Patient Safety Culture and Associated Factors among Healthcare Professionals in Public Hospitals of Jimma Zone,Southwest Ethiopia,2022

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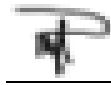**December ,2022**

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This Thesis by Mesfin Medina is accepted in its present form by the board of examiners as satisfying Research requirements for The Degree of Master of Healthcare and Hospital Administration (MHA)

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DECLARATION

I the undersigned declare that this Research is my original work, has never been presented in this or any other university, and that all resources and materials used for the thesis have been duly acknowledged.

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ABBREVIATIONS AND ACRONYMS

AHRQ	Agency for Healthcare Research and Quality
AIDS	Acquired Immune- Deficiency Syndrome
APPS	African Partnership for Patient Safety
CEO	Chief Executive Officer
CSA	Central Statistics Agency
EU	European Union
HCW	Healthcare Workers
HSOPSC	Hospital Survey on Patient Safety Culture
LMIC	Low and Middle Income Countries
OECD	Organization for Economic Cooperation and Development
PSC	Patient Safety Culture
SAQ	Safety Attitude Questionnaire
SPSS	Statistical software Package for Social Sciences
SRS	Simple Random Sampling
UHC	Universal Health Coverage

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ABSTRACT

Introduction: Patient safety culture is defined as the shared attitudes, beliefs, and values among staff members within an organization towards patient safety. Today, there is a lot of anxiety about the safety of medical care. Patient injury is a challenge for worldwide public health, especially in emerging and transitional nations. This study aimed to asess patient safety culture and associated factors among health care professionals in Jimma zone public hospitals,Jimma,Southwest Ethiopia, 2022.

Method: Institutional-based cross-sectional study was conducted among 422 health-care professionals selected using simple random sampling from May 30 to June 30, 2022. A pretested self-administered questionnaire was used to collect data. Data were cleaned ,coded and entered into Epi-Data version 4.6 and exported to SPSS version 25.0. for analysis. Bivariable and multivariable logistic regression analysis were carried out to identify the true effects of the selected independent variables on the outcome variable. All variables having a p-value of < 0.25 are considered a candidate for multivariable logistic regression. Adjusted odds ratios together with their corresponding 95% confidence intervals and a p-value of < 0.05 were used to declare statistical significance in the final multivariable logistic regression model.

Result: A total of 409 respondents gave complete responses with a response rate of 96.9%. More than half, 234(57.2%) with [95% CI: (48.0-57.5)] had good patient safety culture. Three out of 12 composite measures had higher positive responsesresponses [Teamwork within unit(77%), Feedback and coomunication about error (76%), and Organizational learning/continuous improvements (74%)]. In the final model of multivariable logestic regression analysis, working 40 and less hours per week in a hospital [AOR=2.87, 95% CI= 1.53-5.36] and reporting adverse events in the past 12 months [AOR=2.03, 95% CI=1.30-3.18] were were factors independently associated with the good level of Patient safety culture.

Conclusion: The study indicated that the overall level of patient safety culture was above 50%. The resut revealed that working hours spent in hospital and reporting occurrence of adverse events were important factors that increased level of patient safety culture. As a result, the study findings point to the necessity of creating and putting into practice patient safety culture improvement strategies to provide patients with the highest possible standard of care.

Key words: Patient safety, Patient safety culture,Health professionals,Jimma zone

1. INTRODUCTION

1.1. Background

Patient safety is defined as the attitudes, perceptions, and values that staffs share within an organization related to patient safety (1). Patient's safety culture reflects the perceptions of processes, norms, and attitudes relating to a culture of preventable errors shared by health professionals in the delivery of care (2).

It is a new and emerging phenomenon; historical evidence indicates that concerns for patient safety have existed for a long time before modern healthcare. More than 150 years ago, Florence Nightingale stated that "the very first requirement in a hospital is to do no harm to patients"(3) on other hand patient safety is an established cornerstone of healthcare quality. As the discipline around safety has evolved and attracted political attention, patient safety has become recognized with international importance (4).

Developing a patient safety culture in a healthcare facility is among the priority recommendations by the international health community and incident reporting has been considered as an indispensable pillar. According to the literature, errors in the healthcare delivery system are inevitable, multidimensional, and ever-lasting threats to patient safety. A diverse interaction of human behavior, sociocultural features, technical aspects of a system, and a wide range of system weaknesses contribute to medical errors Although all errors do not cause harm to patients, professional errors exhibit system's vulnerability (5). A safety culture or climate involving the patient, healthcare professionals and the institutions is advocated to reduce the risk of adverse events relating to exposure to medical care and have linked the safety culture in different types of healthcare organizations to patient safety outcome. Medical errors are difficult to measure owing to inadequate reporting and varied definitions, this being further compounded by the fact that most incidents of medical error are not single acts, but rather a chain of events (6).

Its practices have "those actions implemented to reduce the risk of adverse events related to exposure to health care across a range of diagnoses or conditions". The healthcare industry involves high risk of morbidity and mortality thus it is considered to be a high hazard industry

and it needs assessment of safety culture (7). Hospitalized patients face safety issues from different dimensions among those medication safety, infection prevention and quality of nursing care (8). Therefore, patient safety and safety culture became a major concern in healthcare systems and many "experts believe that healthcare quality and safety must be investigated within the framework of systems and contextual factors in which errors and adverse events occur"(9). It is also widely recognized as a significant driver in changing behavior and expectations to increase and emphasize safety within organizations.This implies a discipline of coordinated efforts to avoid patient harm caused during the process of health care itself. Patient safety and initiatives of developing safety cultures to assure patients from harm have slowly but steadily become one of the central concerns in quality improvement (10).

According to the Agency for Healthcare Research and Quality (AHRQ) developing a patient safety culture was one of the recommendations made by the Institute of Medicine to assist hospitals in improving patient safety (11).

1.2. Statement of the problem

Patient safety is a serious global public health issue (12). It is estimated that there is a 1 in 3 million risk of dying while travelling by airplane. In comparison, the risk of patient death occurring due to a preventable medical accident, while receiving health care, is estimated to be 1in300. Industries with a perceived higher risk, such as the aviation and nuclear industries, have a much better safety record than health care does (13).

Unsafe health care can have tragic consequences for individual patients, but its effects reach much further: a lack of focus on patient safety has major financial implications for both high-income countries and low- and middle-income countries. The available evidence suggests that 15% of hospital expenditure and activity can be attributed to treating safety failures in OECD countries. Poor-quality care imposes costs of US$ 1.4 trillion to 1.6 trillion each year in lost productivity in low- and middle-income countries. At the political level, the cost of safety failure includes loss of trust in health systems, in governments and in social institutions (14). In European countries with advanced healthcare systems, adverse events due to healthcare provided occur in 8 to 12% of hospitalizations. Adverse events have a significant impact on

patient morbidity and mortality. In Spain, 9–12% of patients treated in hospitals, including in emergency departments, suffer an adverse event (15).

According to data from the World Health Organization, in developed countries as many as 1 in 10 patients are at risk of experiencing incidents of patient safety when receiving hospital care with 50% of incidents being prevented. Whereas in low and middle income countries the rate of occurrence of Adverse Event is 8%, of which 83% can be prevented and 30% has the potential to cause death (16).

The occurrence of adverse events, resulting from unsafe care, is likely to be one of the 10 leading causes of death and disability worldwide. Recent evidence suggests that 134 million adverse events occur each year due to unsafe care in hospitals in low- and middle-income countries (LMICs), resulting in 2.6 million deaths annually (13).

Studies done in University of Gondar Comprehensive Specialized Hospital and in Public Hospitals of Northwest Nigeria revealed; gender,educational status,participation in patient safety program, number of event reported, working hours spent in hospital,staffing, handof and transitions, hospital management encourage reporting event and working unit were all factors influence level of patient safety culture (17,18).

There is limited data on medical errors occurring in hospitals across Africa. Nevertheless, as part of the initiative by the WHO to promote patient safety around the world, an African Partnership for Patient Safety (APPS) was established in 2009 (WHO, 2016:2) (19). Considering the challenges in the health care setting in Africa, many patients may be suffering from adverse patient safety events such as prolonged ill- health, protracted hospital stays, disability, disease and even death caused by unsafe vaccinations, injections, blood transfusions, counterfeit or substandard drugs, unreliable equipment and practices, inadequate infection control, and overall poor health services, facilities and environments (20) Additionally, the pandemic of covid-19 devastate patient safety culture of health workers (21).

In developing countries studies related to patient safety were infrequent and limited in scope. In Ethiopia, poor patient safety practices in public healthcare facilities have become a significant public health challenge due to one or a combination of factors related to healthcare provider or

patient-related factors. The overall patient safety culture is below the AHRQ standards i.e. 75% (2,11). Thus, it has become necessary to carry out investigation concerning patient safety culture and associated factors among healthcare proffessionals in Jimma zone public hospitals and to identify the areas that need intervention.

1.3. Significance of the study

In this study information was generated on the level of patient safety culture and the factors associated with it, hence it helps health institutions to identify and act on areas where gaps are identified in patient safety culture and to plan patient safety improvements in their institutions. Factors identified in the study as having an impact on patient safety culture can thus be used to improve the quality of healthcare patients receive.

Also it helps hospital managers,policy makers and future researchers to understand the attitude of professionals towards their activities, appreciate their collective culture in the institution, identify areas that needs improvement and intervene together to enhance the patient safety culture and design policies, strategies, guidelines and protocols in order to improve patient safety and quality of care. Additionally, the study findings would generate information for further research and could add to the body of knowledge in the patient safety field.

2. LITERATURE REVIEW

2.1. Patient safety culture and its main dimensons

To highlight the need for patient safety, a recent study concluded that approximately 210,000, or one-sixth, of United States (US) deaths each year are related to preventable adverse events in hospitals. However, this number is estimated to represent only half of the actual deaths due to errors, but could not be confirmed due to non-completeness of medical records. Another study identified that adverse events occurred in one out of every three of hospital admissions, but estimated that true rates are likely higher (22).

A Survey conducted rearding Patient safety culture at 3 hospitals in Trnava region in Slovak(EU) revealed that the level of patient safety culture was evaluated positive by 50% of healthcare workers. The highest scores were obtained in specific dimensions as overall perception of safety (74%) and handoffs and transition (70%). According to the results of the survey , health care workers considered teamwork across hospital units (35%) and hospital management support for patient safety issues (39%) as being weak areas, from their perspective. Staff also admitted to being fearful of adverse event reporting. Physicians and nurses had significantly a different looking at an communication, adverse events reporting and staffing in surveyed hospitals (23).

A correleational study done in Sweden indicated that the highest rated culture dimensions were "teamwork within units" and "non- punitive response to error," and the lowest rated dimensions were "management support for patient safety" and "staffing."(24).

A cross-sectional study done in Brazil showed that Sixty-nine professionals expressed that the best dimensions evaluated were: "expectations and actions to promote the safety of supervisors and managers" (75%) and "support from hospital management to patient safety" (64%). The worst evaluations were: "non-punitive responses to errors" (27%) and "general perceptions about patient safety" (35%), demonstrating that there still is a culture of fear of causing harm and the need for educational actions on patient safety. In general, all professionals have close contact with patients, regardless of the length on duty; however, the weekly workload and turnover in

this sector is leading to a greater chance of errors. One -third of the respondents scored PSC as "Good" in the studied institutions (25).

A similar study conducted in Peru, demonstrated that 18% of healthcare professionals rate the degree of patient safety in their unit of work as excellent or very good. Significant differences are observed between the patient safeties grades in the private sector (37%) compared to the public sub-sectors (13–15%). The most significant difference support comes from patient safety administrators through communication and information about errors (26).

A study done in China showed that the average positive response rates of this study were generally higher than the data from the 2018 Agency for Healthcare Research and Quality (AHRQ) survey and the 2015 HSOPSC Shenzhen survey (27).

In Indonesia, the number of patient safety Incidence in 2010 were higher found in local government hospital (16%) rather than in private hospital (12%)7 In 2011, the number of patient safety incidence were increasing from January (0,0%), February (3,9%), March (5,15%) and in April (26,76%) (28).

Study done in Gulf Arabian, Iran, indicates that the strengths of patient safety culture in public hospitals were in three dimensions including non-punitive response to errors (80%), organizational learning—continuous improvement (79.77%), and overall perceptions of patient safety (75.16%), and in private hospitals, three dimensions of strength were non-punitive responses to errors (71.41%), organizational learning & continuous improvement (69.24%), and teamwork within units (62.35%) (29).

Similar study done in Jordan showed that overall perception of patient safety was 42%. The highest positive participant response came from 'Teamwork within units' (average of 68%) (30).

The finding of a study conducted in Kuwait at 16 public hospitals the overall response rate was 60.5% (20,003 distributed surveys). Areas of strength were Teamwork within Units, Organizational Learning—Continuous Improvement, Management Support for Patient Safety, Supervisor/Manager Expectations & Actions Promoting Patient Safety, and Feedback and Communication about Error (31).

Among the patient safety aspects, in Saudi Arabia, Patient safety grade received the highest mean value, whereas handoffs and transitions received the least consensus. Hospital work experience significantly correlated to work area , communications, and the number of events reported in the patient safety dimension. Moreover, the number of years in the area/unit significantly related to the work area and supervisor/manager (32).

In African Region, Nigeria a total, 41.1% rated patient safety culture as favorable. The highest range of the reported events was 3-5 (28.6%). The composite with the highest positive response was 'teamwork within units' (81.3%), while the dimension of 'events reported' had the lowest frequency (33).

A study conducted in Ghana found that two out of twelve patient safety culture dimensions recorded high positive response rates (70%). These include teamwork within units (81.5%) and organizational learning (73.1%).Three patient safety culture dimensions (i.e. staffing, non-punitive response to error and frequency of events reported) recorded low positive response rates (50%) (34).

According to a survey done in teaching hospitals in Tunisia, the overall safety score for care was 59.1%. The percentage of positive responses in the various dimensions varied from 31.4% for "Management support for patient safety" to 81.9% for "Manager Expectations and actions promoting patient safety" , the only dimension Considered as developed (> 75%) (35).

A study investigated the level of patient safety culture among health care professinals in Southern Nations Nationalities and Peoples Region Public General Hospitals found that 58.4% of participant rated their patient safety culture as acceptable (36).

A crossectional study conducted at public hospitals in East Wollega Ethioia showed that the level of patient safety culture 49.2% and patient safety culture component scores ranged from 29.2% for nonpunitive responses to error to 77.9% for teamwork within a hospital unit (10).

Another crossectional study done in Jimma zone public hospitals revealed that the perceptions patient safety culture was 36.7% and Teamwork within the unit is the only area with above 75% positive response score which is (79.40%). Other areas with composite percentage of positive

response below 50% were frequency of event report (28.32%), hospital management support for patient safety (34.75%), hospitals handoffs and transition (41.39%), non-punitive response to error (44.77%), teamwork across the unit (47.47%) and communication openness (48.75%) (37).

Also the findings of another a facility based crossectional study conducted in Jimma revealed the overall safety culture among healthcare professionals in the zone was 46.7% (38).

2.2. Factors associated with patient safety culture

According to a study done in sweeden showed that long professional experience (>15 years) was associated with increased probability for high overall patient safety. Compared with general wards, the probability for high overall patient safety was higher for emergency care but lower for psychiatric care. The probability for high overall patient safety was higher for both enrolled nurses and physicians compared with managers (24).

A crossesctional study done in Shenzhen hospitals in China showed that respondents who had direct contact with patients were less likely to report high overall patient safety grade. The probability of high overall patient safety grade was rated higher by men than by women. Compared with nurses, the probability of high overall patient safety grade was higher for both physicians and technicians (27).

A study conducted in Japan showed that working hours and night shifts and days off of healthcare workers are related to patient safety culture (39).

A study conducted in Gulf Arabian, Iran showed a negative impact of a work shift, occupational burnout and hospital type on the observance of patient safety culture (29).

A comparative crossectional study done in Jordan indicated that organisational learning/ continuous improvement, hospital handoffs and transitions, years of experience in the current hospital, super-visor's/manager's expectations and actions in promoting patient safety, and gender were predictors of Patient safety culture (40).

A research done regarding healthcare professionals' perceptions toward patient safety culture in Saudi Arabia demonestratd hospital work experience, communications, number of events

reported and the number of years in the area/unit significantly related and supervisor/manager were factors significiantly associated with patient safety culture (41).

A facility-based cross-sectional study was indicated in Health care professionals in Bale Zone showed that that hours worked per week, participation in a patient safety program, reporting of adverse events, communication openness, teamwork within hospital, organizational learning and exchange of feedback about error were significantly associated with patient safety culture (12).

2.3. Conceptual framework

The conceptual framework for this study was designed to incorporate the main factors which influence the dependent variable (patient safety culture) it consists of Like HSOPSC (42)
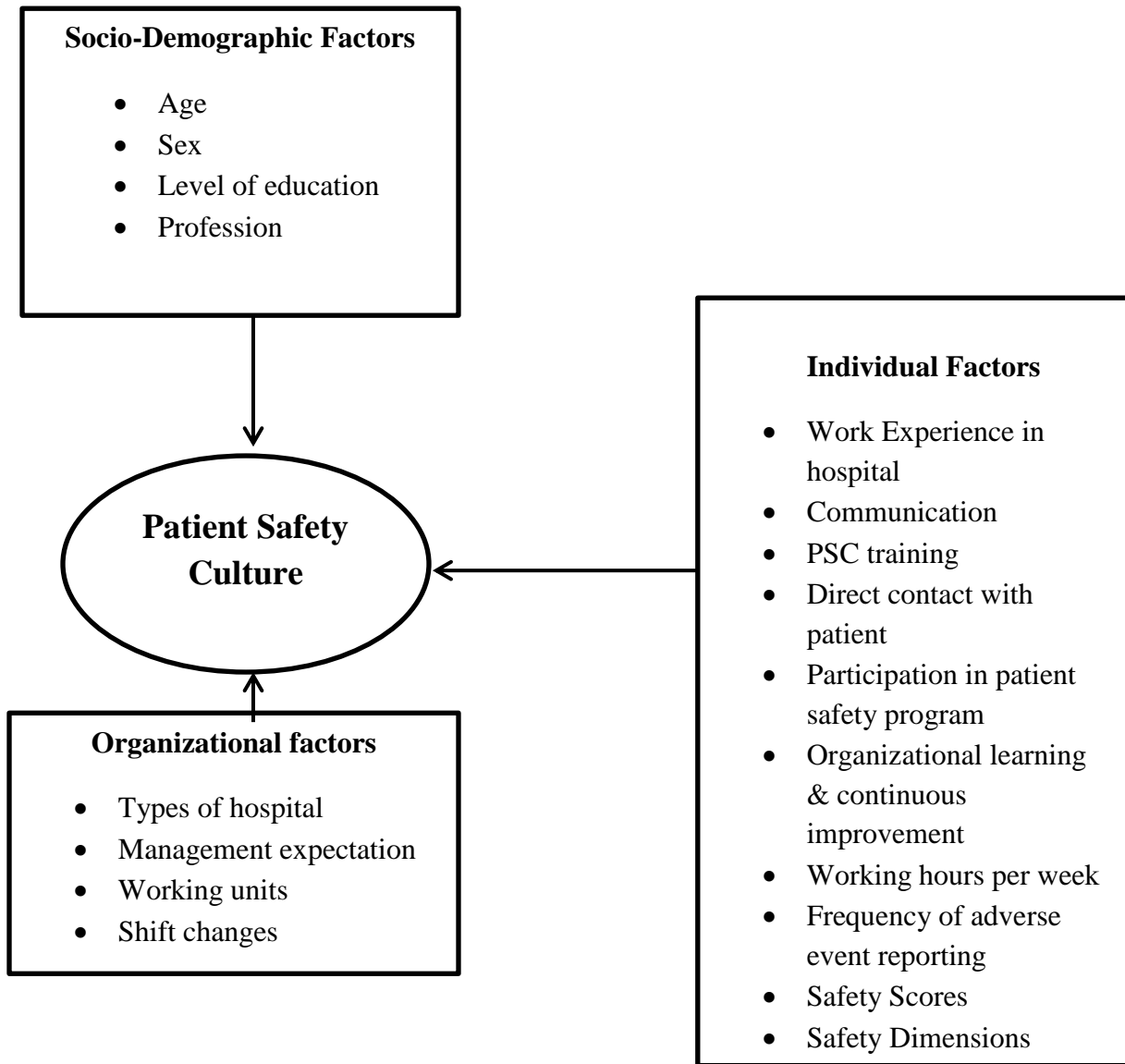
Figure 1:Conceptual frame work on patient safety culture and associated factors among healthcare professionals in jimma zone public hospitals, Jimma, Southwest,Ethiopia,2022.

3. OBJECTIVES

3.1. General Objective

To assess patient safety culture and associated factors among healthcare professionals in public hospitals in Jimma zone, Southwest Ethiopia, 2022.

3.2. Specific Objectives

To determine patient safety culture among healthcare professionals of public hospitals in Jimma zone.

To identify factors associated with patient's safety culture among healthcare professionals of public hospitals in Jimma zone.

4. METHODOLOGY

4.1. Study area

The study was conducted at public hospitals found in Jimma Zone, Southwest, Ethiopia. Jimma zone is one of the 22 zones of the Oromia Regional State found at 352 km from Addis Ababa, the capital city of Ethiopia, found in the Southwestern part. This Zone has a total population of 3,363,447 of whom 1,715,716 are men and 1,648.031 women. The total population of Jimma town is around 227,499. This zone has twenty districts and two town administrations. (Jimma town and Agaro town) Jimma zone has five primary (Seka, Nada, Dedo, Seltema and Dimtu) and three general (Limmu Genet, Agaro, and Shenen Gibe), and one referral and teaching Hospital (JUMC) and have 121 health centers. The population being served by the hospitals is estimated to be more than 15 million including people from border zones and the southern part of Ethiopia. Those hospitals have a total of 716 healthcare professionals.

4.2. Study design and period

A Hospital-based cross-sectional study was conducted from May 30/2022 to June 30 /2022 at the public hospitals in Jimma zone.

4.3. Population

4.3.1 Source populations

All health professionals working in the public hospitals of Jimma zone administrations in the year 2022.

4.3.2 Study population

Selected health professionals working in different units in the selected public hospitals of Jimma zone, 2022.

4.4. Eligibility criteria

4.4.1. Inclusion criteria

Healthcare professionals, with at least six months of patient care experience and who were working in Jimma zone public hospitals during the data collection period.

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4.4.2. Exclusion criteria

Healthcare professionals who have extended leave and very ill during the data collection period.

4.5. Sample size Determination

The sample size was determined using Single population proportion formula by considering the following assumptions.

n= (Z_2^α) ×P (1-p)/d^2

Where

P- Proportion of patient safety culture was 49.2% from a previous study done in West Wollega Zone (11).

n; sample size

α/2; is Z value at 95% Confidence level (1.96) and

d; margin of error (d=0.05)

$\dfrac{(1.96\times 2)\times 0.49\times (1\text{-}049)}{0.05^2}$ =3.8416×0.49×1-049/0.0025=3.8416×0.2499=0.9596/0.0025=384

After adding 10% non-response rate, the final sample size obtained was 422.

4.6. Sampling techniques

Eight public hospitals were found in Jimma zone. A total of 716 healthcare professionals working in these public hospitals were identified, and an overall sample size of 422 was proportionally allocated to each hospital based on their number of healthcare professionals in each hospital. Then, Healthcare professionals were Proportionaly allocated based on the number of healthcare professional in each discipline. From each discipline, individual participants were selected using simple random sampling with a lottery method to attain the final sample size. Proportional to size allocation formula = ni× (nf /N)

Where ni -Number of Healthcare professionals working in each hospital

nf - final sample size of the study

N- Total number of Healthcare professionals working in Jimma zone public hospitals
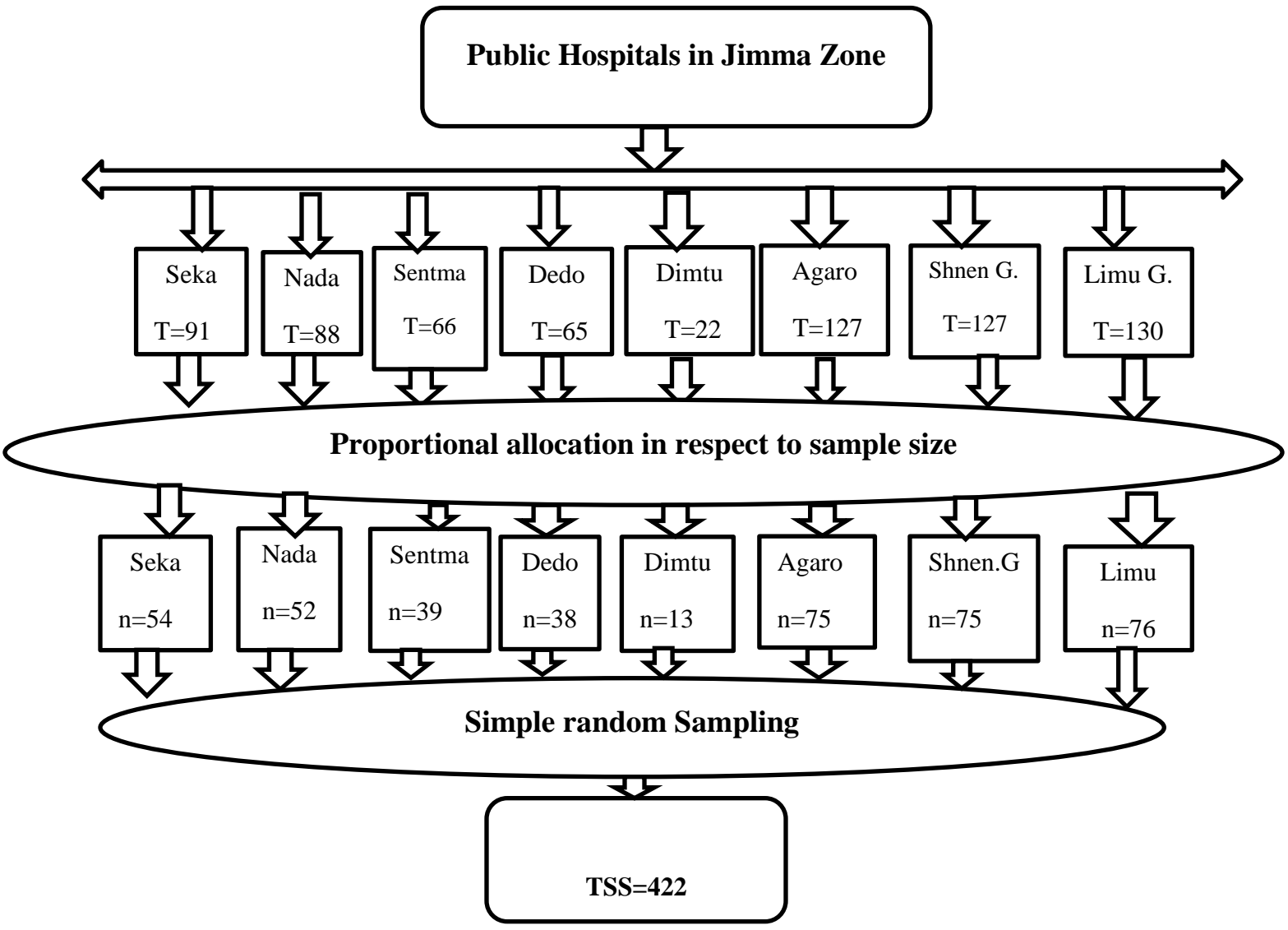
Figure 2:Schematic presentation of sampling procedures: Patient safety culture and associated Factors among health care professional In public hospitals of Jimma zone, Jimma ,Southwest, Ethiopia,2022.

Healthcare Research and Quality (AHRQ) USA, adopted Hospital Survey on Patient Safety Culture (HSOPSC). This survey questionnaire includes background characteristics and composite items or dimensions. (Communication Openness, Feedback and Communication About Error, Frequency of Events Reported, Handoffs and Transitions, Management Support for Patient Safety, Non punitive Response to Error, Organizational Learning—Continuous Improvement, Overall Perceptions of Patient Safety, Staffing, Supervisor/Manager Expectations for actions and promoting patient safety, Teamwork across Units and Teamwork Within Units. The hospital survey is designed specifically for hospital staff (healthcare professionals) and asks for their opinions about the culture of patient safety at their hospitals. The questionnaires make participants feel free when filling the questions and convenience to collect data The response to each item in the questionnaire was assessed using a 5-point Likert scale of agreement (from 1: 'Strongly disagree' to 5: 'Strongly agree') or frequency (from 1: 'Never' to 5: 'Always'). There were also two single-item outcome variables: the overall patient safety grade (measured on a scale of 'Excellent', 'Very good', 'Acceptable', 'Poor', and 'Failing')(16) .

4.8. Study Variables

4.8.1 Dependent variable

Patient safety culture

4.8.2 Independent variables

4.8.2.1. Socio demographic and economic factors

Age, sex, marital status, level of education, profession and monthly income.

4.8.2.2 Organizational factors

Types of hospitals, no of skilled professional, staffing, management expectation and working units.

4.8.2.3 Individual factors

Safety grade, experience in current hospital units, communication, PSC training ,participation in patient safety program ,organizational learning & continuous improvement ,working hours per week and direct contact with patient.

4.9. Operational definitions

Patient safety culture; is the specific form of general organizational culture which focuses on a narrowly defined aspect of performance, namely patient safe.

Good patient safety culture: score of ≥75% hospital Survey on Patient Safety Culture (HSOPSC) questions (1).

Poor patient safety culture: score of < 75% hospital Survey on Patient Safety Culture (HSOPSC) questions (1).

Patient safety; is a framework of organized activities that creates cultures, processes, procedures, behaviors, technologies, and environments in health care that consistently and sustainably: lower risks, reduce the occurrence of avoidable harm, make error less likely and reduce its impact when it does occur or is the avoidance and prevention of patient injuries or adverse events resulting from the processes of health care delivery.

An "**event**" is any type of error, mistake, incident, accident, or deviation, regardless of whether or not it results in patient harm

Communication Openness; Staff freely speak up if they see something that may negatively affect a patient and feel free to question those with more authority. It was measured using a 5 point Likert scale (1-strongly disagree to 5-strongly agree) of the three items and operationalized as the participants score on communication openness dimension on HSOPSC.

Feedback and Communication About Error ; Staff are informed about errors that happen, are given feedback about changes implemented, and discuss ways to prevent errors. It was measured using a 5-point Likert scale (1-never to 5-always) and operationalized as the participants score on the feedback and communications about error dimension on the HSOPSC.

Frequency of Events Reported; refers to assesses when mistakes if the following types are reported: whether or not it results in patient harm, and contains three items (1, Mistakes caught and corrected before affecting the patient, 2, Mistakes with no potential to harm the patient, and 3, Mistakes that could harm the patient but do not.) which measured by a 5-point-Likert scale (1-

never to 5-always) and operationalized as the participants response on frequency of events reported on dimensions of HSOPSC.

Handoffs and Transitions; assesses important patient care information is transferred across hospital units and during shift changes. It was measured by a scale of three items with five response categories and operationalized as the participants score on handoff and transitions dimensions on HSOPSC.

Management Support for Patient Safety; It refers to whether hospital management provides a work climate that promotes patient safety and shows that patient safety is a top priority. It was measured by measured by 3 items. Each item has five response categories' ranging from strongly disagree 1- to strongly agree-5.and operationalized as the participants score on hospital management support for patient safety dimension on HSOPSC.

Non punitive Response to Error; It measures whether Staffs feel that their mistakes and event reports are not held against them and that mistakes are not kept in their personnel file. The items were measured by asking respondents to evaluate this issue on 5-point Likert scales. (1-strongly disagree to 5-strongly agree) and operationalized as the participants score of Non-punitive response to error dimension on the HSOPSC.

Organizational Learning—Continuous Improvement; It refers whether Mistakes have led to positive changes and changes are evaluated for effectiveness. The items werec measured by using a 5-point Likert scale (1-strongly disagree to 5-stongly agree) and operationalized as the participants score on the organizational learning and continuous improvement dimension on HSOPSC.

Overall Perceptions of Patient Safety; This domain assesses Procedures and systems are good at preventing errors and there is a lack of patient safety problems. The four items were measured by using a5-point Likert scale ranging from excellent-1 to failing-5 and operationalized as participants score on dimension of overall perception of patient safety on HOSPSC.

Staffing; refers to how the staffs perceive their working area in terms of staff and related conditions .It was measured to assess whether there are enough staff to handle the workload and

work hours are appropriate to provide the best care for patients. It measures four items using a 5-point likert scales (1-strongly disagree to 5-strongly agree) and operationalized as respondents score on staffing dimension on the HSOPSC.

Supervisor/Manager Expectations; This domain assesses whether Supervisors/managers consider staff suggestions for actions promoting patient safety improving patient safety, praise staff for following patient safety procedures, and do not overlook patient safety problems. It was measured by four items using a 5-point Likert scale ranging from strongly disagree -1 to strongly agree-5.Supervisor expectation and actions promoting safety is operationalized as the participant score on the supervisor expectation and actions promoting safety dimension on the HSOPSC.

Teamwork across Units; The domain refers hospital units cooperate and coordinate with one another and encourage team work among staff from other units to provide the best care for patients. A 5-point Likert scale (strongly disagree -1 to strongly agree 5) was used to measure the four items of team work across units and operationalized as on the respondents score on teamwork across unit dimension on HOSPSC.

Teamwork Within Units; This domain assesses staffs within units cooperate each other for best care of patients or Staff support each other, treat each other with respect, and work together as a team .It includes four items measured by a 5 point-Likert scale ranging from strongly disagree-1 to strongly agree-5 and operationalized as on the respondents score on teamwork within units dimensions on HOSPSC (37).

4.10. Data Collection Tools and Procedure

4.10.1. Development of data collections

Data used for this study were collected using a semi-structured questionnaire developed by Agency for Healthcare Research and Quality (AHRQ) USA, adopted Hospital Survey on Patient Safety Culture (HSOPSC). The questionnaire includes background characteristics and composite items or dimensions It includes 42 items that measure 12 dimensions or composites ofpatient safety culture: 'Communication openness' (3 items), 'Feedback and commu- nication about errors' (3 items), "Frequency of events reported" (3 items), "Handoffs and transitions" (4 items), "Management support for patient safety" (3 items),"Non- punitive response to error" (3 items), "Organizational learn- ing–continuous improvement" (3 items), "Overall perceptions of patient

safety" (4 items), "Staffing" (4 items), "Supervisor/ manager expectations and actions promoting safety" (4 items), and "Teamwork across and within units" (4 items each).

The hospital survey is designed specifically for hospital staff (healthcare professionals) and asks for their opinions about the culture of patient safety at their hospitals. The response to each item in the questionnaire was assessed using a 5-point Likert scale of agreement (from 1: 'Strongly disagree' to 5: 'Strongly agree') or frequency (from 1: 'Never' to 5: 'Always'). for items with positive statements and while for negative statements items from 5: 'Strongly disagree' to 1: 'Strongly agree'. Negatively worded questions were reversed scored, with a higher factor score given to a lower numerical answer and vice versa. There were also two single-item outcome variables: the overall patient safety grade (measured on a scale of 'Excellent', 'Very good', 'Acceptable', 'Poor', and 'Failing')

Composite-level scores were computed by summation of the items within the composite scales and dividing by the number of items with non-missing values.

Strongly agreeing and agreeing, or agreeing most of the time and always, were combined and deemed positive responses. For the sake of statistical analysis, the final three response categories; strongly disagree, disagree, and neither or never, rarely, or sometimes were combined and treated as negative responses.

Reliability test was performed using the patient safety dimensions involved in measuring patient safety Cronbach's Alpha is 0.861 (43).

4.10.2. Data collection procedure

The data were collected over a month by trained six BSc. holders and two BSc. holders supervised the data. All data collectors and supervisors were recruited based on their previous experience in data collection. After identifying the study subjects, informed consent was obtained to confirm participants' willingness. Confidentiality was ensured for all of the study subjects.

4.11. Data Quality Management

To assure the quality of data, the following measures were considered; the validity of the questionnaire was maintained by using a questionnaire that was adopted from Healthcare

Research and Quality (AHRQ) USA, adopted Hospital Survey on Patient Safety Culture (HSOPSC). The instrument was pilot-tested by administering it to 21 healthcare professionals working in Dembi Primary Hospital. Training of one day was given on the objectives of the study, data collection process, and relevance of the study to both data collectors and a supervisor a week before actual data collection of the main research. The principal investigator and supervisor actively participated in the supervision of the data collection, and the completeness of the questionnaire was cross-checked daily for inconsistencies. Throughout the data collection period, data collectors were supervised and regular meetings was held between the data collectors, supervisor, and the principal investigator.

4.12. Data Processing and Analysis

After the required data were collected through self-admistered questionnarie , data were checked, edited, coded and entered into Epi- data version 4.6 and exported to SPSS version 25.0 statistical software for further analysis. The data were checked for completeness and consistency then it was cleaned. The results were summarized and presented in the form of text, tables & graphs.

To see the association, strength, and direction of association binary logistic regression was computed. All variables having a P-value of < 0.25 are considered a candidate for multivariable logistic regression to control for possible confounding effects. Multivariable logistic regression was applied using multivariate logistic regression to see the independent effect of each variable on the outcome variable. Multicollinearity test was checked using the variance inflation factor (VIF) and tolerance.

The Hosmer-Lemeshow goodness-of-fit test was used to assess the model's suitability. Odds Ratio (OR) and 95% CI were calculated for each independent variable against the dependent variable. Categorical variables having a significant association in the adjusted odds ratio were considered as associated factors with the outcome variable patient safety culture. Significance was obtained at Odd ratio with 95% CI and p-value < 0.05.

4.13. Ethical consideration

Ethical clearance was obtained from Institutional Review Board (IRB) of Institute of Health, Jimma University With Ref.No IHRPGO/22/21 .Permission letters were also obtained from each of the Jimma zone public hospitals Chief Executive Officer.

The study participants were informed about the following: The purpose of the study, their rights to withdraw at any time, Also they were informed that there was no any incentive or harm for their participation in this study. In addition, informed and voluntary oral consent was obtained from all respondents before the data collection. Anonymity and confidentiality were also assured since their names were not written in every part of the questionnaires.

4.14. Dissemination plan

The findings of this study wil be disseminated to Jimma University, Institute of Public Health, Department Of Health Policy And Management, as partial fulfillments of Master degree in Healthcare And Hospital Administration (MHA) It will be also communicated to Oromia Health Bureau and Jimma zone health department. Along with being published in national and international peer-reviewed journals, the findings will also be presented in a variety of seminars, meetings, and workshops.

5. RESULTS

5.1. Descriptions of study participants

Among 422 health care professionals who had received questionnaire, 409 completed and returned which makes a response rate of 96.91%.

From the total (409) respondents,more than two-third 288 (70.4%) were males and the mean age of the professionals was 26.98 (SD ± 2.993) years. Regarding the professions of the respondents more than half 212 (51.8%) were nurses. The higher level of education of professionals is BSc. holders 289 (70.7%). Majority, 324 (79.2%) of participants reported as working in the hospital from 40-56 hours per week and most of them,392 (95.8%) had direct contact with the patient In the past 12 months (table 1).

Table 1:Socio-demographic/work related characterstics of study participants in Jimma zone public hos   pitals, southwest Ethiopia 2022(n=409).

Variable	Category	Frequency(n)	Percentage (%)
Sex	Male	288	70.4
	Female	121	29.6
Age in years	≤ 29	354	86.6
	30-34	45	11
	≥35	10	2.4
Marital status	Single	237	57.9
	Married	169	41.3
	Divorced	3	0.7
Level of education	Diploma	56	13.7
	BSc	289	70.7
	MSc	20	4.9
	MD	44	10.8
Profession	GP	50	12.2
	Dentist	2	.5
	Nurse	212	51.8
	Lab. Tech.	36	8.8
	Pharmacist	43	10.5
	Mid-wives	42	10.3
	Radiology	14	3.4
	Anesthetist	4	1
	Psychiatrist	6	1.5

Type of hospital	Primary	195	47.7
	General	214	52.3
Monthly income	≤ 4500 ETB	40	9.8
	4501-7500 ETB	267	65.3
	7501-9500 ETB	88	21.5
	> 9501 ETB	14	3.4
Years of experience	1-3 years	257	62.8
	4-6years	120	29.3
	7-9 years	26	6.4
	≥ 10years	6	1.5
Primary work unit/most of you spent	Different unit/ many	46	11.2
	Medical	71	17.4
	Surgical	40	9.8
	Obestrics/ Gynecology	42	10.3
	Pediatrics	34	8.3
	Emergency	67	16.4
	Laboratory	33	8.1
	Pharmacy	45	11.0
	Radiology	16	3.9
	Psycatry	9	2.2
	Anesthiology	6	1.5
How long in current hospital	1---3 years	331	80.9
	4---6 years	69	16.9
	7---9 years	9	2.2
Hour per week	≤ 40 hours	286	69.9
	41----55 hours	64	15.6
	≥ 56 hours	59	14.4
Direct contact with patient	Yes	392	95.8
	No	17	4.2
In past 12 month event reported	Yes	248	60.6
	No	161	39.4
Do you have safety culture training	Yes	183	44.7
	No	226	55.3
participation in patient safety program	Yes	265	64.8
	No	144	35.2

5.2. patient safety culture dimensions

In this study,the biggest positively influencing factors for the overall patient safety culture were teamwork within units (77%), feedback and communication about errors (76 %), and organizational learning/continuous improvements (74 %).

Table 2: Patient safety culture composite scores (percent of positive response) at public hospitals in Jimma zone southwest Ethiopia,2022.

Safety culture dimensions	No of items	% positive response
Team work within units	4	77%
Staffing	4	57%
Non punitive response to error	3	47%
Organizational learning/continuous improvements	3	74%
Supervisor/manager expectation	4	59%
Feedback & communication about error	3	76%
Communication openness	3	56%
Frequency of events reported	3	44.2%
Management support for patient safety	3	56.4%
Overall patient safety grade	4	29%
Hand-offs and transitions	4	54%
Teamwork across hospital units	4	57%

5.3. Level of Patient safety culture

In this study, 234 (57.2%) of study participants believed that their PSC as good,while 175(42.8%) rate their PSC as poor.

PSC Level

- Good PSC
- Poor PSC

42.80%   57.20%
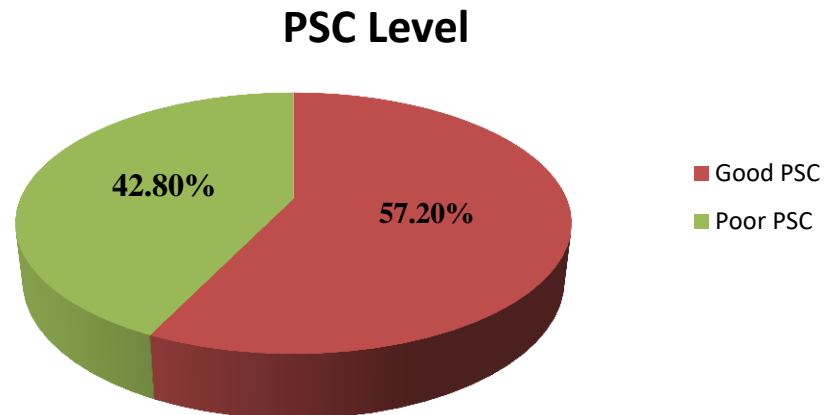
Figure 3: level of PCS among Health care Professionals working at Jimma Zone Public Hospitals,Jimma,South West ,Ethiopia,2022.

5.4. Factors Associated with Patient Safety Culture

5.4.1. Factors associated in bivarible logestic regression

The results of bivarible logistic regression analysis reveled; age,educational level, profession,years of work experience, working unit work experience, working hours per week and event reported in the previous 12 months were significantly associated with PSC at a P-value of < 0.25.

5.4.2. Factors associated in Multivarible logestic regression

In the multivariable logistic regression working hours per week and event reported in the previous 12 months were significantly associated with PSC at a P-vaule of < 0.05. Enter method was used to select variables in the final multivariable logestic regeression model.

The odds of health care professionals who spent 40 and less working hours per week in a hospital were 2.87 times more likely have good PSC when compared to those who spent 56 and above working hours in a Hospital [AOR=2.87, 95% CI(1.53-5.36)].

Similarly,the likelihood of having good PSC was 2.03 times higher among HCP who reported adverse events in the past 12 months compared to those who do not reported adverse event [AOR=2.03, 95%CI(1.30-3.18)] (Table 3).

Table 3:Logistic regression analysis for Health care Professionals Working in Jimma Zone Public Hospitals,Jimma,Southwest,Ethipa,2022(n=409)

Variables	Catagories	PSC		COR(95%CI)	AOR(95%CI)	*p*-value
		Good	Poor			
Age	≤29	199(85%)	115(88.6%)	1	1	
	30-34	30(12.8%)	15(8.6%)	1.55(0.81-2.99)	1.66(0.76-3.60)	0.198
	≥35	5(2.1%)	5(2.9%)	0.77(0.22-2.73)	1.09(0.25-4.68)	0.899
Educational level	Diploma	29(12.4%)	27(15.4%0	1.41(0.63-3.12)	1.73(0.22-13.18)	0.595
	BSc.	171(73.1%)	118(67.4%)	1.90(1.00-3.62)	2.38(0.33-16.85)	0.383
	MSc.	15(6.4%)	5(2.9%)	3.949(1.29-12.78)	5.92(0.74-46.90)	0.092
	Medical Doctor	19(8.1%)	25(14.3%)	1	1	
Profession	GP	24(10.3%)	26(14.9%)	1	1	
	Dentist	1(0.4%)	1(0.6%0	1.08 (0.64-18.29)	0.25(0.01-5.18)	0.371
	Nurse	124(53%)	88(50.3%)	1.52(0.82-2.83)	0.67(0.09-4.65)	0.693
	Lab.Tech.	18(7.7%)	18(10.3%)	1.08(0.46-2.55)	0.52(0.06-4.01)	0.536
	Pharmacist	30(12.8%)	13(7.4%)	2.50(1.06-5.88)	1.84(0.24-13.98)	0.555
	Midwife	20(8.5%)	21(12%)	1.03(0.45-2.35)	0.50(0.06-3.70)	0.498
	Rdiology	9(3.8%)	5(2.9%)	1.95(0.57-6.64	0.95(0.10-8.85)	0.969
	Anesthetist	4(1.7%)	1(0.6%)	4.33(0.45-41.54)	2.91(0.15-56.77)	0.480
	Psychiatry	4(1.7%)	2(1.1%)	2.16(0.36-12.99)	1.07(0.08-14.39)	0.959
Years of work experience	1-3 years	140(59.8%)	117(66.9%)	1	1	
	4-6 years	76(32.5%)	44(25.1%)	1.44(0.92-2.25)	1.23(0.68-2.21)	0.487
	7-9 years	15(6.4%)	11(6.3%)	1.14(0.50-2.57)	0.93(0.36-2.42)	0.892
	≥ 10 years	3(1.3%)	3(2.6%)	0.83(0.16-4.21)	1.42(0.16-12.20)	0.747
Working unit work experience	1-3 years	184(78.6%)	147(84%)	1	1	
	4-6 years	46(19.7%)	23(13.1%)	1.59(0.92-2.75)	1.48(0.73-3.00)	0.278
	7-9 years	4(1.7%)	5(2.9%)	0.63(0.16-2.42)	0.22(0.37-1.41)	0.112
Working hours per week	≤ 40 hours	177(75.6%)	109(62.3%)	2.36(1.33-4.19)	2.87(1.53-5.36)	**0.001**[*]
	41-55 hours	33(14.1%)	31(17.7%)	1.55(0.76-3.17)	1.77(0.82-3.84)	0.143
	≥ 56 hours	24(10.3%)	35(20%)	1	1	
Event reported in the past 12 months	No	78(33.3%)	83(47.4%)	1	1	
	Yes	156(66.7%)	92(52.6%)	1.80(1.20-2.69)	2.03(1.30-3.18)	**0.002**[*]

COR=Crude odds ratio, AOR=Adjusted odds ratio, CI=Confidence interval

"*"significant at a P-value of less than 0.05

"1" indicates the reference used as a constant in bivariable and multivariable logistic regression

6. DISCUSSION

Assessing patient safety culture is the first step in improving hospitals overall performance, quality of services and improving professional patient safety practices is vital for improving patient safety culture in clinicalcare, This study assessed patient safety culture and associated factors among health care professionas in Jimma Zone Public Hospitals,Jimma,Southwest Ethiopia.

In this study, good patient safety culture was 57.2% with [95% CI(51.6 - 62.1)]. The finding of the study was in line with as tudy conducted at Public General Hospitals in Southern Nations Nationalities and Peoples Region (58.4%), in North Africa in Tunisia (59.1%), in Ghana (58.1%), Nambia (59%), a meta analysis done in Asian countries (53.58%) and a study in Brazil (57.80%) ,South Asian countries (58,9%) and Slovak (54%) (16,23,34–36,44–46).

This study's results are higher than those of previous studies conducted in Jimma Zone Ethiopia (46.7%) Eastern Wollega Zone (49.2%), In Bale Zone Ethiopia (44%) ,Addis Ababa regional hospitals (44%) ,Amhara Region (46%) ,University of Gonder specialized hospital (45.3%), public hospitals in Dessie town (44.8%) ,Nigeria(48.5%), teritaory Hospital In Negeria (41.1%), Egypt (46.5%) ,Jordan (42%), Sarawak General Hospitalin Malaysia (50.1%) and another study in Brazil (48.8%) (1,6,10–12,17,38,47–52).

The possible variations might be the difference in sample size,design, study populations and health care setting of the country. For instance, a study conducted in western Ethiopia included two referral hospitals where as the current study only included General and Primary hospitals in Jimma zone. In addition the study done in Brazil employed few sample size mainly nurses working in maternity wards. Also the emeregence the pandemic corona virus might contribute for the difference hence the emphasis on patient safety may well have altered among health professionals.

The finding of the study was lower when compared to studies done in urban hospitals in Indonesia(79.5%),Shenzin China (67.4%) and Malaysia (64%) (27,28,53).

The lower percentage of patient safety practice in this study might be due to sample size and population, cultural and economic differences in the current study the previous one. for instance

in a study done in Shenzen China comared to the current study it employed large sample size i,e 5490 staff from 13 Shenzhen hospitals.

In this study the composites with the highest percent of positive responses were teamwork within units (77%), Feedback and comunication about error (76%) and Organizational learning/continuous improvements (74%) where as areas which need potential improvements were overall patient safety grade (29%), frequency of events reported (44.2%) and non-punitive response to error (47%).

The Study conducted in Bale zone indicated that the positive response rate of patient safety culture dimensions as teamwork within unit (73.4%) ,organizational learning/continuous improvements (66.7%) and the lowest response was obtained in non-punitive response to error(31.2%) (12).

Another study done in Upper east region of Ghana indicated that the highest percentage of positive responses were in "teamwork cross unit" (81.5%), continuous organizational learning" (73.1%) these are all relatively similar to the finding of this study. And the lowest in "non punitive response to error" (33.9%) which is lower than this research result, which is punitive response to error (47%) (34).

The finding of this study shows that;working hour per aweek is significiantly associated with patient safety culture.

Similar finding was obtained from a crossectional study conducted in Bale Zone public Hospitals which revealed that working hours per week was significantly associated with patient safety culture (12).

The possible justification could be health professional who work less hour per week mayhave less work load than those who work more hours per week, which might lessen psychological strees of healthcare professionals which in tun leads more concentration at work and poor patient safety. Health professionals who spent more time in Hospital feel high level of workload have a loss in performance of their routine activities and consequently, have a less beneficial relationship with their professional performance.

The other explanation for the turnover of professionals from hospitals in both health units might be this workload. This could be related with professional dissatisfaction and associated with the occurrence of adverse events, like medication errors, hospital acquired infections, and falls.

The study found that event reportig in the past 12 months were significiantly associated with patient safety culture.

This finding is in line with a study conducted in astudy conducted in Katsina Public Hospitals, Northwest Nigeria (18).

The reason could be as the tendency of reporing adverse event increases among healthcare professionals also their understanding about the exact number of errors, the types of errors, and the magnitude and severity of harm to patients increases this inturn leads them to adhere to patient safety culture.

Another probable justification could be reporting errors produced a positive attitude among Health care professionals to reporting errors and improving their level of good patient safety culture.

6.2. Strength and limtations of the study

6.1.1. Strength of the study

- ✓ Healthcare professionals working in all Jimma zone public hospitals were incuded in this study.

6.1.2. limitations of the study

- ✓ As all the data was collected through self-administered questionnaire and of crossectional study design type, it may be prone to social-desirability bias
- ✓ It could not incorporate administrative and supportive staffs, confining the conclusions to only helalthcare professionals.

7. CONCLUSIONS AND RECOMMENDATION

7.1. Conclusions

The finding of this study showed that the overall level of patient safety culture in Jimma zone public hospitals found within acceptable range according to AHRQ benchmark. Patient safety culture dimensions: "Team work within unit , Feedback and comunication about error and Organizational learning/continuous improvements were areas of strength where as areas which need potential improvements were overall patient safety grade, frequency of events reported and non-punitive response to error.

working hours less than 40 hours per week and event reported in the previous 12 months were factors significantly associated with PSC. As a result, substantial effort is required to raise the level of good patient safety culture.

7.2 Recommendatins

The following recommendations were made based on the study's findings.

To Oromia Health Bureau:

✓ should train health professionals regarding event reporting practice .This should be achieved by ongoing training, seminars, and workshops this could be accomplished by completing an environment scan on the state of overall state of patient safety culture.

✓ Shoud encourage the employement of new healthcare professionals to hospitals in the Zone.

. **To Jimma Zone Health Departement:**

✓ Should improve a continuous learning environment and organizational support for health professionals in order to improve safe practices that lead to provision of high-quality care.

✓ Hospital administrators should be educated about an efficient organizational structure that support patient safety culture and adverse evet reporting practice.

To Managers of the hospitals:

✓ Should act in a way to enhance team work across units, take measures based on reports and give values to good performances.

✓ Should create a learning culture by being positive for staff ideas, discussions and make them to feel free and confident to make error reporting.

To Health professionals in Jimma zone:

✓ Should have to enhance their error reporting behavior, minimize communication gap and give an attention for patient safety.

✓ Health care staffs from different units regardless their profession has to work in team in harmonized way for a better organizational patient safety and overall quality of care.

Future Researchers:

✓ Study the impact of poor patient safety culture on staff, patient, organizational, and financial outcomes and hospital patient care quality.

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ANNEXES

ANNEX I: Respondents Information Sheet

JIMMA UNIVERSITY
SCHOOL OF PUBLIC HEALTH

Hello,my name is_____I am working with Mesfin Medina who is completing his master degree in Healthcare and Hospital Administration in School of Public Health. This study is, therefore ,part of the requirements for the fuilfillment of the MPH program he is enrolled in. The study focuses on the identifications of factors that are responsible for patient safety culture among healthcare proffessionals to exercise/practice on hospital setting on patient safety culture Healthcare professionals are selected based on random sampling method.you are part of the selectedhealth worker for interview.

Hence, I here by assure you that the responses will be kept strictly confidential for all matters and it will only be used for the purpose of the study mentioned above. Your name will not be mentioned to protect your confidentiality. You have a right to answer or not for questions which might be inconveninet for you. The scientific value of the survey depends up on the reliable and accurate representations of individual views of participants. Therefore,your participation is very important and greatly appreciated. The study may require 20-30 minute. So please give me only some minutes to complete my questions. If you have any questions about the study, you may raise.

For detail information you can contact the investigator through cell phone; +251917807423/+251940569645

 E-mail: mesfinmedina19@gmail.com

I thank you in advance for your cooperation in the study!!

ANNEX II: Consent Form

I have been informed about the purpose and use of this particular research project. The information I am going to give will be used only for the purpose of this study and my identity as well as the information I will be providing will be kept confidential. After all these I understood and:

1.	I agree to participate in this research voluntarily ------------------

2.	I didn't agree to participate in this research -----------------------

Interviewer name --------------------------signature…………. Result of interview questionnaire – encircle from the given option

1. Completed

2. Refused

3. Partially completed

4. Other specify

ANNEX III: Questionnaire

Part one: participants characterstics /Socio-Demographic related questions

Instruction: Please circle the option you choose on the right side of the table.

S No	Description	Response
1	Sex	1. Male 2. Female
2	Age	____ years.
3	Marital status	1. Single 2. Married 3. Widowed 4. Divorced
4	Level of education	1. Diploma 2. BSc 3. MSc 4. Medical Doctor 5. Specialist 6. Others_____
5	Profession	1. GP 2. Dentist 3. Nurse 4. Laboratory Tech. 5. Pharmacy 6. Midwives 7. Radiology 8. Anesthetist 9. Psychiatry 10. Physiotherapy 11. Others_____
6	Type of Hospital	1. Primary

		2. General
7	Monthly income	ET Birr_____
8	How long you have worked in this hospital? /years of experience?	_____ year
9	What is your primary work unit/area/departments of hospital most of time you spent?	1. Many or different work unit 2. Medical 3. Surgical 4. Obestrics/ Gynecology 5. Pediatrics 6. Emergency 7. Laboratory 8. Pharmacy 9. Radiology 10. Psychiatry 11. Anesthiology
10	How long have you worked in your current hospital work unit/unit?	_____ years
11	How many hours you work per week?	_____ hours per week
12	You have direct contact with patient?	1. Yes 2. No
13	In the past 12 months, how many event reports have you filled out and submitted?	_____ events reports.
14	Do you have a patient safety culture training/	1. Yes 2. No
15	Do you have participated in patient safety programs?	1. Yes 2. No

Part two: Patient safety culture dimensions, composites items questionnaires

Instruction: Please indicate the extent of your agreement or disagreement with each of the following statements by circling the appropriate number

<table>
<tr><td colspan="7" align="center">Your Work Area/Unit</td></tr>
<tr><td colspan="7">Think of your work area as the unit, department or clinical area of your hospital where you spend more of your work time or provide most of your clinical services. Please circle or indicate your agreement or disagreement with the following statements.</td></tr>
<tr><td>S.No</td><td>A- Teamwork within units</td><td colspan="5" align="center">Response</td></tr>
<tr><td></td><td></td><td>Strongly Disagree</td><td>Disagree</td><td>Neutral</td><td>Agree</td><td>Strongly agree</td></tr>
<tr><td>2.1</td><td>People support one another in this unit</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr>
<tr><td>2.2</td><td>When a lot of work needs to be done quickly, we work together as a team to get the work done.</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr>
<tr><td>2.3</td><td>In this unit, people treat each other with respect.</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr>
<tr><td>2.4</td><td>When one area in this unit gets really busy, others help out</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr>
<tr><td colspan="2" align="center">B- Staffin Questions</td><td colspan="5" align="center">Response</td></tr>
<tr><td></td><td></td><td>Strongly disagree</td><td>Disagree</td><td>Neither</td><td>Agree</td><td>Strongly agree</td></tr>
<tr><td>2.5</td><td>We have enough staff to handle the workload</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td></tr>
<tr><td>2.6</td><td>Staff in this unit work longer hours than is best for patient care</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td></tr>
<tr><td>2.7</td><td>We use more agency/temporary staff than is best for patient care</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td></tr>
<tr><td>2.8</td><td>We work in "crisis mode" trying to</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td></tr>
</table>

	do too much, too quickly					
C- Non punitive response to Error Questions		Response				
2.9	Staff feel like their mistakes are held against them	Strongly disagree	Disagree	Neither	Agree	Strongly agree
		5	4	3	2	1
3.0	When an event is reported, it feels like the person is being written up, not the problem	5	4	3	2	1
3.1	Staff worry that mistakes they make are kept in their personnel file	5	4	3	2	1
D-Organizational learning /Continuous improvement Questions		Response				
		Strongly disagree	Disagree	Neither	Agree	Strongly agree
3.2	Mistakes have led to positive changes here	1	2	3	4	5
3.3	We are actively doing things to improve patient safety	1	2	3	4	5
3.4	After we make changes to improve patient safety, we evaluate their effectiveness	1	2	3	4	5
E-Your Supervisor/Manager expectation & actions promoting safety Please indicate your agreement or		Response				

		Strongly disagree	Disagree	Neither	Agree	Strongly agree
	disagreement with the following statements about your immediate supervisor/manager or person to whom you directly report.	Strongly disagree	Disagree	Neither	Agree	Strongly agree
3.5	My supervisor/manager says a good word when he/she sees a job done according to established patient safety procedures	1	2	3	4	5
3.6	My supervisor/manager seriously considers staff suggestions for improving patient safety	1	2	3	4	5
3.7	Whenever pressure builds up, my supervisor/manager wants us to work faster, even if it means taking shortcuts.	1	2	3	4	5
3.8	My supervisor/manager overlooks patient safety problems that happen over and over	1	2	3	4	5

F- Communications

How often do the following things happen in your work area/unit?

F-1 Feedback &communication about error. **Questions**		Response				
		Strongly disagree	Disagree	Neither	Agree	Strongly agree
3.9	We are given feedback about changes put into place based on event reports	1	2	3	4	5
4.0	In this unit, we discuss ways to prevent errors from happening again	1	2	3	4	5

4.1	We are informed about errors that happen in this unit	1	2	3	4	5
F-2 Communications openness Questions		Response				
		Strongly disagree	Disagree	Neither	Agree	Strongly agree
4.2	Staff feel free to question the decisions or actions of those with more authority	1	2	3	4	5
4.3	Staff will freely speak up if they see something that may negatively affect patient care	1	2	3	4	5
4.4	Staff are afraid to ask questions when something does not seem right.	5	4	3	2	1
G- Frequency of Events Reported						
	In your work area/unit when the following mistakes happen how often are they reported? **Event**; Any type of error, mistakes ,incident ,near misses, Accident or deviation regardless of whether or not it results in patient harm,	Response				
		Never	Rarely	Sometimes	Most of the times	Always
4.5	When a mistake is made, but is caught and corrected before affecting the patient, how often is this reported?	1	2	3	4	51
2.6	When a mistake is made, but has no potential to harm the patient, how often is this reported?	1	2	3	4	5
4.7	When a mistake is made that could harm the patient, but does not, how often is this reported?	1	2	3	4	5

	H-Patient Safety Grade Questions					
4.8	Please give your work area/unit in	**Response**				
	this hospital an overall grade on patient safety.	1	**2**	3	4	**5**
		Excellent	Very good	Accept able	Poor	Failing
	I-Management support for patient safety Questions					
	Please indicate your agreement or disagreement with the following statements about your hospital	**Response**				
		Strongly disagree	Disagree	Neither	Agree	Strongly agree
4.9	Hospital management provides a work climate that promotes patient safety.	1	2	3	4	5
5.0	The actions of hospital management show that patient safety is a top priority	1	2	3	4	5
5.1	Hospital management seems interested in patient safety only after an adverse event happens	1	2	3	4	5
	J- **Overall patient safety grade Questions**	**Response**				
		Excellent	Very good	Accept able	Poor	Failing
5.2	Patient safety is never sacrificed to get more work done	1	2	3	4	5
5.3	Our procedures and systems are good at preventing errors from happening	1	2	3	4	5
5.4	It is just by chance that more serious mistakes don't happen around here	1	2	3	4	5
5.5	We have patient safety problems in	1	2	3	4	5

	this unit					
	K- Handoffs and Transitions	**Response**				
	Questions	Strongly disagree	Disagree	Neither	Agree	Strongly agree
5.6	Things "fall between the cracks" when transferring patients from one unit to another	1	2	3	4	5
5.7	Important patient care information is often lost during shift changes	1	2	3	4	5
5.8	Problems often occur in the exchange of information across hospital units	1	2	3	4	5
5.9	Shift changes are problematic for patients in this hospital	1	2	3	4	5
	L-Team work across hospital unit	**Response**				
	Questions	Strongly disagree	Disagree	Neither	Agree	Strongly agree
6.0	There is good cooperation among hospital units that need to work together	1	2	3	4	5
6.1	Hospital units work well together to provide the best care for patients.	1	2	3	4	5
6.2	Hospital units do not coordinate well with each other.	1	2	3	4	5
6.3	It is often un pleasant to work with staff from other hospital units.	1	2	3	4	5

THANK YOU FOR YOUR VOLUNTARY PARTICIPATION!!!