in Gondar(36), 29.9% in Hawassa(15), 43.1% Gamo Gofa zone(16), 26.7% in Northwest(19), 64% Harar region(7). This might be due to the socio-cultural differences and nature the study that JMC is referral hospital in which high patients flow aggregated.

Many studies worldwide shows that verbal violence is the commonest workplace violence the health institutions which is comparable with our study that shows 69.6% verbal followed by 21.5% physical and 4.3% sexual harassment with patients' relatives were the leading perpetrators. Similarly the studies done on workplace violence among nurses in Ethiopia, Oromia region(18), Gondar(36), Hawassa(15), Gamo Gofa zone(16), Northwest(19), Harar region(7) and Amanuel hospital(17) shows verbal violence is the commonest one followed by physical and sexual with different magnitudes. This might be because verbal abuse is easy for perpetrators to commit and most of the time this type of violence will not leave the victim with tangible evidence to take action against.

The study shows that Females countered more violence than males and those who had work experience 1-4yr. This is similar with studies done in Palestine(26), Ghanna(37), Nigeria(43)

which is similar to the studies done in Gondar where females are most exposed in all forms of workplace violence(36) and in Hawassa also female sex, short work experience(15). This might be due to negative attitudes towards females ability and power which may explain the more common occurrence of violence on females. Regarding work experience that health workers with shorter service years had less experience in dealing or preventing various types of clashes and could not dissolve the possibility of an abuse incident promptly, so they experienced more counts of verbal and physical abuse.

It has been shown that workplace violence affects every professional group of health workers at different degrees with this study result shows the Nurses having highest violence 85.5% than Residents 81.3% and Medical Interns 60%, there no workplace violence report among the Senior respondents. The odds shows that Nurses had increased odds of WPV by 3 (AOR: 3.370, 95%CI: 1.605, 7.075) times than Medical interns and Residents had increased odds of WPV by 2 (AOR: 2.288, 95%CI: 1.062, 4.932) times than medical interns.. Studies done in USA(42), Italy(22) and Nigeria(43) also shows that Nurse are more violated than Doctors. These might be in that nurses' 'frontline' position means they directly interact with patients and their relatives for longer periods of time and are proportionally at higher risk of insult and injury. Patients presented in healthcare settings for consultation and treatment, and so depend directly on physicians for their treatment needs. This may make them less likely to strike out at doctors.

The clinical setting in which the health care professionals more violated were those working at Emergency (100%), Surgical(79.4%), Oby/gyn(72.3%), Medical(62.7%) and Pediatrics(61.1%). The odds shows that Health professional working in Surgical department had increased risk by by 5.5 (AOR: 5.517, 95%CI: 1.814, 16.78) times than those working Pediatrics department whereas no statistical significant difference with other departments. This finding is similar with studies done in USA(42), Italy(22), Nigeria(43). Similarly studies in Ethiopia Gonder(36) and Hawassa(15) shows violence is higher among emergency department. This might be happened due to as emergency departments are open twenty four hours in the absence of security guards, high number of patient admissions, the unstable & violent nature of patients and coupled with stressful working environment. Surgical department is a place where critical decision and time sensitive procedures conduct, the unexpected complications and the patients and care givers being in stress and fear that will contribute for the violence.

Absence of reporting procedures in working departments increases the probability of WPV by 5 times (AOR: 5.476, 95%CI: 3.026, 9.485). These factor was also noted in studies at Saudi Arabia(25), Nigeria(43), and also in Harar(7). This absence of formal reporting procedure might undermine the magnitude of the incident and was unable to take proper measures to minimize or prevent the incident of violence accordingly.

Additionally, workplace violence was more likely to be occurred among health workers who are dessatisfied by the organization. The odds of workplace violence among professionals who are less satisfied by the organizations measures had 2 times higher when compared to satisfied (AOR: 2.649, 95% CI: 1.051, 4.813). This might be indicating that those who were less satisfied were working in a clinically predisposed work environment.

Most of the contributing factors for workplace violence mentioned by the respondents were Misunderstanding (69.6%), long waiting time for service (60.7%) and stressful emergency situation (39.6%) which was similar to the study done in USA(42), Egypt(33) as well Oromia region(18). This is coincides with global increment of society intolerance and inclining towards violence.

Among the suggested measures to prevent workplace violence, security measures 91.9% were the most commonly implemented followed by improved surroundings (e.g. lighting, noise, privacy) 29.2% and there is restricted public access 17.3%. This can be generalized as working in environment which is poorly designed makes it easy to be violated.

6.3 Strength

- Self-administered questionnaire was used in order to decrease bias
- Large sample size was used for analysis
- The study used a validated and comprehensive tool that encompasses the magnitude and associated factors

6.4 Limitation

- the study does not include perpetrator factors as the perpetrators cannot be tracked at the time of the study.
- Since the study was cross-sectional, it does not confirm definitive cause and effect relationship
- It was prone to recall-bias.

Chapter Seven: Conclusion and recommendation

7.1 Conclusion

The result of the study reveal that the prevalence of workplace violence is high among health professionals in the institution. More than two third are verbal violence and the perpetrator were patient relatives. Female sex, short years of work experience, absence of reporting procedures and absence of satisfaction had a positive association with the incidence of workplace violence. Nurses has increased rate of workplace violence than others. Health professional working in Surgical department had increased risk of workplace violence than those working at Pediatric ward. The perceived contributing factors for workplace violence were Misunderstanding, long waiting time for service and stressful emergency situation. There is lack of standardized reporting procedure by managements would help to provide a more objective and the true picture of violence which might contribute to unable to take proper measures to minimize or prevent the incident of violence accordingly.

7.2 Recommendation

The study findings recommended for Jimma medical center management that:

- Prepare standardize reporting procedure.
- Appropriate training should be given for all health professionals on workplace safety and how to report workplace incidents in order to take appropriate action.
- There should be constant monitoring of the prevalence, reporting system and the prevention strategies.

To researchers:

- It's recommended to conduct further research on; the prevalence and associated factors for each working departments and their contributing factors; the impact of workplace violence on health care professionals;

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Annex I: Information sheet, Consent and Assent form (English version)

1. Information sheet

Dear Sir, madam

Good morning / afternoon; my name is _____. I am here today to collect data for a study entitled “**Prevalence and Associated factors of Workplace Violence of among health care professionals in JMC**” which is being conducted by Mekdes Zewde (MD, Pediatrics Resident) from department of Pediatrics and Child health, Jimma University Institute of health. The main purpose of this study is to determine the work place violence and factors associated among health professionals in JUMC.

In order to attain the goal effectively, I am asking for your generous help. Here is a format for you to complete. What is expected from you is to respond questions which take about 25 minutes. There is no need to put your name on the format. The data you provided will be kept in a highly confidential manner by using only code number which is filled by the principal investigator and locking the data and none of your personal identifiers will be on the questionnaire. No individual response was reported. It is your full right to participate or refuse in the study. However, your honest participation will have a great contribution. So please take a few minutes to answer these questions. If there is anything that clarification, please do not hesitate to ask the facilitator.

Do you wish to participate in the study?

Yes, I want to participate in the study (please go to the next page)

No, I do not want to participate.

Signature_____

Annex II: QUESTIONNAIRE

Please complete the questionnaire by either Circling boxes or writing in the spaces provided.

A. PERSONAL AND WORKPLACE DATA

PD 1	What is your age?	
PD 2	Sex:	1.Female 2.Male
PD 4	What is your profession?	1. Nurse 2. Resident 3. Medical intern 4. Senior 5. Other Please, specify _____
PD 5	How many years of work experience?	
PD 6	Do you work in shifts?	1.Yes 2.No
PD 7	Do you interact with patients during your work?	1.Yes 2.No (If yes, please answer questions 9.1 – 9.2) (If No, please go to question PD 10)
PD 8	9.1 Do you have routine direct Physical contact with Patients?	1.Yes 2.No
	9.2 The sex of the patients you most frequently work with are:	1.Female 2.Male 3.Both Female & Male
PD 9	Where is your working department?	
PD 10	The number of staff present in the same work setting with you during most (more than 50%) of your work time is?	
PD 11	Are there procedures for the reporting of violence in your workplace?	1.Yes 2.No/I don't know (If No/don't know; please go to PD 13)
	If YES, Do you know how to use them?	1.Yes 2.No

B. PHYSICAL WORKPLACE VIOLENCE

PV 1	In the last 12 months , have you been physically attacked in your workplace?	1.Yes 2.No (If Yes; please answer questions 2.1-2.2) (If No, please go to question PV 3)
PV 2	2.1 Please think of the last time that you were physically attacked in your place of work. How would you describe this incident?	1.Physical violence without a weapon/ Object 2.Physical violence with a weapon/Object

	2.2 Do you consider this to be a typical/ common incident of violence in your workplace?	1.Yes 2.No
	2.3 Who attacked you?	1.Patient 2.Relatives of patient 3.Other, please specify: _____
	2.4 At which time did it happen?	1.07.00h. - before 13.00 h. 2.13.00 h. – before 18.00 h. 3.18.00h. – before 24.00 4.24.00h - before 07.00h 5.Don't remember
	2.5 Which day of the week did it happen?	1.Weekdays 2.Weekend 3.Don't remember
	2.6 How did you respond to the incident? (Please tick all relevant answers)	1.Took no action 2.Tried to pretend it never happened 3.Told the person to stop 4.Tried to defend myself physically 5.Told friends/family 6.Sought counseling 7.Told a colleague 8.Reported it to a senior staff member 9.Transferred to another position
	2.7 Were you injured as a result of the violent incident?	1.Yes 2.No; (If NO, please go to question 2.9.)
	2.11 Was any action taken to investigate the causes of the incident?	1.Yes 2.No
	2.12 If yes, by whom	1.Management / Employer 2.Association 3.Community group 4.Police 5.Other: please specify

	2.13 What were the consequences for the attacker?	1.None 2.Verbal warning issued 3.Care discontinued 4.Reported to police 5.Aggressor prosecuted 6.Don't know
	2.15 If you did not report or tell about the incident to others, why not? (Please tick every relevant answers)	1.It was not important 2.Felt ashamed 3.Felt guilty 4.Afraid of negative consequences 5.Useless/No action will be taken 6.Did not know who to report to 7.Other, please specify:_____
PV 3	In the last 12 months , have you witnessed incidents of physical violence in your workplace?	1.Yes 2.No (if NO, please go to question PV 5)
PV 4	how often has this occurred in the last 12 months?	1.Once 2.2-4 times 3.5-10 times 4.Several times a month 5.About once a week 6.Daily
PV 5	Have you reported an incident of workplace violence in the last 12 months? (witnessed or experienced)	1.Yes 2.No

C. PSYCHOLOGICAL WORKPLACE VIOLENCE (Emotional Abuse)

I. VERBAL ABUSE		
VA 1	In the last 12 months , have you been verbally bused in your workplace?	1.Yes 2.No (If yes; please answer the following questions) (If No; please go to section II)
VA 2	How often have you been verbally abused in the last 12 months?	1.All the time

		2.Sometimes 3.Once
VA 3	Please think of the last time you were verbally abused in your place of work. Who verbally abused you?	1.Patient 2.Relatives of patient 3.Other: _____
VA 4	Do you consider this to be a typical/common incident of verbal abuse in your workplace?	1. Yes 2. No
VA 5	Where did the verbal abuse take place?	1. Inside health institution or facility 2. Outside (on way to work/health visit/home)
VA 6	How did you respond to the verbal abuse?(Please tick all relevant answers)	1. Took no action 2. Tried to pretend it never happened 3. Told the person to stop 4. Tried to defend myself physically 5. Told friends/family 6. Sought counseling 7. Told a colleague 8. Reported it to a senior staff member 9. Transferred to another position
VA 7	Was any action taken to investigate the causes of the verbal abuse?	1. Yes 2. No 3. don't know (If No/ Don't know, please go to qn VA 8)
	If YES, by whom: (please tick every relevant answers)	1. Management / Employer 2. Association 3. Community group 4. Police 5. Other: please specify _____
	If YES, what were the consequences for the abuser?	1. None 2. Verbal warning issued

		3.Care discontinued 4.Reported to police 5.Aggressor prosecuted 6.Other: please specify _____
VA 8	If you did not report or tell about the incident to others, why not? (Please tick every relevant answers)	1.It was not important 2.Felt ashamed 3.Felt guilty 4.Afraid of negative consequences 5.Useless/No action will be taken 6.Did not know who to report to 7.Other, please specify: _____

II. SEXUAL HARASSMENT

SH 1	In the last 12 months , have you been sexually harassed in your workplace?	1.Yes 2.No , (If Yes, please answer the following questions) (If No, please go to Section C)
SH 2	How often have you been sexually harassed in the last 12 months?	1.All the time 2.Sometimes 3.Once
SH 3	Please think of the last time you were sexually harassed in your place of work. Who sexually harassed you?	1.Patient 2.Relatives of patient 3.Other: _____
SH 4	Do you consider this to be a typical/common incident of sexual harassment in your workplace?	1.Yes 2.No
SH 5	Where did the sexual harassment take place?	1. Inside health institution or facility 2. Outside (on way to work/health visit/home)
SH 6	How did you respond to the sexual harassment? Please tick all relevant boxes	1. Took no action 2. Tried to pretend it never happened 3. Told the person to stop 4. Tried to defend myself physically

HE 2	Is there Measures to deal with workplace violence in your organization?	1. Yes	2. No
HE 3	What measures to deal with workplace violence exist in your workplace? (Please tick every relevant answers)		
	1.Security measures (e.g. guards, alarms, portable telephones)		
	2.Improve surroundings (e.g. lighting, noise, privacy)		
	3.Restrict public access		
	4.Patient screening (to record and be aware of previous aggressive behavior)		
	5.Restrict exchange of money at the workplace (e.g. patient fees)		
	6.Increased staff numbers		
	7.Changed shifts or rotations (i.e. working times)		
	8.Training (e.g. workplace violence, coping strategies, communication skills, conflict resolution, self-defense)		
	9.None of these		
	10.Other: please, specify _____		
HE 4	Are you satisfied with the organizations measures?	1. Yes	2. No
HE 5	What do you think is the contributing factor for you encountering violence?	1.Long waiting time for service 2.Misunderstanding 3. Stressful emergency situation 4. Perception of non-improvement 5. Perception of wrong treatment given 6. Death of the patient 7. Patients condition (Under influence of substance e.g chat, alcohol or mental illness) 8. Refusing patient’s admission to the hospital 9. Lack of prescribed drug 10. Lack of security measures 11. Fee related 12. Other (please, specify) _____	

THANK YOU