Asrat Woldeyes Health Science Campus

School of Nursing and Midwifery

Department of Nursing

Prevalence of Post-Traumatic Stress, Depression symptoms and Associated Factors in Post-Conflict Areas, North Shoa Zone, Ethiopia: A Community Based Cross-Sectional Study

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A Thesis Result Submitted to School of Nursing and Midwifery, Asrat Woldeyes Health Science Campus, In Partial Fulfillment of the Requirements for the Award of Master of Science Degree in Adult Health Nursing

October, 2022

Debre Birhan, Ethiopia

Signed approval sheet by the board of examiner

Asrat Woldeyes Health Science Campus

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Abstract

Introduction: Post-traumatic stress disorder and depression place an enormous burden on a society that is affected by different traumatic events. People in conflict-affected areas have higher rates of mental disorder symptoms, in particular post-traumatic stress and depressive symptoms, than those usually found in the non-conflict-affected general population. There is scarce evidence in Ethiopia regarding post-traumatic stress and depressive symptoms in residents of conflict-affected areas.

Objective: To assess the prevalence of post-traumatic stress disorder, depression and associated factors in post-conflict areas, North Shoa Zone, Amhara, Ethiopia, 2022.

Method: A community-based cross-sectional study was conducted from May 24–June 24, 2022 in the North Shoa Zone, Amhara Ethiopia. A multi-stage random sampling method was implemented to select the study participants. An interviewer-administered semi-structured questionnaire was used to collect the data. The Post-Traumatic Stress Disorder Checklist for DSM-5 (PCL-5) was used to measure the symptoms of PTSD; Hopkins' Symptom Checklist-25 (HSCL-25) was also used to assess the symptoms of depression. Epi-data version 4.6 was used to enter data, and SPSS version 25 was used to analyze it. Bi-variable and multivariable logistic regressions with OR and 95% CI were employed to identify statistically significant associated factors for the main outcome variables. During multivariable binary logistic regression analysis, variables with a P-value of less than 0.05 were considered statistically significant.

Result: A total of 830 participants were interviewed with a response rate of 96%. The estimated prevalence of PTSD and depression was found to be 63% (95% CI 60–66%) and 66% (95 CI 62%–69%) consecutively. In the multivariable logistic regression, being female (AOR = 4.2, 95% CI (2.82, 6.27)), being unable to read and write (AOR = 3.08, 95% CI (1.67, 5.69)), witnessing the murder of loved ones (AOR = 3.28, 95% CI (1.58, 6.79)), witnessing the murder of strangers (AOR = 2.04, 95% CI (1.33, 3.11)), being verbally threatened or insulted (AOR = 4.09, 95% CI (2.69, 6.21)). Having poor and moderate social support (AOR = 5.26, 95% CI (3.35, 8.28)), (AOR = 1.89, 95% CI (1.15, 3.13)), respectively, was significantly associated with PTSD. Regarding depression, in the multivariable logistic regression, being female (AOR = 2.7, 95% CI (1.89, 4.06)), witnessing the murder of loved ones (AOR = 8.84, 95% CI (3.98 , 19.63)), physical abused (AOR = 2.55, 95% CI (1.36 , 4.78)), ill health without medical care AOR = 1.86, 95% CI (1.03, 3.37)), poor social support (AOR = 2.63, 95% CI (1.63, 4.22)).

Having moderate and high perceived stress (AOR = 2.14, 95% CI (1.31, 3.51)), (AOR = 7.75, 95% CI (4.42, 13.61)) consecutively were significantly associated.

Conclusion: More than half of the dwellers living in conflict-affected areas experienced post-traumatic stress disorder and depression. Being female, being unable to read or write, witnessing the murder of loved ones, witnessing the murder of strangers, being verbally threatened or insulted, and having poor or moderate social support all contributed significantly to post-traumatic stress disorder. Being female, witnessing the murder of loved ones, physical abuse, ill health without medical care, poor social support, moderate and high perceived stress all contributed to the development of depression.

Acknowledgement

I would like to express my deepest gratitude to my advisors, Nigus Alemnew (Asst p in ICCMH) and Abayneh Shewangizaw (Msc in ICCMH) for their continuous comments and advice throughout proposal development, data collection, data entry, data analysis, and final research report writing. I am also grateful to my data collectors, supervisors, as well as study participants for their patience during the interview and for being part of my study. Special thanks to Debre Birhan University, Asrat Woldeyes Health Science Campus, Department of Nursing for sponsoring me and also opening the program by developing the nursing curriculum. Finally, I would like to acknowledge the North Shoa Zonal administration and selected district administrations for giving me a permission letter to do the research and assigning a community guider on my data collection process.

Acronyms and Abbreviations

AOR: Adjusted Odds Ratio

CCHS: Canadian Community Health Survey

DALYs: Disability-Adjusted Life-Years

HSCL-25: Hopkins' Symptom Checklist-25

IDP: Internal Displacement Person

IQ: Intellectual Quality

LMICs: Low Middle Income Country's

MAO: Mono Amine Oxidase

mhGAP: Mental Health Gap Action Programme

OR: Odds Ratio

PCL-5: Post-Traumatic Stress Disorder Checklist for DSM-5

PI: Principal Investigators

PTSD: Post-Traumatic Stress Disorder

USA: United States of America

WHO: World Health Organization

YLDs: Years of Life Lived with Disability

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1. Introduction

1.1 Background

Post-traumatic stress disorder (PTSD) is one of the mental illnesses that can arise from exposure to a traumatic or stressful event in which the individual, witnessing the experience, faces actual or imagined loss of life or trauma that leads to a reaction of fear, helplessness, or terror (1-3). Intrusion, avoidance, changes in mood and cognition, and hyperarousal are its hallmark characteristics (4, 5). Internal reminders of the event are also present, as are involuntary re-experiences of the trauma via flashbacks (6). It occurs within a month of the event and can linger for months or years. Gender, IQ, family history, multiple neurobiological factors, type and duration of trauma exposure, coping mechanisms, and cognitive flexibility are potential risk factors for PTSD (3, 7).

Depression is a common and serious illness that has a negative impact on how a person feels, thinks, and behaves (3, 8). Feelings of sadness, lack of interest in once-enjoyed activities, depressed mood, hopelessness, helplessness, extreme guilt, low self-esteem, thoughts of self-harm, and diminished energy are characteristics of this psychiatric illness (3, 9). Several studies have found that depression is caused by a family history of depression, specific traits and behavior patterns, biological and genetic factors (3, 9) . Psychotherapeutic interventions, psychopharmacological interventions, and combination therapy are used to treat depression (9).

A conflict is a traumatic event that is open and protracted fighting between people, ideologies, and even nations that causes different mental and physical health consequences (10). Such circumstances exacerbate the prevalence of PTSD and depression (11). PTSD and depression have high prevalence rates in conflict-affected populations, with pooled estimates ranging from 15.3% to 30.6% for PTSD and 10.8% to 30.8% for depression (12, 13).

As part of the World Health Organization's (WHO) Mental Health Gap Action Programme (mhGAP), mental health workforce requirements for LMICs have been modeled for eight key mental illnesses (14). Since LMICs lack adequate funding and qualified professionals to provide evidence-based psychiatric treatments for impacted people in post-conflict settings, alternative and scalable strategies using present resources in primary care and communities are necessary (15).

The burden of PTSD and depression on a society that has experienced various traumatic events is significant. People in conflict-affected areas have a higher rate of mental problems than the overall

population in non-conflict-affected areas, especially PTSD and depression (12, 16). In Ethiopia, there is scarce evidence regarding PTSD and depression in residents of conflict-affected areas.

1.2. Statement of the problem

Post-traumatic stress disorder (PTSD) and depression are among the leading contributors to the global disease burden , as researchers found that the lifetime prevalence of PTSD is 15.8% to 37.4% in post-conflict nations, in which PTSD affects between 1% and 5% of the general population (17, 18). Whereas the global life-time prevalence of depression in the general population is estimated to be 3.8%, including 5.0% among adults and 5.7% among adults over the age of 60, it ranges from 5% to 80% in post-conflict areas (19, 20). A study on Israelis aged 18 years and above and exposed to terrorism showed that the average prevalence of PTSD was 9.4%, 16.2% for women and 2.4% for men (21).

Their severity is linked to major repercussions such as decreased quality of life, increased usage of medical and social services, and impairments in work (22, 23). They also have serious biological, psychological, behavioral, and social consequences that lead to substantial functional impairment (17). Across a conflict history spanning 1989 to 2019 (nearly entirely comprised of low and middle-income countries) (LMICs), a total of 3 million and 4 million disability-adjusted life years were linked to PTSD and depression, respectively, in conflict-affected areas (17). Depression was ranked as the fourth-leading enormous burden on society, accounting for 4.4% of the total DALYS and 11.9% of total YLDS (20).

Genetic and environmental factors highly influence these two psychopathologies. The frequency of exposure to violence, poor self-management, sociocultural and physical disabilities, cultural customs and beliefs, and an individual's ability to access and use care has a great impact on the problem. Both self-stigma (people's own responses to the problem and help-seeking) and perceived stigma (perceptions of others' negative responses) have influences (24, 25).

Different scholars declare that there is a treatment gap in mental health, especially in regions where there have been war and conflict. India, suggested that only 5–25% of affected individuals receive any treatment for their mental illness , and implemented the SMART Mental Health project by task shifting supported by a mobile technology-based mental health services delivery model for screening, diagnosing, and managing common mental disorders (26). On the same page, Sri Lanka integrated mental health into primary care for conflict-affected populations by utilizing the mhGAP initiative manual, which can be used as a resource in training non-specialists in primary mental health care for mental problem management (27).These actions reduce the acute and long-term disease burden, lower

service-provision costs, and provide effective and accessible mental health care to vulnerable populations (26, 27).

Even though there are few studies in Ethiopia, the focus has been on internally displaced and refugees in the camp (1, 20, 28). As per my knowledge and extensive search, there is no published study conducted on PTSD, depression, and associated factors in the community of North Shoa conflict areas and also in Ethiopia. Therefore, the aim of this study is to identify the prevalence and associated factors of PTSD and depression among people in a post- conflict affected area, North Shoa, Ethiopia.

1.3. Significance of the study

PTSD and depression are significant public health problems. These are the most common, debilitating mental illnesses that often pose an economic burden to society, involving both direct and indirect costs. It also accounts for the highest percentage of the global disease burden. The burden of PTSD and depression is poorly understood in post-conflict areas, particularly in Ethiopia. According to my knowledge and extensive search, no published studies have been conducted in the study area. Previous studies have been done on internally displaced persons (IDPs) and refugees who are in camps but not at the community level, but the current study was done at the community level by including comprehensive variables. The results of this study will help healthcare providers to promote evidence-based mental health care in the region. On the other hand, it also provides a good way for policy makers to help those suffering from the problem and develop mental health strategies that can raise great concerns for government agencies. It also served as a basis for further research in this area.

2. Literature review

2.1. Prevalence of Post-traumatic stress disorder (PTSD)

According to various studies, the lifetime prevalence of PTSD in post-conflict countries worldwide ranged from 15.8% to 37.4%, 13 Statistical estimates reveal that PTSD affects between 1% and 5% of the general population and between 3% and 58% of high-risk populations like displaced individuals (29). In a comprehensive review and meta-analysis that included 41 surveys in post-conflict regions from 1989 to 2019, random effects meta-analysis discovered a point prevalence of 26.51% for PTSD, and comorbid depression was detected in 55.26 % of participants with PTSD (17). A survey study in 20 different war-affected countries, including 33 studies, showed the pooled point prevalence of PTSD was found at 26% (13). Geo-referenced data, war in four countries (India, Israel, Russia, and Ukraine) Twenty-two surveys (N = 15 420) for PTSD random effects meta-analysis yielded a point prevalence of 26.51% (17).

Following civilian war trauma and torture in England, PTSD prevalence rates are reported to be 33% (29). Another cross-sectional study that took place in Sri Lanka , where there was an ongoing civil conflict(N = 196), reported 27% PTSD (30).

In a population-based cross-sectional study by taking 5519 study participants who live in the post-conflict region of India's Kashmir Valley, the prevalence of PTSD was 19% (31). A cross-sectional study done among 558 randomly selected households among Albanians living in conflict-affected areas found that 17.1% reported symptoms of PTSD (32). A national multistage, cluster, population-based mental health survey of 799 adult household members in Afghanistan revealed that post-conflict PTSD prevalence was 42.2% (33) . A community-based cross-sectional study among Palestinians who have been subjected to political violence and unrest for a long time in the West Bank, Gaza, and East Jerusalem PTSD is estimated at 49.28%, 46.5%, and 35.8 %, respectively, out of 1,196 study participants (34).

The PTSD prevalence in Libyan populations exposed to a high level of political terror and traumatic events was estimated by a methodology derived from models based on a previously conducted systematic review and meta-regression, and found out to be 12.4% of the total population of 1,236,600. And 50% of PTSD cases were estimated to co-occur with depression (35). A cross-sectional, community-based, multistage random cluster survey of 1666 adults found that 44% (n = 718/1661) met symptom criteria for PTSD in Liberia (36).

A similar cross-sectional study conducted in South-western Nigeria also showed that 34% of people who stayed in the refugee camp due to conflict have PTSD out of 444 study participants (37). A cross-sectional, random cluster survey with a sample of 1242 adults was conducted in the town of Juba, the capital of Southern Sudan 36.2% of respondents met symptom criteria for PTSD (38). In a community-based cross-sectional study examining 2091 subjects in Rwanda after the genocide, 24.8% met symptom criteria for PTSD (39). A population-based epidemiological survey with broad psychiatric diagnostic assessment in Algeria, Cambodia, Palestine, and Ethiopia found the prevalence of PTSD to be, in Algeria (N = 653), 3·14%, Cambodia (N = 610), 3·52, Palestine (N=585), 10·03 % , and Ethiopia (N = 1200) , 4·53% (40).

In a community-based cross-sectional study that was conducted in south Ethiopia after the civil conflict among 636 participants, the estimated prevalence of PTSD was 58.4% (1).

2.2. Associated factors of PTSD

2.2.1. Socio- demographic factors

Unemployment, a higher proportion of women, and lower education were all linked to PTSD in an Italian study (41). According to a systematic review and meta-analysis of epidemiological studies, being single was associated with a the prevalence of PTSD (13). In a study conducted in Ethiopia, Kashmir Valley, and Italy, PTSD was associated with being female (1, 2, 31, 41). Another study in Ethiopia showed that PTSD was higher in divorced individuals (2). But in contrast, a study in Iraq showed that being a widow increased the rate of PTSD (42). In Northern Ireland, low education, being under 65 years old, being retired, and being unemployed were all linked to an elevated risk of PTSD (18). Other study in the United States of America (USA) showed that PTSD was significantly associated with the age range of 45-64 years and low household income (43).

2.2.2. Clinical factors

A study in Ethiopia showed that the risk of developing PTSD was higher among those who had a previous history of mental illness and family history of mental illness (2). The same outcome was observed by a study done in Croatia (44). High childhood trauma was linked to an increased risk of developing PTSD, according to a study carried out in Uganda (45).

A study done in Japan found that receiving a life-threatening diagnosis for oneself or a loved one can be distressing and a major risk factor for developing PTSD (46). According to one systematic review and a

study done in Canada and the USA, PTSD was linked to a higher prevalence of chronic medical diseases, particularly stress-related ones like cardiovascular, musculoskeletal, and gastrointestinal disorders (47-49). Diagnoses of diabetes mellitus, non-cirrhotic liver disease, angina pectoris, tachycardia, hypercholesterolemia, other cardiac diseases, stomach ulcers, HIV seropositivity, gastritis, and arthritis were linked to PTSD in a National Epidemiologic Survey (43).

2.2.3. Traumatic event related factors

The study done in Iraq indicated exposure to a high number of traumatic events, unmet basic needs, and having witnessed the destruction of residential or religious areas have an effect on the development of PTSD(42). A study in Ethiopia reported that destruction of personal property, witnessing murder of family members, and physical injury are significant associated factors for PTSD (1, 2). In one of the studies in Colombia, it states that those who experience several conflicts and the unexpected death of loved ones are more likely to develop PTSD. The findings of this study were similar to those of a study done in Italy (41, 50). According to a study done in Uganda, previous psychologically traumatic events and food insecurity both contributed to the development of PTSD (45). In a study carried out in Ethiopia and Algeria, violent experience was also linked to PTSD(40). In a national survey, serious illness or injury to a close relative, as well as sexual assault, were identified as risk factors for PTSD (43).

2.2.4. Psychosocial factors

Psychosocial factors play a great role in the development of PTSD. Studies in Ethiopia show poor social support gives rise to the development of PTSD(1, 2). Studies in Italy, Albania, Croatia, and Korea showed that poor social networking was responsible for PTSD (32, 41, 44, 51). In relation to stress, PTSD is more closely linked with those having high perceived stress (2).

2.2.5. Substance use related factors

After experiencing trauma (civil conflict/war), substance use may increase the vulnerability and severity of PTSD (52, 53)**.** Studies found out that substance use exacerbates the development of PTSD that ranged from 21.6% to 43.0% in people living around post-conflict zones, compared with 8.1% to 24.7% in people from the normal zones. It interferes with a person's ability to cope with the added stress of a traumatic event (54, 55). Similarly, among substance users in the general population, the reported rate of PTSD is 8.3% (56). A study in Northwest Somalia showed that 28% of civilian war survivors used khat and met symptom criteria for PTSD (57). Another study also found that alcohol consumption is a risk factor for developing PTSD symptoms (58).

2.3. Prevalence of depression

In a comprehensive review and meta-analysis involving 41 studies in post-conflict areas from 1989 to 2019, a random-effects meta-analysis found a prevalence of depression 23.31% (17) . Surveys conducted among war survivors included 33 studies reporting on an overall sample of 10,829 participants from 12 countries in Africa, Asia, and Europe that assessed depression (k = 18) were included. The pooled point prevalence was 27% (13). In one meta-analysis including 70 studies, the estimated pooled prevalence of depression was 28.9% (59) .

A cross-sectional study in Thailand after conflict, reported 55% depression among 993 adults (60). A study conducted including 5519 study participants living in the post-conflict area of the Kashmir Valley found a prevalence of depression of 41%, using a population-based cross-sectional study (31). Another cross-sectional study took place in Sri Lanka, where there was civil conflict (n = 196), reported that the prevalence of depression is 25% (30). A national multistage, cluster, population-based mental health survey of 799 adult household members in Afghanistan found that post-conflict depression prevalence was 67.7% (33). In a random sample of 658 people selected from four Lebanese communities exposed to war, the prevalence of depression varied across the communities from 16.3% to 41.9% (61). The prevalence of depression was found to be estimated at 58.9%, 56.5%, and 43.7%, respectively, among 1196 study participants who were Palestinians who had experienced long-term political violence and unrest in the West Bank, Gaza, and East Jerusalem (34).

In the study conducted that included a total population of 1,236,600 Libyans, the prevalence of depression was found to be 19.8%. The study used models based on a previously conducted systematic review and meta-regression (35). Findings from Liberia's cross-sectional, population-based study showed that 40% (n = 672/1659) met symptom criteria for depression (36). A cross-sectional study was carried out in Juba, the capital of Southern Sudan, with a sample of 1242 people, and 49.9% of respondents had depression symptoms (38).

A cross-sectional study of 800 Eritrean refugees in Ethiopia discovered a 37.8% prevalence of depression (20).

2.4. Associated factors of depression

2.4.1. Socio- demographic factors

According to various researchers, women in combat zones are almost twice as likely to suffer from depression as men (38, 62, 63). The Canadian Community Health Survey (CCHS) estimated that the highest prevalence of depression (14.3%) was in the 20 to 24 age group and the lowest rate (4.3%) in the age group above 75 years old (64). But another systematic review notes that older people reported greater symptoms of depression (13).

In a Canadian study, being a single mother, those who attended more than secondary school, and having a low income were found to be risk factors for depression(65). But a study in the USA states that a low educational level is a risk factor for depression (66).

2.4.2. Clinical factors

The study, conducted in Iraq, implies that a positive mental health history and a family with a history of psychiatric disorders are associated with depression (42). A study in the USA also shows similar associations of these factors with depression (67).

Hypertension, coronary artery disease, diabetes, and other cardiovascular diseases (CVD) are psychosomatic diseases, and physiological factors play an important role in the onset and development of depression (68, 69). The prevalence rate of depression is up to 50% in patients with chronic diseases (70). The American Heart Association conducted a systematic review and estimated that 15-20% of people with CVD have depression (71). Another study in the USA found that depression was present in 19.8% of people with acute myocardial infarction (72).

A study done in Portugal showed that 40.1% of people with hypertension suffered from depression. The prevalence of depression was as high as 63.4% in hypertensive women and 36.6% in hypertensive men (73). A prospective study in Amsterdam has indicated that diabetes increased the risk of depression by 1 time; further analysis showed that psychological disorders and diabetes may exacerbate each other (74). A meta-analysis of 39 studies in people with diabetes estimated that 11% of patients had depression (75).

2.4.3. Traumatic event related factors

A study conducted in South Sudan indicated that the number of exposures to traumatic events has an association with depression. Individuals who experienced eight or more trauma events were more likely to have depression, and those who had experienced four or more were associated with different AOR (38). Also, this study states that being forcefully displaced two or more times (compared to once or never displaced), being forcefully separated from family, experiencing very ill health without access to medical care, and being injured are all related to the vulnerability of depression (38).

Studies in Germany show that traumatic experiences of emotional abuse, emotional neglect, and sexual abuse in childhood, multiple trauma, and double trauma, are all linked with the development of depression (76).

2.4.4. Psychosocial factors

The association between social support and depression is particularly relevant because low social support may lead to the development or worsening of the condition (66, 77). With few exceptions, many studies have shown that depressed people perceive less support than do non-depressed people (78). A study in Washington indicates that those having low social support have a high level of depressive symptomatology (79). A systematic review done in western countries that included 100 studies from different countries found that almost 84% suggested a strong association between social support and the absence of depression (80). In the study done in Croatia, the level of perceived distress during exposure to conflict-related stressors was a major factor for depression (44).

2.4.5. Substance use related factors

Studies reveal that in post-conflict situations, substance use accelerates the development of depression (57). One study showed that 4% of cases of depression are associated with smoking and also lead to suicidal behavior, and 12.7% of depression are linked to alcohol dependence (81). Different theories have tried to explain the relationship between smoking and suicidal behavior and have been described as smoking being a psychogenic or physical toxin. From the biological perspective, chronic nicotine use is associated with diminished levels of serotonin and monoamine oxidase, and those low levels of serotonin and MAO activity have been linked with suicidal behavior (81). In a study in Thailand, 33.9% of cigarette or other tobacco users had depression, and nearly half (47.1%) had used alcohol (82). A study in Ethiopia also shows an association between substance use and depression (20).

Conceptual framework

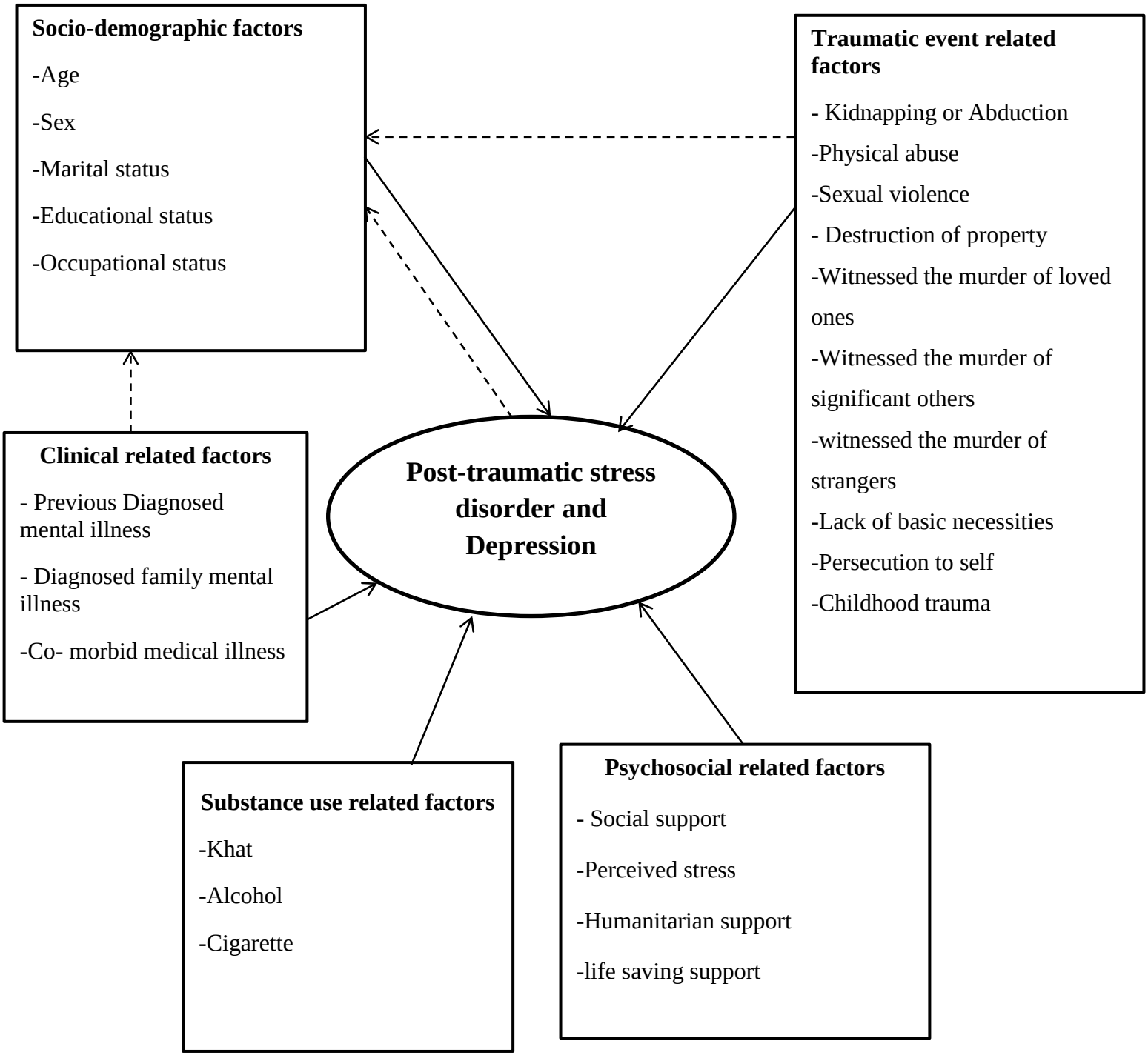

Figure 1: The conceptual framework is adapted from different literatures to show an interaction of related factors and the outcome variable (1, 2, 20, 33)

3. Objectives

3.1. General objective

- To assess the prevalence of post-traumatic stress symptoms and associated factors in post-conflict areas, North Shoa Zone, Ethiopia, 2022.
- To assess the prevalence of depression symptoms and associated factors in post- conflict areas, North Shoa Zone, Ethiopia, 2022

3.2. Specific objectives

- To determine the prevalence of post-traumatic stress disorder in post -conflict areas, North Shoa Zone, Ethiopia, 2022.
- To identify factors associated with post-traumatic stress disorder in post- conflict areas, North Shoa Zone, Ethiopia, 2022.
- To determine the prevalence of depression in post- conflict areas, North Shoa Zone, Ethiopia, 2022
- To identify factors associated with depression in post- conflict areas, North Shoa Zone, Ethiopia, 2022.

4. Methodology

4.1. Study design, setting and period

A community-based cross-sectional study was conducted in the North Shoa Administrative Zone conflict-affected areas, Amhara National Regional State, Ethiopia from May 24-June 24, 2022.

The North Shoa Zone is one of the Amhara regional state administrative zones where its head office is located in Debre Birhan, which is located 130 km north-east of Addis Ababa (the capital city of Ethiopia) and 682 km from the capital city of Amhara regional state, Bahir Dar. The total population of North Shoa estimated from the CSA 2007 projected in 2014 is 2,370,488, whereas male =1,213 and female =1,156,952. This zone has a total of 24 districts and among them, 9 districts were affected by the conflict (Antsokiya, Kewut, Efratana Gidim, Tarmaber, Menz Gera Midir, Menz Mama Midir, Menz Keya Gebreal, Mida Woremo, and Mojana Wodera) and 5 town administrations (Shoarobit, Ataye, Mehal Meda, Debra Sina, and Molale), which led to loss of life, large-scale displacement, and damage to property.

The study areas of Mehal Meda, Ataye, Shoarobit, and Debere Sina have kebeles of 4, 3, 4, and 4 respectively. And there is a mental health service for the community in the outpatient departments (OPDs) of hospitals in the area, with the exception of Debere Sina where there is no mental health service in the area; they link to Debereberhan Comprehensive Specialized hospital for psychiatric evaluation.

4.2. Source population

All people who reside in conflict-affected areas of the North Shoa Zone, Amhara region, Ethiopia.

4.3. Study Population

All people who were living in the selected districts of conflict-affected areas and available during the study period, North Shoa Zone, Amhara region, Ethiopia.

4.4. Sampling unit

Randomly selected households in the study area.

4.5. Study unit

Randomly selected individual in which the actual data of the study was collected.

4.6 . Eligibility

4.6.1. Inclusion criteria

- All individuals who have permanently resided in the conflict-affected region for more than 6 months and age older than 18 years.

4.6.2. Exclusion criteria

- Those who were not there at the time of conflict.
- Those who were severely ill or had difficulty of communicating.
- Those who have previously been diagnosed with post-traumatic stress disorder (PTSD) and depression.

4.7. Sample size determination and Sampling procedure

For the first objective, a single population proportion formula was used to calculate the sample size by considering the following assumptions: standard normal distribution with a confidence interval (CI) of 95% (Z=1.96), absolute precision or tolerable margin of error (d=0.05), designing effect (De =1.5%) and by taking the prevalence of PTSD from the previous study that was done in South Ethiopia, which was 58.4% (1). The final sample size by adding 10% of the non-respondent rate and a design effect of 1.5 is 618. For the associated variables, the sample size determined using double population proportion formula by considering the following assumptions and variables: for PTSD, the first 1-3 variables and for depression, 4-6. It is calculated by Epi-info version 7 statistical package (see Table 1)

Table 1: Sample size calculation for associated factors of PTSD, and depression in post conflict areas of north Shoa zone, Ethiopia, 2022

S.No.	Variables	Assumptions	Final sample size	Reference
1.	Destruction of personal property	P1=(62.3%) , P2=(50.2%) , 95%CL,	524	(1)
2.	Witnessing murder of family/friends	P1=(66.4%) , P2 =(48.7%) , 95%CL	266	(1)
3.	Family history of mental illness	P1=(69.6%) , p2 =(33.9%) , 95%CL	70	(2)
4.	Occupation	P1=(41.07%),P2=(19.32%) ,	156	(20)

		95%CL		
5.	History of displacement	P1=(42.88%),P2=(22.44%) , 95%CL,	182	(20)
6.	Family history of psychiatric illness	P1=(68.35%),P2=(34.37%) , 95%CL	78	(20)

Key= P1 is % of outcome in exposed group and P2 is % of outcome in unexposed group

The largest sample size from the variables was 524. After adding a non-response rate of 10% and a design effect of 1.5, the final sample size was 865. Since the calculated sample size by the first objective is 618, which was less than the sample size that got from the variable, I used the largest sample size, which was 865, for the better representativeness.

4.8. Sampling procedure

Multi-stage random sampling method was used to select the study participants. Initially, 4 districts were selected, out of 9 conflict affected areas, by using simple random sampling (lottery method).Then after, 2 kebeles were selected, of the overall 4 kebeles, from, Shoarobit town administrative of Kewut district, 1 kebele was selected, of the overall 3 kebeles, from Ataye town administrative of Eferatena Gidim district, 2 kebeles were selected, of the overall 4 kebeles, from Mehal Meda town administrative of Menz Gera district, and 2 kebeles were selected, of the overall 4 kebeles, from Debere sina town administrative of Tarmaber district, by using the lottery method. After that 5 ketenas were selected, of the overall 10 ketenas from the selected 2 kebeles, of, Shoarobit town administrative of Kewut district, 2 ketenas were selected, of the overall 4 ketenas from the selected 2 kebele, of Ataye town administrative of Eferatena Gidim district, 3 ketenas were selected, of the overall 7 ketenas, from the selected 2 kebeles, of Mehal Meda town administrative of Menz Gera district, and 4 ketenas were selected, of the overall 8 ketenas, from the selected 2 kebeles of Debere sina town administrative of Tarmaber district, by using the lottery method

To reach households, the simple random sampling technique was employed. The list of households in each kebele/ketena was obtained from the kebele administrators and health extension workers. The proportionate-to-population size calculation was used to select the number of households in each ketenas. While more than one eligible participant was found in the selected households; lottery method was used to select one eligible participant (see Figure 2).

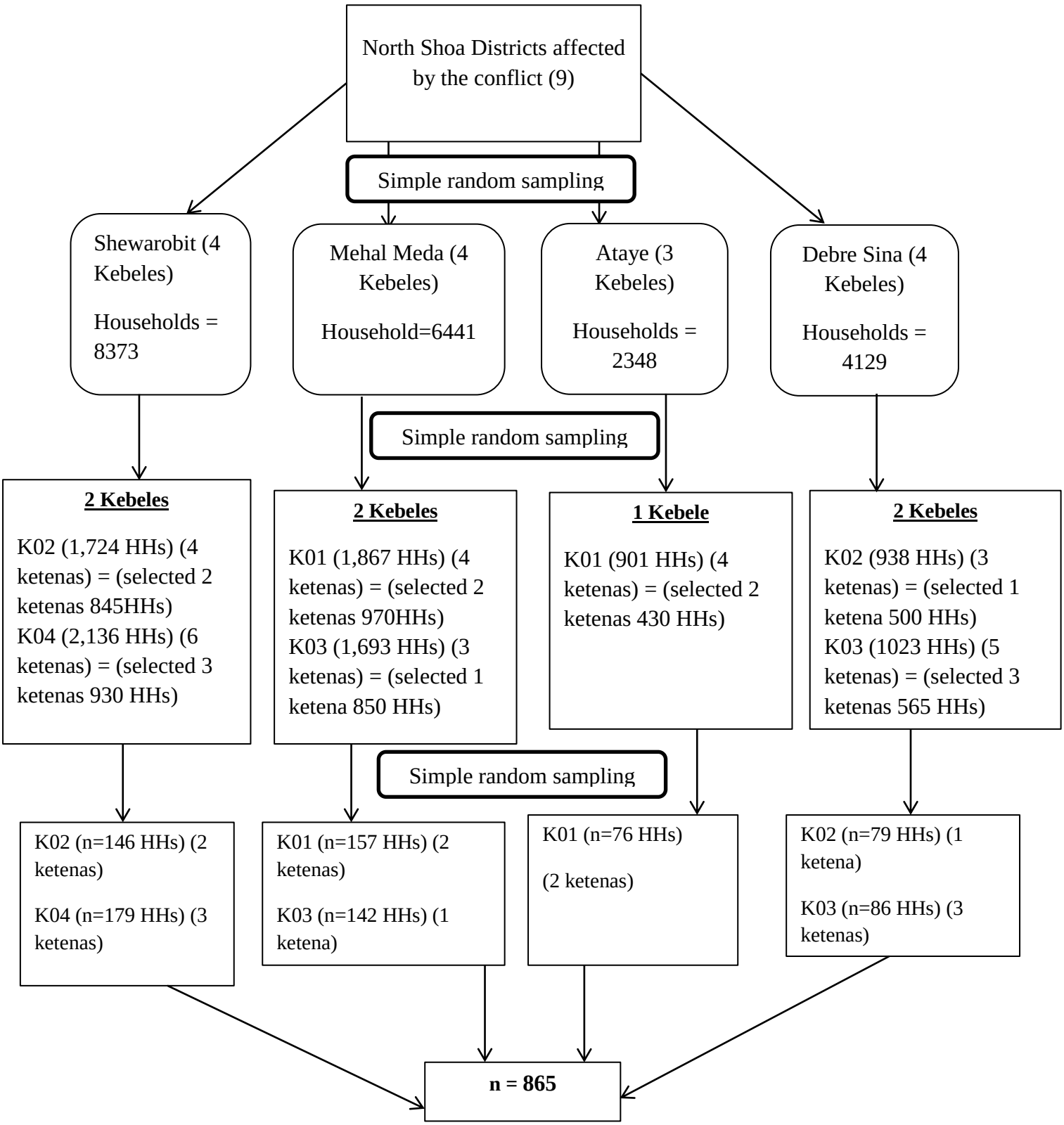

Figure 2: Sampling frame work of prevalence of PTSD, depression and associated factors in post-conflict areas of north Shoa zone, Ethiopia, 2022

4.9. Data collection Instruments and procedure

Data was collected by face-to-face interviews using structured questionnaire by four BSc nurses and was supervised by two psychiatric nurses. The questionnaire was designed in English and translated to Amharic and back to English to maintain consistency. Data collectors were trained on how to interview participants and explain unclear questions and the purpose of the study. Furthermore, they were aware of ethical principles, such as confidentiality /anonymity/ data management, and how to secure respondents' informed consent for participation.

Of the 865 households approached for an interview, for those homes that were closed, the interviewers revisited the home at another time during the data collection period and replaced those who were not found during the repeated revisiting. A total of 22 participants refused consent, and 13 interviews were discontinued due to respondent distress and discomfort. After data cleansing, a sample of 830, yielding a 96% response rate, was available for analysis.

PTSD was measured using the DSM5 (PCL5) post-traumatic stress disorder checklist. PCL5 is a standardized self-assessment tool and scale for assessing 20 DSM5 symptoms of PTSD. The total score is calculated by summing 20 items, and the possible scores range from 0 to 80 on the Likert scale of 5 points (0 = Not at all, 1 = A little bit, 2 = moderately, 3 = Quite a bit, 4 = extremely) with a cutoff point of ≥33. Validity and reliability of the PCL-5 had been tested and proven on displaced people and refugees in a number of countries and this tool was used on the study done in Ethiopia (1, 83) . Reliability coefficient Cronbach's α in this study for the DSM5 (PCL5) was 0.90 showing an excellent internal consistency of the items.

Depression was measured using the Hopkins Symptom Checklist 25 (HSCL25). It measures the score of the Depressive Symptom Criteria for 15 Depressive Items in HSCL25. This also had a 4 point severity scale, 1 = "Not at all", 2 = "A little", 3 = "Quite a bit", and 4 = "Extremely". Mean depression scores ≥1.75 were considered significant for meeting symptom criteria of depression based upon the instrument standards. The reliability and validity of the HSCL-25 have been tested and proven for use with displaced persons in a number of countries; studies that were conducted in Ethiopia also used this instrument (1). The reliability coefficient, Cronbach's α in this study for the HSCL-25 was 0.88 showing good internal consistency of the items.

Social support was measured using the Oslo3 social support scale, which ranges from 3 to 14. Respondents with a score of 3–8 were considered to have poor social support, scores 9–11 were considered moderate social support, and scores 12–14 were considered strong social support (84).

An individual's stress level was measured using the Perceived Stress Scale (PSS-10). The questions on this scale asked about feelings and thoughts of last month. PSS was measured with a Likert type scale ranging from (0) "never" to (4) "very often". The four positively stated items (item 4, 5, 7, and 8) were reversed (e.g., 0 = 4, 1 = 3, 2 = 2, 3 = 1, and 4 = 0) and then summed across all scale items. Individuals with a score of "0-13" were considered to have low perceived stress, "14-26" moderate perceived stress, and "27-40" higher perceived stress (85).

To examine substance use history, respondents were asked: ‘Have you ever used any substance in the last three months or in your lifetime?’ and the responses were yes or no.

Socio-demographic, clinical, trauma event related, and medical-related factors were derived from a variety of relevant literature and used in questionnaires with "yes/no" answers that are adapted accordingly.

4.10. Variables

4.10.1. Dependent Variables

- Post-traumatic stress disorder (yes/no)
- Depression (yes/no)

4.10.2. Independent Variables

- **Socio-demographic factors**
  - Age
  - Sex
  - Marital status
  - Educational status
  - Occupational status
- **Traumatic event related factors**
  - Kidnapping or Abduction
  - Physical abuse
  - Sexual violence
  - Witnessed destruction of property
  - Witnessed murder of loved ones
  - Witnessed murder of significant others
  - Displacement
  - Lack of basic necessities
  - Persecution to self
  - Childhood trauma
- **Clinical related factors**
  - Previous Diagnosed mental illness
  - Diagnosed family mental illness
  - Co-morbid medical illness
- **Psychosocial related factors**
  - Social support
  - Perceived stress
  - Humanitarian support
  - Lifesaving support

- **Substance use related factors**
  - Khat
  - Cigarette
  - Alcohol

4.11. Operational definitions

- **Post-traumatic stress disorder:** A study participant is said to have PTSD symptoms, if the score is ≥33 from the range of 0-80 of the Post-Traumatic Stress Disorder Checklist for DSM-5 (PCL-5) (83).
- **Depression:** A study participant is said to have depression symptoms when they scored ≥1.75 from the total score of the Hopkins' Symptom Checklist-25 (HSCL-25) (1).
- **Poor social support:** It is expressed by when the average Oslo 3-items social support scale result 3-8, with the total scores ranging from 3-14 (84).
- **Strong social support:** It is expressed by when the average Oslo 3-items social support scale result from 12-14 from the total scores ranging from 3-14 (84) .
- **Current substance use:** It is the use of the listed substances (alcohol, khat, and cigarette) in the last 3 months.
- **Lifetime substance use:** It is the use of the listed substances (alcohol, khat, and cigarette) at least once in his or her life.
- **Low perceived stress:** By the perceived stress scale (PSS) assessment tool ,scores ranging from 0-13 would be considered as low perceived stress (86).
- **Moderate perceived stress:** By the perceived stress scale (PSS) assessment tool ,Scores ranging from 14-26 would be considered as moderate perceived stress (86).
- **High perceived stress:** By the perceived stress scale (PSS) assessment tool Scores ranging from 27-40 would be considered as high perceived stress (86).

4.12. Data quality control measures

Data quality was assured by designing the proper data collection tools. The data collection instrument was pre-tested on 5% of the sample size (on 42 individuals) at Menz Mama (Molale). Based on the pretest, language clarity, appropriateness of data collection tools, estimating the time required, and necessary amendments were considered based on the pretest. An intensive training concerning the data collection tool , the data collection process, and the referral process for those respondents found to have significant PTSD and depression problems was given for data collectors, and also a two-day training was given for supervisors. Finally, all the collected data was checked by the investigator and supervisors for its completeness and consistency during the data management, storage, and analysis. Consistency was examined through the random selection of questioners.

4.13. Data processing and analysis

The data was thoroughly cleaned before entry. Then it was entered into Epi-data version 4.6 and analyzed by the statistical package for social sciences (SPSS) version 25. A bivariable and multivariable logistic regression analysis was used to see the significant association between the outcome and the independent variable/s. the chi-square assumption test was done. The model fitness was tested by the Hosmer and Lemshow test (0.30 and 0.15), and the model fitted for PTSD and depression consecutively. The variance inflation factor (VIF) was < 3 and < 1 for or PTSD and depression consecutively, which shows that there was no multicolinearity between the independent variables. Independent variables with a P value of less than 0.25 in the bivariable analysis and those considered important based on literature were entered into the multivariable analysis. In the final model, a significant association was declared at $p < 0.05$. The results were presented in text and tables with the adjusted odds ratio (AOR) and the corresponding 95% confidence interval, and also with figures.

4.14. Ethical consideration

The study was conducted after ethical clearance was obtained from the Institutional Review Board (IRB) of Debre Birhan University, Asrat Woldeys Health Sciences Campus. An ethical clearance letter was submitted to North Shoa's health administration and management body and was permitted to conduct the research. The objectives of the study were clarified to the North Shoa health administrative body and an additional supportive letter from the North Shoa health administration was disseminated to the study Woredas and Kebeles. A participant's written informed consent was taken regarding their willingness to

participate in the study. Participants that were found to be at risk of PTSD and depression were referred for psychiatric evaluation in the psychiatric unit of the nearby hospital/clinic.

4.15. Dissemination of Results

The findings of this study will be presented to Asrat Woldeys health science campus, department of Nursing. Furthermore, after presenting it, it will be disseminated to Debre Birhan University, the study area district health sectors, and various levels of stakeholders who are interested in or concerned about the research findings in the town via soft and hard copy. To further disseminate the information, the findings will be attempted to be published in a journal.

5. Results

5.1. Socio-demographic characteristics of the respondents

A total of 830 participants were included in the study, with a response rate of 96%.The median age of the respondents was 34, with interquartile range of 29 – 44 years. Of the total study participants, 443 (53.4%) were female, and one-fifth of the respondents 171 (20.6%) were unable to read and write (See Table 2).

Table 2: Description of Socio-demographic characteristics of the respondents among conflict affected areas of North Shoa, Ethiopia, 2022 (n=830)

Variables	Category	Frequency	Percentage
Age	18-24	103	12.4%
	25-34	319	38.4%
	35-44	221	26.6%
	>44	187	22.5%
Sex	Male	387	46.6%
	Female	443	53.4%
Marital status	Single	192	23.1%
	Married	488	58.8%
	Divorced	84	10.1%
	Widowed	66	8.0%
Educational status	Unable to read and write	171	20.6%
	Able to read and write	278	33.5%
	Primary education	102	12.3%
	Secondary education	102	12.3%
	College and above	177	21.3%
Occupational status	Governmental employee	122	14.7%
	Merchant	207	24.9%
	Farmer	252	30.4%
	Student	54	6.5%
	Daily laborer	41	4.9%
	House wife	75	9.0%
	Others*	79	9.5%

Note: Others *, Retired and private work

5.2. Clinical related factors of the study participants

Of 830 respondents, 184 (22.2%) had no access to health services. More than one-fifth of the study participants, 187 (22.5%), have a family member with a mental illness (see Table 3).

Table 3: Description of clinical related factors of the respondents among conflict-affected areas of North Shoa, Ethiopia, 2022 (n=830)

Variable	Category	Frequency	percentage
Previous Diagnosed mental illness	Yes	12	1.4%
	No	818	98.6%
Diagnosed family mental illness	Yes	187	22.5%
	No	643	77.5%
Co- morbid medical illness	Yes	109	13.1%
	No	721	86.9%
Health service access for any illness	Yes	646	77.8%
	No	184	22.2%

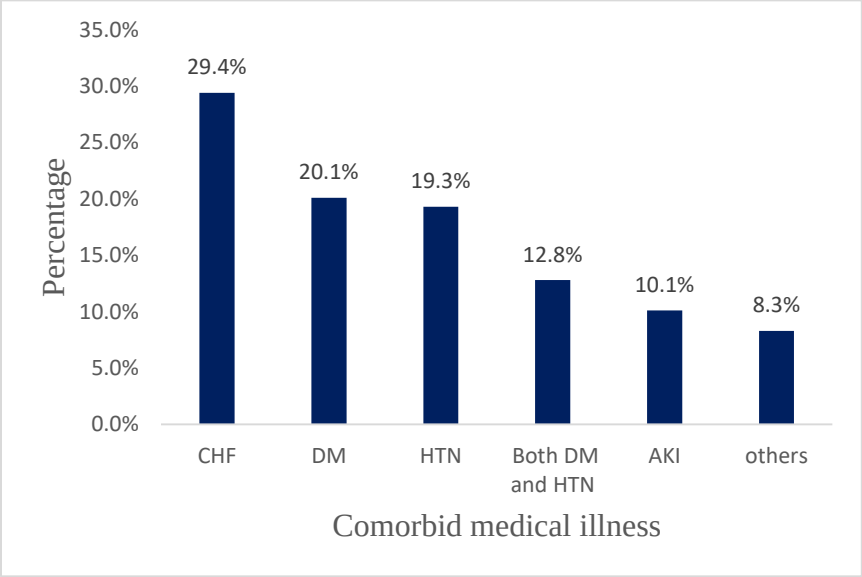

Figure 3: Description of co-morbid medical illness of the respondents among conflict-affected areas of North Shoa, Ethiopia, 2022 (n=830)

5.3. Psychosocial related factors of the respondents

With regard to the psychosocial characteristics of the respondents, around half of the participants 425(51.2%) have poor social support. Of the total study participants, more than two-in-five 375(45.2%) reported high perceived stress (See Table 4).

Table 4: Description of psychosocial related factors of the respondents among conflict-affected areas of North Shoa, Ethiopia, 2022 (n=830)

Variable	Category	Frequency	percentage
Social support	Poor	425	51.2%
	Moderate	207	24.9%
	Strong	198	23.9%
Perceived stress	Low	153	18.4%
	Moderate	302	36.4%
	High	375	45.2%
Food & water support	Yes	617	74.3%
	No	213	25.7%
Immediate help when needed	Yes	340	41.0%
	No	490	59.0%
Displacement	Yes	337	40.6%
	No	493	59.4%

5.4. Substance use related factors of the study participants

This study result showed that about two-thirds of the respondents 501 (60.4%) had current alcohol use. Of the 830 study participants, 130 (15.7%) reported current use of khat (see Figure 4).

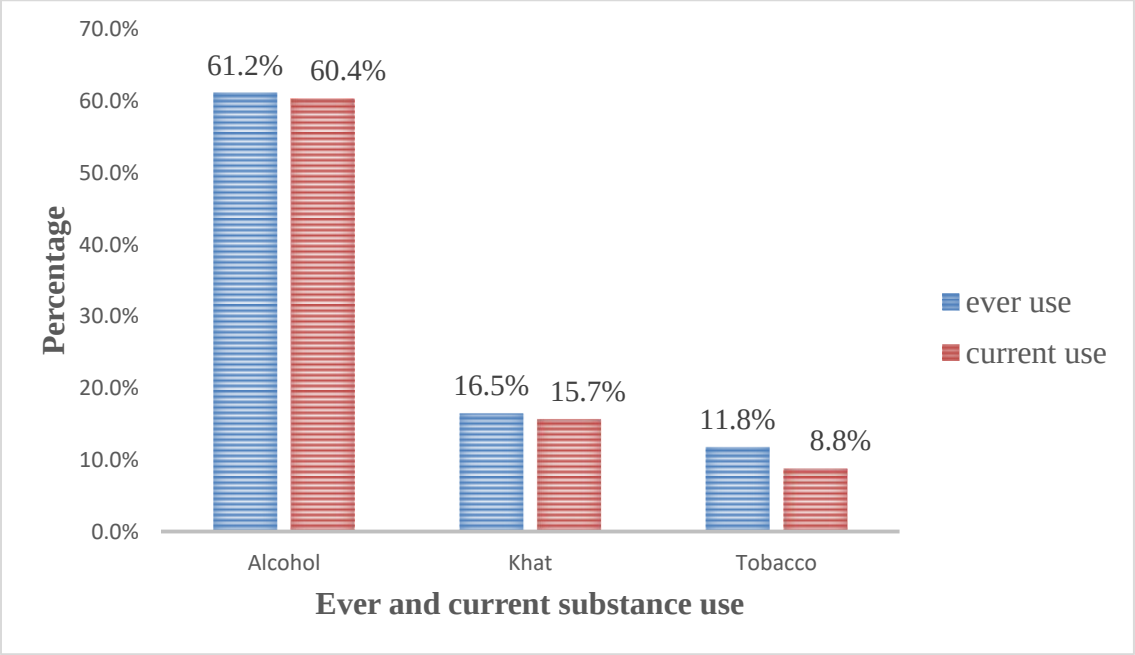

Figure 4: Description of substance use related factors of the respondents among conflict-affected areas of North Shoa, Ethiopia, 2022 (n=830)

5.5. Traumatic event related factors of the study participants

Regarding individual trauma types, the most frequent type of trauma experienced by the community was verbally threatened or insulted 611 (73.6%) and witnessed murder of strangers 363 (43.7%), respectively. More than one-third of the respondents 279 (33.6%) had destruction of personal property. Of the respondents, 146 (17.6%) were physically abused. Among the 830 study participants, 88 (10.6%) had witnessed the murder of loved ones. In addition, more than one-third of the participants 282 (34.0%) reported a lack of food and water in the living area (see Table 5).

Table 5: Description of traumatic event related factors of the respondents among conflict-affected areas of North Shoa, Ethiopia, 2022 (n=830)

Types of traumatic events	Frequency	Percentage
Destruction of personal property	279	33.6%
Lack of housing and shelter	253	30.5%
Lack of food and water in the living area	282	34.0%
Witness murder of loved ones	88	10.6%
Witness murder of significant others	294	35.4%
Witness murder of strangers	363	43.7%
Ill health without medical care	156	18.8%
Forcefully isolated from community	282	34.0%
Made to accept ideas against will	148	17.8%
Imprisoned against will	70	8.4%
Being in a war fighting situation	160	19.3%
Being abducted or kidnapped	34	4.1%
Sexually abused or raped	31	3.7%
Physically abused	146	17.6%
Verbally threatened or insulted	611	73.6%
Forcefully separated from family	312	37.6%
Serious injury	241	29.0%
Past childhood physical abuse or neglected	68	8.2%

5.6. Prevalence of Post-traumatic stress disorder and depression

In this study, the estimated prevalence of PTSD was 63%, with a 95 % CI of 60%–66%. The estimated prevalence rate was higher among females 336 (64.2%), compared to males 187 (35.8%).

The current study found that 544 (66%) of respondents have depressive symptoms, with a 95% confidence interval of 62%–69%, with more women than men, 340 (62.5%) versus 204 (37.5%).

5.7. Factors associated with PTSD

A bi-variable analysis was done for each explanatory variable. Socio-demographic variables including female sex and educational status (being unable to read and write and being able to read and write) fulfilled the minimum requirement. The following traumatic event factors: witnessing the murder of loved ones, lack of housing and shelter, being in a war fighting situation, witnessing the murder of strangers, and destruction of personal property also fulfilled the minimum criterion. Clinical and psychosocial factors like family members with mental illness, poor and moderate social support were variables that satisfied the minimum requirement ($p < 0.25$ significance level) for further multivariable logistic analysis in PTSD. In the multivariable analysis, being female, being unable to read and write, witnessing the murder of loved ones, witnessing the murder of strangers, being verbally threatened, poor and moderate social support were significantly associated with PTSD ($p<0.05$).

Females were four times higher in odds to develop PTSD symptoms than males (AOR=4.2, 95% CI (2.82-6.27)). From the study participants those who are unable to read and write were three times higher in odds to develop PTSD symptoms than those who are college and above (AOR=3.08, 95% CI (1.67-5.69)). The odds of developing PTSD symptoms among participants who had witnessed the murder of loved ones and witnessed the murder of strangers were three times and two times higher as compared to those participants who had not witnessed or experienced these traumatic events (AOR = 3.28, 95% CI (1.58-6.79)) and (AOR = 2.04, 95% CI (1.33-3.11)) respectively. With regard to those who were verbally threatened or insulted, the likelihood of developing PTSD symptoms was four times higher (AOR=4.09, 95% CI (2.69–6.21)) as compared to those who were not verbally threatened or insulted. Individuals who had poor social support were five times more likely to develop PTSD symptoms than those who had strong social support (AOR = 5.26, 95% CI (3.35-8.28)). The odds of developing PTSD symptoms among participants who had moderate social support were nearly two times higher as compared to those who had strong social support (AOR = 1.89, 95% CI (1.15-3.13)) (see Table 6).

Table 6: Bi-variable and multivariable binary logistic regression analysis showing an association between factors and PTSD in post- conflict areas, North Shoa -zone, Ethiopia 2022 (n=830)

Explanatory variables	PTSD		COR (95% CI)	AOR (95% CI)
	Yes	No		
Sex				
Female	336	107	3.35 (2.50 – 4.51)	4.2 (2.82 – 6.27)***
Male	187	200	1	1
Educational status				
Unable to read and write	142	29	4.84 (2.94 – 7.95)	3.08 (1.67 – 5.69)***
Able to read and write	177	101	1.73 (1.18 – 2.54)	1.13 (0.69 – 1.85)
Primary education	59	43	1.35 (0.83 – 2.21)	0.88 (0.47 – 1.63)
Secondary education	56	46	1.20 (0.73 – 1.96)	1.14 (0.61 – 2.12)
College and above	89	88	1	1
Witnessed murder of loved ones				
yes	76	12	4.2 (2.23 – 7.82)	3.28 (1.58 – 6.79)**
No	447	295	1	1
Destruction of personal property				
Yes	213	66	2.50 (1.81 – 3.46)	1.15 (0.62 – 2.15)
No	310	241	1	1
Being in a war fighting situation				
Yes	114	46	1.58 (1.08 – 2.30)	1.00 (0.59 – 1.70)
No	409	261	1	1
Witnessed murder of strangers				
Yes	277	86	2.89 (2.13 – 3.91)	2.04 (1.33 – 3.11)**
No	246	221	1	1
Lack of housing or shelter				
Yes	194	59	2.47 (1.77 – 3.46)	1.72 (0.92 – 3.21)
No	329	248	1	1
Verbally threated or insulted				
Yes	448	163	5.27 (3.78 – 7.35)	4.09 (2.69 – 6.21)***
No	75	144	1	1
Family member with mental illness				
Yes	136	51	1.76 (1.23 – 2.52)	1.23 (0.80 – 1.88)
No	387	256	1	1
Social support				
Poor	350	75	8.72 (5.94 – 12.81)	5.26 (3.35 – 8.28)***
Moderate	104	103	1.88 (1.26 – 2.81)	1.89 (1.15 – 3.13)*
Strong	69	129	1	1

**Key: ***p<0.05, **p<0.01, ***p<0.001

Abbreviations: COR= crude odds ratio, AOR=adjusted odds ratio, PTSD=Post-traumatic stress disorder, n= sample size.

5.8. Factors associated with depression

The study assessed factors related to the prevalence of depression. To determine the association of independent variables with depression, bi-variable and multivariable binary logistic regression analyses were carried out. In the bi-variable analysis, factors including female sex, physically abused, abducted or kidnapped, ill health without medical care, being in a war fighting situation, witnessing the murder of loved ones, current khat use, poor social support, moderate perceived stress, and high perceived stress fulfilled the minimum criteria at p-value of < 0.25. The result of the multivariable analysis showed that female sex, physically abused, ill health without medical care, witnessing the murder of loved ones, poor social support, moderate and high perceived stress were significantly associated with depression at a p-value of <0.05.

According to this study, being female was almost three times higher in odds to develop depressive symptoms as compared with male (AOR = 2.7, 95% CI (1.89–4.06)). Respondents who were physically abused were 2.5 times more likely to exhibit depressive symptoms as compared to those who were not (AOR = 2.5, 95% CI (1.36–4.78)). Among 830 study participants, those who encountered ill health without medical care were almost two times higher in odds to develop depressive symptoms than those who got medical care (AOR = 1.86, 95% CI (1.03–3.37)).There was very strong association between witnessing the murder of loved ones and depression, with over eight times in odds to develop depressive symptoms as compared to those who didn't experience this traumatic event (AOR=8.84, 95% CI (3.98-19.63)).The odds of having depression among study subjects with poor social support was 2.63 times (AOR=2.63, 95% CI (1.63–4.22)) higher than those who had strong social support. The odds of having depressive symptoms were two times (AOR = 2.14, 95% CI (1.31-3.51)) and 7.75 times (AOR = 7.75, 95% CI (4.42-13.61)) higher among respondents who had moderate and high perceived stress consecutively, compared to those with low perceived stress (see Table 7).

Table 7: Bi-Variable and multivariable binary logistic regression analysis Showing an association between factors and depression in post-conflict areas of, North Shoa -zone, Ethiopia 2022 (n=830)

Explanatory variables	Depression		COR (95% CI)	AOR (95% CI)
	Yes	No		
Sex				
Female	340	103	2.96 (2.20 – 3.98)	2.7 (1.89 – 4.06)***
Male	204	183	1	1
Physically abused				
Yes	127	19	4.28 (2.58 – 7.09)	2.5 (1.36 – 4.78)**
No	417	267	1	1
Being abducted or kidnapped				
Yes	29	5	3.16 (1.21 – 8.26)	1.52 (0.50 – 4.59)
No	515	281	1	1
Ill health without medical care				
Yes	134	22	3.92 (2.43 – 6.31)	1.86 (1.03 – 3.37)*
No	410	264	1	1
Being in a war fighting situation				
Yes	128	32	2.44 (1.60 – 3.70)	1.15 (0.65 – 2.04)
No	416	254	1	1
Witnessing the murder of loved ones				
Yes	79	9	5.22 (2.58 – 10.58)	8.84 (3.98 – 19.63)***
No	465	277	1	1
Social support				
Poor	359	66	7.38 (5.94 – 12.81)	2.63 (1.63 – 4.22)***
Moderate	101	106	1.29 (0.89 – 1.91)	0.91 (0.56 – 1.48)
Strong	84	114	1	1
Perceived stress				
High	331	44	15.96 (10.05 – 25.36)	7.75 (4.42 – 13.61)***
Moderate	164	138	2.52 (1.67 – 3.79)	2.14 (1.31 – 3.51)**
Low	49	104	1	1
Current khat				
Yes	96	34	1.58 (1.04 – 2.41)	1.24 (0.70 – 2.17)
No	448	252	1	1

**Key: ***p<0.05, **p<0.01, ***p<0.001

Abbreviations: COR= crude odds ratio, AOR=adjusted odds, n= sample size

6. Discussion

The findings from the current study revealed that the estimated prevalence of PTSD and depression in the study communities was 63% and 66% with a 95% CI (60%–66%, and 62%–69%) consecutively. The estimated prevalence of PTSD in the current study was higher as the study compared to Palestinians (west bank 49.28%, Gaza 46.5%, and East Jerusalem 35.8%) (34). This discrepancy might be due to the analysis and reporting technique, in which the other studies analyzed and reported for the 3 states separately, while in the current study the result was reported as a total of 4 districts. Similarly, the current study was higher than the studies carried out in Albania (17%) (32), India (19%) (31), Liberia (44%) (36), Afghanistan (42.2%) (33), Korea (15%) (51), and South Sudan (36.2%) (38). The possible explanation for the observed differences might be due to different instruments and cut-off points to measure PTSD and exposure to multiple traumas. All the studies used the Harvard Trauma Questionnaire (HTQ) and the General Health Questionnaire (GHQ-28), except the study carried out in Korea. The other cause of discrepancies could be due to the methods they used to collect the data. In Albanian and Korea, they used a self-administered technique (where the difference in individual understanding of the question might affect the magnitude) in which this study used an interview that had a high chance of common understanding. The study conducted in Liberia was conducted after 10 years of conflict, but the current study was conducted less than 1 year after the conflict. Therefore, the increased duration was more likely to reduce magnitude due to recall bias. Variation in the type of sampling technique, exposure to trauma, sample size and socio-cultural difference might also contribute to this discrepancy.

Regarding the socio-demographic characteristics of the respondents, this study showed that the education level of participants (those who are unable to read and write) has a significant association with PTSD. This finding is supported by a study done in the Kashmir valley (31). This might be due to people who are unable to read and write may have less ability to cope with a stressful situation than those of college and above (87).

Also, being female has a significant association with PTSD. This finding is also supported by other studies carried out in the Kashmir valley, Italy, South Sudan, Afghanistan, and Palestine (29, 31, 33, 40, 41). Biological and psychosocial factors may contribute to women's increased risk of having PTSD. Women appear to have a more sensitized hypothalamus–pituitary–axis than men due to the effect of oxytocin, which results in excessive fear, stress, and needs for social support (88). Psychological

consequences of rape, sexual abuse, violently losing a partner and being widowed (single parent) might also be a risk factor. Another reason could be that females tend to show a more emotional and ruminative response to stress (31, 89).

The significant association between witnessing murder of loved ones with PTSD is consistent with report of other study in Italy and Croatia (41, 44). The strongest relationships with the people we love have the capacity to positively or negatively change us and contribute to our sense of identity. As a result, witnessing the murder of loved ones resembles an irreversible negative life-changing effect and altered thinking ability. The anguish, the repeated memory of the event, negative intrusive thoughts (For example thoughts of revenge), has a significant impact on emotional well-being and could also interfere in everyday living activities (90, 91)

The current finding showed that, witnessing the murder of strangers was associated with PTSD. But it was not associated with other studies. The possible reason might be the number of individuals exposed to this traumatic event was high in the current study and this variable was not included in some of the other studies (45, 92). This traumatic event trapped the person in a constant state of strong emotional reactivity (91). The three areas of the brain (amygdala, hippocampus, and prefrontal cortex) all play a role in regulating emotions and responding to fear. When there is strong emotional reactivity, these areas may perform and function differently than before. The amygdala becomes hyperactive; the hippocampus affects the ability to recall some memories; and the prefrontal cortex will have a hard time regulating fear and other emotions. All of this emotional instability, irritation, and stress make the person vulnerable to PTSD (93, 94).

Furthermore, participants who experienced verbal threats or insults are more likely to acquire PTSD; this finding was not supported by previous studies. This might be due to, in the current study this traumatic event is the highest frequency that was experienced by the community. Words are instruments for managing human bodies. A person's mental and physical health might be negatively impacted by aggressive words. As kind words make us feel calmer stronger and loved. Verbally threatened or insulted shatters a person’s self-esteem and self-respect. This nonphysical act harms another person's overall ability to function, their mental well-being, and makes the person constantly afraid, ashamed, guilty, unwanted, powerless, and hopeless. These cumulative emotions lead to symptoms of trauma, making them susceptible to different mental disorder, including PTSD (95).

The odd of developing PTSD symptoms was higher with those who has poor and moderate social support, that the result is in lined with studies done in Albanian , Korea, Croatia (32, 44, 51). Research suggests that positive social and family relationships can help moderate the effects of stress and trauma. Conversely, people who lack supportive relationships , environments, help to compensate for physical incapacity, and emotional support tend to be more vulnerable to stress and, therefore, more at risk for PTSD after experiencing trauma (96).

The other psychopathology that was experienced among the post-conflict communities was depression. More than half the sample (66%) met symptom criteria for depression, with a confidence interval of 62%–69%. This is in line with a study done in Afghanistan (67.7%) (33). However, it was higher than a study conducted in, Liberia (40%) (36), Juba (South Sudan) (50 %) (38), India (Kashmir valley) (41%) (31), and Lebanon (27.8% (61). he possible reason for the difference might be the sampling technique used to select the participants. For the study done in Lebanon, four communities were selected deliberately, plus people only living for two years were included, which correspondingly could affect the magnitude. Also, despite the difference in the number of traumatic events and exposure status, the timing of psychosocial and economic support provided for the communities residing in that area was better, which may be protective against the higher prevalence of depression. The report of this finding was also higher than the report made in Palestinians (west bank 58.9%, Gaza 56.5%, and East Jerusalem 43.7%) (34). The discrepancy might be due to the analysis and reporting technique used in the other studies. While the other studies analyzed and reported the results for the 3 states separately, the current study reported the total of 4 districts. The discrepancy could also be explained by socio-cultural differences, inclusion and exclusion criteria, and the timing of collaborative psychosocial, humanitarian, and lifesaving supports.

The greater likelihood of depression among women than men in my study was similar to the reports of other studies in Kashmir valley, Palestine, south Sudan (31, 34, 38). Possibly because women regularly experience hormonal fluctuations and because they experience more intense hormonal changes at certain times in life, their risk of depression is biologically higher. Hormonal changes may not be a direct cause of depression, but they can set the stage for the disorder, especially when combined with experiencing traumatic events (97). Also Women in stressful situations may use a tend-and-befriend response rather than the fight-or-flight response that is often assumed to be emotion-focused, defensive, and palliative

coping while problem-focused coping is higher in men. This emotion-focused response increased the vulnerability to depressive symptoms (88). Experiences of sexual abuse are more prevalent in women than in males. High family burden and also cultural influences on women might increase pressure and stress, which have significant psychological trauma and can lead to depression (98).

The other factor that was strongly associated with depression was witnessing murder of loved ones, this report is supported by findings in Palestine and Nigeria (34, 99). The possible reason could be such traumatic event can cause the brain to remain in a state of hypervigilance and leads to behavioral impairment. The increased emotional stress leads to increased cortisol and norepinephrine level response to the cause of stress, and contribute for the development of depression (91, 94).

Respondents that encountered ill health without medical care were also significantly associated with depression in the result of this study, which was similar to another study (38). Possibly because the illness may affect a person's mobility (ability to move) and independence, and change the way they live, see themselves, and/or relate to others. These changes can be stressful and cause a certain amount of despair or sadness. Not getting treatment for the illness worsens the health status of the person, making them hopeless, losing interest in activities, not able to do their daily activities and becoming more vulnerable to depressive symptoms.

Those who were physically abused were also associated with depression. This is supported by a study in Croatia (44). Being physically abused could be left with bruises, broken or fractured bones, or scalds that leave scars. The swollen and impaired parts of the body may remind the trauma and cause reliving it, and victims may believe that the traumatic event has left its mark, and the body may continue to cling to unresolved issues, all of which can lead to an increased susceptibility to depression (44).

The odds of developing depression were higher among respondents with poor social support. This finding was supported by studies (20, 100). Social support networks provide a shoulder, guidance, love, care, entertainment, and other varieties of mental and physical assistance during times of need and crisis. Having poor social support might lead to feelings of loneliness, helplessness, and distress and may lead a person to be more vulnerable to violence, suicidality, and harmful health practices such as substance abuse. This might trigger the onset of depressive symptoms and also have negative social and psychosocial outcomes (96).

Participants with high and moderate perceived stress were also linked with depression. This finding was also supported by other studies (100). Negative beliefs about the consequences of the ongoing threat as damaging implications will precipitate the onset and persistence of depression. It also brings physiological changes (headache, chest pain, change in sexual drive and fatigue), mood changes (restlessness, lack of focus, irritability and sadness) and behavioral changes (alcohol use, tobacco use and social withdrawal), which all have a great triggering effect for depression (101).

7. Conclusion

More than half of the dwellers living in conflict-affected areas experienced post-traumatic stress disorder and depression. The study showed that both psychopathologies were more prevalent in women. In this study, there were two variables that showed an association with PTSD but not in other studies (verbally threatened or insulted and witnessing the murder of loved ones). Being female, witnessing the murder of loved ones, and poor social support were the variables that were associated with both PTSD and depression. Inability to read and write, witnessing the murder of strangers, being verbally threatened or insulted, and having moderate social support were the explanatory variables that have an association with PTSD. In regard to depression, physical abuse, ill health without medical care, moderate perceived stress, and high perceived stress were to have an association.

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8. Recommendation

To health sectors

Regional health sectors are expected to monitor and organize constant PTSD and depression screenings and are also expected to evaluate the health delivery and obstacles for the community to get healthcare. Also, the regional health sectors should coordinate the training that is given to health professionals.

To health professional

While giving psychological support, more attention should be given to women and other factors that show a significant effect on PTSD and depression.

To the community

The social network of the community should be improved and strengthened. Community leaders should be expected to constantly engage the community in relevant programs that can strengthen social interaction and relationships. Individuals living in conflict zones should be trained on how to handle and care for people in the community that have been affected directly or indirectly by the conflict.

To researchers

More community-based studies should be done to determine the prevalence of various mental health conditions in the conflict districts. Furthermore, more gender-sensitive research on conflict areas in relation to PTSD and depression is needed to fully understand the differences that make women more vulnerable to both psychopathologies. Diagnostic studies should be carried out for PTSD and depression.

9. Strength and Limitation

9.1. Strength

- The study includes more than 44% of the affected districts which is more than enough and appropriate for generalization of the result.
- It tries to cover all the important explanatory variables.
- The study used standardized tool not only for the outcome variables but also for the independent variables.

9.2. Limitations

- The study is not diagnostic study; its screening study.
- It may have social desirability bias

10. References

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11. Annexes

11.1. Annex 1: Informed consent form

Dear participants,

My name is ……. I am a graduating class student at Debereberhan University, Asrat Woldys Health Science Campus, Department of Nursing. One of the requirements for the Master's program is to conduct research. This letter serves to ask for consent from you to take part in this research.

The purpose of the research is to assess the prevalence and associated factors of Post-Traumatic Stress Disorder and Depression among people in post-conflict affected areas of North Shoa Ethiopia. This will be critical input for policymakers, organizations, and hospitals to develop an appropriate strategy on mental health in areas of post-conflict accordingly. Your involvement should be voluntary in this research. If you decide not to participate, there will be no consequence for you. Also, if you participate, there is no benefit that you will gain. But your participation is very important to achieve the study objective and the integration of mental health services. There is no any risk that will occur to you because of your participation in this study. All your responses given on the questionnaire will be confidential using a coding system. No one will have access to your response, and you are not expected to give your name or phone number. Without permission from you and the legal body, any part of this study will not be disclosed to a third person. You have the full right to refuse and withdraw at any time. This questionnaire will take 25 minute to complete it. If you are willing to participate in this study, you need to understand and sign. If you have any doubts concerning the study you can contact me, Bethelehem Taye, 0923-02-09-84 or email: betataye974@gmail.com

I understand the contents of this document and the nature of the research, and I consent to participate voluntarily in the research project. I understand that I am at autonomy to withdraw from the project at any time.

Signature of participants Date

---------- ----------

Name and signature of data collector----------

Date: - ----------

4.12. Annex II: English and Amharic version questionnaires

Questionnaire for Assessing the Prevalence of Post-Traumatic Stress Disorder, Depression and Associated Factors in Post- Conflict Areas, North Shoa Ethiopia 2022

Respondent's code ----------

Part 1: Socio-demographic characteristics

S.No	Variable Category		Remark
101	What is your Age?		
102	Gender	1.Male 2. Female	
103	What is your Marital status?	1.Single 2. Married 3. Divorced 4.Widowed	
104	What is your Educational status?	1.Unable to read and write 2.Able to read and write 3.Primary education 4.Secondary education 5.Degree and above	
105	What is your Occupational status?	1.Government employed 2.Merchant 3.Farmer 4.Student 5.Day labourer	

		6.House wife others-------	
106	How much is your Monthly income?		

Part 2: PTSD Checklist for DSM-5 (PCL-5)

This part contains questions related to emotional changes after peoples face hard and traumatic events. Choose the best alternative that describes your situation.

In the past month, how much were you bothered by		Not at all 0	A little bit 1	Moderately 2	Quite a bit 3	Extremely 4
201	Repeated, disturbing, and unwanted memories of the stressful experience?					
202	Repeated, disturbing dreams of the stressful experience?					
203	Suddenly feeling or acting as if the stressful experience were actually happening again (as if you were actually back there reliving it)?					
204	Feeling very upset when something reminded you of the stressful experience?					
205	Having strong physical reactions when something reminded you of the stressful experience (for example, heart pounding, trouble breathing, sweating)?					
206	Avoiding memories, thoughts, or feelings related to the stressful experience?					

207	Avoiding external reminders of the stressful experience (for example, people, places, conversations, activities, objects, or situations)?					
208	Trouble remembering important parts of the stressful experience?					
209	Having strong negative beliefs about yourself, other people, or the world (for example, having thoughts such as: I am bad, there is something seriously wrong with me, no one can be trusted, and the world is completely dangerous)?					
210	Blaming yourself or someone else for the stressful experience or what happened after it?					
211	Having strong negative feelings such as fear, horror, anger, guilt, or shame?					
212	Loss of interest in activities that you used to enjoy?					
213	Feeling distant or cut off from other people?					
214	Trouble experiencing positive feelings (for example, being unable to feel happiness or have loving feelings for people close to you)?					
215	Irritable behaviour, angry outbursts, or acting aggressively?					
216	Taking too many risks or doing things that could cause you harm?					

217	Being "super alert" or watchful or on guard?					
218	Feeling jumpy or easily startled?					
219	Having difficulty concentrating?					
220	Trouble falling or staying asleep?					

Part 3: HSCL-25 Hopkins Symptom Checklist for depression

Choose the best answer for how you felt over the past week

Questions		1: "Not at all"	2:"A little"	3:Quite a bit"	4: "Extremely"
301	Do you feel low in energy?				
302	Do you blame yourself for things?				
303	Do you cry easily?				
304	Do you loss sexual interest or pleasure?				
305	Do you have Poor appetite?				
306	Do you encounter difficulty falling asleep, staying asleep??				
307	Do you feel hopeless about the future?				
308	Do you Feel blue?				
309	Do you feel lonely?				
310	Do you Think of ending one's life?				
311	Do you Feel trapped or caught?				
312	Do you worry too much about things?				
313	Do you feel no interest in things?				

314	Do you feel that everything is an effort?				
315	Feeling of Worthless?				

Part 4: Clinical related factors

S.No	Items		Remark
401	Do you have a Psychiatry illness that has been diagnosed by a psychiatrist?	1.Yes 2.No	
402	Is there a family member who has psychiatry illness that has been diagnosed by a psychiatrist?	1.Yes 2.No	
403	Do you have diagnosed chronic medical condition?	1.Yes 2.No	
404	If your response is "yes" to question number 403, what medical illness?		
405	If your response is "yes" to question number 403, did you get health service accesses?	1.Yes 2.No	
406	Did you get health service accesses for any illness?	1.Yes 2.No	

Part 5: Traumatic event related factors

This part of questionaries' includes questions related to traumatic event and traumatic related factors during the war/conflict, say "yes" if you encounter the listed problems or say "No" if you didn't.

S.No	Items		Remark
501	Did you encounter Destruction of personal property	1.Yes 2.No	
502	Did you lack housing or shelter?	1.Yes 2.No	
503	Where there Lack of food or water in the living area?	1.Yes 2.No	
504	Did you Witness murder of loved ones'?	1.Yes 2.No	
505	Did you witness murder of significant others?	1.Yes 2.No	
506	Did you Witness murder of stranger?	1.Yes 2.No	
507	Ill health without medical care	1.Yes 2.No	
508	Were you Forcefully isolated from your community?	1.Yes 2.No	
509	Were you Tortured or beaten?	1.Yes 2.No	
510	Were you Made to accept ideas against your will?	1.Yes 2.No	
511	Were you Imprisoned against your will?	1.Yes 2.No	
512	Were you being in a war fighting situation?	1.Yes 2.No	

513	Were you being abducted or kidnapped?	1.Yes 2.No	
514	Were you sexually abused or raped?	1.Yes 2.No	
515	Were you physically abused?	1.Yes 2.No	
516	Were you verbally threatened or insulted?	1.Yes 2.No	
517	Were you Forcefully separated from your family?	1.Yes 2.No	
518	Were you Seriously injured?	1.Yes 2.No	
519	In your past Childhood, were you physical abuse/neglected?	1.Yes 2.No	

Part 6: Oslo 3 social support scale

This part of the questionnaire includes 3 questions related to your experience with social support. Choose one of the suggested alternatives that apply to you.

S.No	Items		Remark
601	How many people are so close to you that you can count on them if you have serious personal problems?	1.None 2. one or two 3.three up to five 4. more than five	
602	How much interest and concern do people show in what you do?	1.'none' 2'little' 3'uncertain' 4 'some' 5 'a lot'	
603	How easy is it to get practical help from neighbors if you should need it?	1,'very difficult' 2, 'difficult' 3 'possible' 4 'easy'	

		5, 'very easy'	

Part 7: Perceived stress level scale

This part of the questionnaire includes questions related to your perceived stress. Choose one of the suggested alternatives for each question that are applicable to you.

S.No	Items		Remark
701	In the last month, how often have you been upset because of something that happened unexpectedly?	0 - never 1 - almost never 2 - sometimes 3 - fairly often 4 - very often	
702	In the last month, how often have you felt that you were unable to control the Important things in your life?	0 - never 1 - almost never 2 - sometimes 3 - fairly often 4 - very often	
703	In the last month, how often have you felt nervous and stressed?	0 - never 1 - almost never 2 - sometimes 3 - fairly often 4 - very often	
704	In the last month, how often have you felt confident about your ability to handle Your personal problems?	0 - never 1 - almost never 2 - sometimes 3 - fairly often 4 - very often	
705	In the last month, how often have you felt that things were going your way?	0 - never 1 - almost never 2 - sometimes 3 - fairly often 4 - very often	
706	In the last month, how often have you found that you could not cope with all the things that you had to do?	0 - never 1 - almost never 2 - sometimes 3 - fairly often 4 - very often	
707	In the last month, how often have you been able to control irritations in your life?	0 - never 1 - almost never 2 - sometimes 3 - fairly often 4 - very often	

708	In the last month, how often have you felt that you were on top of things?	0 - never 1 - almost never 2 - sometimes 3 - fairly often 4 - very often	
709	In the last month, how often have you been angered because of things that happened that been outside of your control?	0 - never 1 - almost never 2 - sometimes 3 - fairly often 4 - very often	
710	In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?	0 - never 1 - almost never 2 - sometimes 3 - fairly often 4 - very often	

Part 8: Other psychosocial factors

S.No	Items		Remark
801	Did you get food, water support?	1.Yes 2.No	
802	Did you get immediate help when you needed? (Medication or any lifesaving support?	1.Yes 2.No	
803	Were you displaced?	1.Yes 2.No	

Part 9: Substance use related factors

I will ask you a few questions about your experience of using alcohol, tobacco, and Khat substances throughout your life and over the past three months. It is important that you try to answer each question as honestly and accurately as possible.

S.No	**Questions**		Remark
901	In your life, have you ever tried the following listed substances?		
	a. Tobacco products (cigarettes)	1.Yes 2.No	
	b. Alcoholic beverages (beer, wine, etc.)	1.Yes 2.No	
	c. khat	1.Yes 2.No	
If the answers are "No" to all items in question 901, stop interview, If "Yes" to any of these items, ask Question 2 for each substance ever used.			
902	In the past three months, have you ever used the following substances?		
	a. Tobacco products (cigarettes)	1.Yes 2.No	
	b. Alcoholic beverages (beer, wine, etc.)	1.Yes 2.No	
	c. khat	1.Yes 2.No	

Thanks for your patience and participation!!

ውድ ተሳታፊዎች፣

ስሜ ……የደብረብርሃን ዩኒቨርሲቲ አስራት ወልደይስ ጤና ሳይንስ ካምፓስ፣ የነርሶች ክፍልተመራቂ ተማሪ ነኝ ። ለማስተርስ ፕሮግራም ከሚያስፈልጉት መስፈርቶች አንዱ ጥናት ማካሄድ ነው። ይህ ደብዳቤ በዚህ ጥናት ላይ ለመሳተፍ ከእርስዎ ፈቃድ ለመጠየቅ ያገለግላል።

የጥናቱ አላማ የድህረ-አደጋ የስሜት መረበሽ እና ድብርት ጦርነቱን ተከትሎ በሰሜን ሸዋ ኢትዮጵያ ህዝቦች መካከል ያለውን ስርጭት እና ተያያዥ ምክንያቶችን ለመገምገም ነው። ይህ ለፖሊሲ አውጪዎች፣ ድርጅቶች እና ሆስፒታሎች ከግጭት በኋላ ባሉ አካባቢዎች በአእምሮ ጤና ላይ ተገቢውን ስልት ለማዘጋጀት ወሳኝ ግብአት ይሆናል። በዚህ ጥናት ውስጥ ተሳትፎዎ በፈቃደኝነት መሆን አለበት, ላለመሳተፍ ከወሰኑ ለእርስዎ ምንም ውጤት አይኖርዎትም እና ከተሳተፉ ምንም ጥቅም አይኖርም ነገር ግን የጥናት አላማውን እና የአዕምሮ የጤና አገልግሎትን ለማሳካት ተሳትፎዎ በጣም አስፈላጊ ነው። በዚህ ጥናት ውስጥ በመሳተፋችሁ ምክንያት የሚደርስባችሁ ምንም አይነት ስጋት የለም። በመጠይቁ ላይ የተሰጡ ምላሾች በሙሉ በኮዲንግ ሲስተም ሚስጥራዊ ይሆናሉ፣ ማንም ምላሽ አይኖረውም እና ስምዎን ወይም ስልክ ቁጥርዎን እንዲሰጡ አይጠበቅብዎትም። ከእርስዎ እና ህጋዊ አካል ፍቃድ ከሌለ የዚህ ጥናት አካል ለሶስተኛ ሰው አይገለጽም። በማንኛውም ጊዜ እምቢ የማለት እና የመውጣት ሙሉ መብት አልዎት፣ ይህ መጠይቅ ለማጠናቀቅ 30 ደቂቃ ይወስዳል። በዚህ ጥናት ለመሳተፍ ፈቃደኛ ከሆናችሁ ተረድታችሁ መፈረም አለባችሁ። በጥናቱ ላይ ጥርጣሬ ካለህ እኔን ቤተልሔም ታዬ ማግኘት ትችላላቹ ፣ 0923-02-09-84 ወይም ኢሜል ፡ betataye974@gmail.com

በመረጃ የተደገፈ የስምምነት ቅጽ

የዚህን ሰነድ ይዘት እና የጥናቱን ባህሪ ተረድቻለሁ፣ እናም በምርምር ፕሮጀክቱ ውስጥ በፈቃደኝነት ለመሳተፍ ተስማምቻለሁ። በማንኛውም ጊዜ ከፕሮጀክቱ ለመውጣት በራስ ገዝ መሆኔን ተረድቻለሁ።

የተሳታፊዎች ፊርማ ቀን

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የመረጃ ሰብሳቢው ስም እና ፊርማ ---

ቀን፡----------

የመላሽ ኮድ ----------

ክፍል 1 : ማህበራዊ-ስነ-ሕዝብ ባህሪያት

ተ.ቁ	ጥያቄዎች		አስተያየት
101	እድሜዎ ስንት ነው?		
102	ጾታ	1. ወንድ 2. ሴት	
103	የጋብቻ ሁኔታዎ ምንድን ነው?	1. ያላገባ 2. ያገባ 3. የተፋታ 4. መበለት	
104	የትምህርት ደረጃዎ ምን ያህል ነው?	1. ማንበብ እና መፃፍ የማይችል 2. ማንበብ እና መፃፍ የሚችል 3. የመጀመሪያ ደረጃ 4. ሁለተኛ ደረጃ ትምህርት ቤት 5. ዲፕሎማ እና ከዚያ በላይ	
105	የእርስዎ ሙያ ምንድነው?	1. የ መንግስት ሰራተኛ 2. ነጋዴ 3. ገበሬ 4. ተማሪ 5. የቀን ሰራተኛ 6. የቤት ሚስት ሌሎች ---	

106	የወር ገቢህ ስንት ነው?		

ክፍል 2፡ የድህረ-አደጋ የስሜት መረበሽን የያዙ መጠይቆች

ከዚህ በታች የተዘረዘሩትን ጥያቄዎች ሰዎች በአስደንጋጭ ወይም በአስጨናቂ ጊዜ ውስጥ ካለፉ በኋላ የሚንፀባረቁባቸው ስሜቶች ናቸው፡ በጥንቃቄ ካደመጡ በኋላ ስሜቱን ይወክላል ብለው የሚያስቡትን አማራጭ ይምረጡ።

ባለፈው ወር ምን ያህል አስጨንቆዎት ነበር።		0.በጭራሽ	1.በትንሹ	2.መካከለኛ	3. በመጠኑ	4. በጣም
201	ስለ ጥቃቱ በተደጋጋሚ የመረበሽ እና ያልተፈለጉ ትውስታዎችመኖር ?					
2 02	ስለ ጥቃቱ ተደጋጋሚ የሚረብሹ ህልሞች ማየት?					
203	በድንገት ያ ጥቃት እንደገና እየደረሰብዎ ያለ ያህል ወይም እዛጥቃት ላይ እንደገና እስካሉ እስኪመ ስሎት ድረስ ተሰምቶት ወይም ታይቶት ያውቃል?					
204	ጥቃቱን የሚያስታውሶት ነገር ላይ ሲሆኑ በጣም የመናደድ ስሜት ይታይቦታል?					
205	የሆነ ነገር ጥቃቱን ሲያስታውሶት በጣም ጠንከር ያለ አካላዊ ምላሽ(ለምሳሌ እንደ ልብ ምት መጨመር፣ መተንፈስ አለመቻል እና ማላብን) የመሳሰሉትን አሳይተው ያውቃሉ?					
206	ስለ ጥቃቱ የሚያስታውሶትን ትውስታዎች፣ ስሜቶች እና እሳቤዎች ማስወገድ?					
207	ውጫዊ የሆኑ ጥቃቱን የሚያስታውሶትን ነገሮች (ለምሳሌ፡ ሰዎች፣ ቦታ፣ ንግግር፣					

	እንቅስቃሴዎች፣ ነገሮች እና ሁኔታዎች) ማስወገድ እና ከነዚ ነገሮች መራቅ ይታይቦታል?					
208	የደረስዎቦትን ፆታዊ ጥቃት ዋና/ጠቃሚ ትውስታዎችን ለማስታወስ መቸገር/አለመቻል?					
209	በጣም ጠንካራ የሆነ መጥፎ አመለካከት ስለራስዎ፣ ስለሌሎች ወይም ስለምትኖሩበት አለም በአጠቃላይ (ለምሳሌ፡ እኔ በጣም መጥፎ ነኝ፣ የሆነ በጣም ትልቅ ችግር አለብኝ እኔማ፣ ማንም አይታመንም እና አለም በአጠቃላይ አደገኛ ነች) ብሎ ማሰብ?					
2 10	ራስዎን ወይም ሌሎችን ለደረስዎበት ጥቃት ወይም ከዛ በኃላ ለተፈጠሩት ነገሮች ሁሉ መውቀስ?					
211	ጠንከር ያለ መጥፎ ስሜት ይሰማዎታል (ፍርሃት፣ ንዴት፣የጥፋተኝነት ስሜት ወይም ሀፍረትን የመሳሰሉ)?					
212	ከዚህ በፊት ያዝናናዎት እና ያስደስትዎት የነበርዎት ነገር ላይ ፍላጎት ማጣት ይታይቦታል?					
213	ከሌሎች የመራቅ ወይም ግንኙነትዎን የማቆም ስሜት ይታይቦታል?					
214	ጥሩ ስሜት ያለመሰማት ችግር (ለምሳሌ ደስተኛ መሆን አለመቻል)?					
215	በጣም የሚያበሳጩ ባህሪዎችን ማሳየት፣ ንዴትን መቻቻም አለመቻል ወይም					

	በሀይለኝነት ንዴትዎን መግለፅ?					
216	በጣም አደገኛ ነገሮችን ማድረግ ወይም ሊጎዳዎት የሚችሉ ነገሮችን ማድረግ?					
217	ሁሌም በጣም ጥንቁቅ፣ በዙሪያዎ ያሉትን ነገሮች ሁሉ በደንብ መከታተል (ማየት)፣ ሙሉ ጥበቃ ላይ መሆን?					
218	ስጋት ወይም በቀላሉ መጨነቅ እና ድንጉጥ መሆን?					
219	ሀሳቦን መሰብሰብ አለመቻል?					
220	እንቅልፍ ሊወስዶ አለመቻል ወይም መተኛት አለመቻል?					

ክፍል 3 ፡ የ HSCL-25 ሆፕኪንስየድባቴ ምልክት ዝርዝር

ባለፈው ሳምንት ውስጥ ለተሰማዎት ስሜት የተሻለውን መልስ ይምረጡ

የድብርት ምልክቶች		1:**ምንምየለም**	2: **በትንሹ**	3: **በጣም**	4: **እጅግ በጣም**
301	አቅመ ቢስነት በቀላሉ መድከም አለቦዎ?				
302	ለነገሮች እራስዎትን ይወቅሳሉ?				
303	በቀላሉ ያለቅሳሉ?				
304	የጸታ ፍላጎትን ወይም ደስታን ታጣሉ?				
305	ደካማ የምግብ ፍላጎት አሎት?				
306	እንቅልፍ ለመተኛት መቸገር ወይም ሳይተኙ ይቆያሉ ?				
307	ስለ ወደፊቱ ጊዜ ተስፋ ቢስ ሆኖ ይሰማዎታል?				
308	የመተከዝ ስሜት አለቦት?				

309	ብቸኝነት ይሰማዎታል?				
310	ራስን የማጥፋት ሀሳብ ያስባሉ?				
311	የመወጠር ስሜ ት ይሰማዎታል?				
312	ስለ ነገሮች በጣም ይጨነቃሉ?				
313	ለነገሮች ምንም ፍላጎት አይሰማዎትም?				
314	ሁሉንም ነገር በቀላሉ አልወጣም ብሎ ያስባሉ?				
315	ጥቅም አልባ ስሜት ይሰማዎታል?				

ክፍል 4 : ክሊኒካዊ ተዛማጅ ምክንያቶች

ተ.ቁ	ጥያቄዎች		አስተያየት
401	በስነ-አእምሮ ሐኪም የተረጋገጠ የአምሮ ሕመም አለቦት?	1. አዎ 2.አይ	
402	በስነ-አእምሮ ሐኪም የተረጋገጠ የአእምሮ ሕመም ያለበት የቤተሰብ አባል አለ?	1. አዎ 2.አይ	
403	የውስጥ ደዌ የጤና ችግርን አለቦት?	1. አዎ 2.አይ	
404	ለጥያቄ ቁጥር 403 ምላሽዎ "አዎ" ከሆነ፣ ምን አይነት የውስጥ ደዌ በሽታ?		
405	ለጥያቄ ቁጥር 403 ምላሽዎ "አዎ" ከሆነ፣ የጤና አገልግሎት አግኝተዋል?	1. አዎ 2.አይ	
406	ለማንኛውም በሽታ የጤና አገልግሎት አግኝተዋል?	1. አዎ 2.አይ	

ክፍል 5፡ አስደንጋጭ ክስተት እና አሰቃቂ ተዛማጅ ምክንያቶች

ይህ የጠያቂዎች ክፍል ከአሰቃቂ ሁኔታ ጋር የተያያዙ ጥያቄዎችን እና በጦርነቱ/ግጭቱ ወቅት ከአሰቃቂ ሁኔታ ጋር የተያያዙ ጥያቄዎችን ያካትታል፡ የተዘረዘሩት ችግሮች ካጋጠሙዎት “አዎ” ይበሉ ካላጋጠሞት“አይ” ይበሉ።

ተ.ቁ	ጥያቄዎች		አስተያየት
501	የግል ንብረት መውደም አጋጥሞዎታል?	1. አዎ 2.አይ	
502	መኖሪያ ቤት ወይም መጠለያ አጥተው ነበር?	1. አዎ 2.አይ	
503	በመኖሪያው አካባቢ የምግብ ወይም የውሃ እጥረት አጋጥሞታል?	1. አዎ 2.አይ	
504	የምትወዳቸውን ሰዎች/ ቤተሰብ ሲገደሉ አይታችኋል?	1. አዎ 2.አይ	
505	በቅርብ የምታውቋቸው ሰዎች ሲገደሉ አይተዋል?	1. አዎ 2.አይ	
506	የማታውቋቸው ሰዎች ሲገደሉ አይተዋል?	1. አዎ 2.አይ	
507	ያለ የሕክምና እንክብካቤ የታመመ ጤና	1. አዎ 2.አይ	
508	ከማህበረሰብዎ በግድ ተገለው ነበር?	1. አዎ 2.አይ	
509	ተሰቃይተዋል ወይስ ተደበደቡ?	1. አዎ 2.አይ	
510	ከፍላጎትዎ ውጭ ሀሳቦችን እንዲቀበሉ ተደርገዋል?	1. አዎ 2.አይ	
511	ያለጥፋትዎ ታስረዋል?	1. አዎ 2.አይ	
512	በጦርነት ውስጥ ተሳትፈው ነበር?	1. አዎ	

		2.አይ	
513	ታፍነው ነበር?	1. አዎ 2.አይ	
514	ጾታዊ ጥቃት / የመደፈር አደጋ ደርሶበታል?	1. አዎ 2.አይ	
515	አካላዊ ጥቃት ደርሶበታል?	1. አዎ 2.አይ	
516	የቃል ዛቻ ወይም ሰደብ ደርሶበታል?	1. አዎ 2.አይ	
517	ከቤተሰብህ በግድ ተለይተዋል ?	1. አዎ 2.አይ	
518	ከባድ ጉዳት ደርሶበታል?	1. አዎ 2.አይ	
519	ባለፈው ልጅነትህ፣ አካላዊ ጥቃት/ቸልታ ደርሶበታል?	1. አዎ 2.አይ	

ክፍል 6፡ ኦስሎ 3 የማህበራዊ ድጋፍ ልኬት

ይህ የመጠይቁ ክፍል ከማህበራዊ ድጋፍ ጋር የተያያዙ 3 ጥያቄዎችን ያካትታል ። እርስዎን የሚመለከቱ ከተጠቆሙት አማራጮች ውስጥ አንዱን ይምረጡ ።

ተ.ቁ	ጥያቄዎች		አስተያየት
601	ከባድ የግል ችግር ቢያጋጥሞ በዙሪያዎ የሚተማመኑበት ምን ያክል ሰው አለ?	1. የለም 2. አንድ ወይም ሁለት 3.ሶስት እስከ አምስት 4. ከአምስት በላይ	
602	ሰዎች በምታደርገው ነገር ምን ያህል ፍላጎት እና አሳቢነት ያሳያሉ?	1. "ምንም" 2 ' ትንሽ' 3 "ያልተረጋገጠ" 4 ' አንዳንድ'	

		5 " ብዙ"	
603	ከፈለጉ ከጎረቤቶች ተግባራዊ እርዳታ ማግኘት ምን ያህል ቀላል ነው?	1, " በጣም አስቸጋሪ" 2, " አስቸጋሪ" 3 " ይቻላል" 4 " ቀላል" 5, " በጣም ቀላል"	

ክፍል 7 ፡ የውጥረት ደረጃ ልኬት

የመጠይቁ ክፍል እርስዎ ከሚያስቡት ውጥረት ጋር የተያያዙ ጥያቄዎችን ያካትታል ። ለእያንዳንዱ ጥያቄ እርስዎን የሚመለከቱ ከተጠቆሙት አማራጮች ውስጥ አንዱን ይምረጡ ።

ተ.ቁ	ጥያቄዎች		አስተያየት
701	ባለፈው ወር፣ ባልተጠበቀ ሁኔታ በተፈጠረ ነገር ምን ያክል ተበሳጭተዋል?	0 - በጭራሽ 1 - በጭራሽ ማለት ይቻላል 2 - አንዳንድ ጊዜ 3 - ብዙ ጊዜ 4 - በጣም ብዙ ጊዜ	
702	ባለፈው ወር ምን ያህል ጊዜ በህይወቶ አስፈላጊ የሆነን ነገር መቆጣጠር እንደማይችሉ ተሰምቶታል?	0 - በጭራሽ 1 - በጭራሽ ማለት ይቻላል 2 - አንዳንድ ጊዜ 3 - ብዙ ጊዜ 4 - በጣም ብዙ ጊዜ	
703	ባለፈው ወር ምን ያህል ጊዜ ፍርሃት እና ጭንቀት ተሰምቷችኋል?	0 - በጭራሽ 1 - በጭራሽ ማለት	

		ይቻላል 2 - አንዳንድ ጊዜ 3 - ብዙ ጊዜ 4 - በጣም ብዙ ጊዜ	
704	ባለፈው ወር፣ ምን የግልያክል ችግሮችን እንደሚፈቱ በራሰት ላይ የመተማመን ስሜት ተሰምቶቷል?	0 - በጭራሽ 1 - በጭራሽ ማለት ይቻላል 2 - አንዳንድ ጊዜ 3 - ብዙ ጊዜ 4 - በጣም ብዙ ጊዜ	
705	ባለፈው ወር ውስጥ ነገሮች በእርስዎ መንገድ እየሄዱ እንደሆነ ምን ያህል ጊዜ ተሰማህ?	0 - በጭራሽ 1 - በጭራሽ ማለት ይቻላል 2 - አንዳንድ ጊዜ 3 - ብዙ ጊዜ 4 - በጣም ብዙ ጊዜ	
706	ባለፈው ወር ምን ያህል ጊዜ ማድረግ ያለብዎትን ነገሮች ሁሉ መቋቋም እንዳልቻሉ ደርሰውበታል?	0 - በጭራሽ 1 - በጭራሽ ማለት ይቻላል 2 - አንዳንድ ጊዜ 3 - ብዙ ጊዜ 4 - በጣም ብዙ ጊዜ	
707	ባለፈው ወር በህይወቶ ውስጥ ብስጭቶችን ምን ያህል ጊዜ መቆጣጠር ችለዋል?	0 - በጭራሽ 1 - በጭራሽ ማለት ይቻላል 2 - አንዳንድ ጊዜ 3 - ብዙ ጊዜ 4 - በጣም ብዙ ጊዜ	

708	ባለፈው ወር ምን ያህል ጊዜ በነገሮች ላይ የበላይ እንደሆንክ/ሽ ተሰማህ/ሺ?	0 - በጭራሽ 1 - በጭራሽ ማለት ይቻላል 2 - አንዳንድ ጊዜ 3 - ብዙ ጊዜ 4 - በጣም ብዙ ጊዜ	
709	ባለፈው ወር ከቁጥጥርዎ ውጭ በሆኑ ነገሮች ምክንያት ምን ያህል ጊዜ ተቆጥተዋል/ተናደዋል?	0 - በጭራሽ 1 - በጭራሽ ማለት ይቻላል 2 - አንዳንድ ጊዜ 3 - ብዙ ጊዜ 4 - በጣም ብዙ ጊዜ	
710	ባለፈው ወር ምን ያህል ጊዜ ችግሮች እየተከመሩ እንደሆነ እናም እነሱን ማለፍ እንደማይችሉ የተሰማዎት?	0 - በጭራሽ 1 - በጭራሽ ማለት ይቻላል 2 - አንዳንድ ጊዜ 3 - ብዙ ጊዜ 4 - በጣም ብዙ ጊዜ	

ክፍል 8: ሌሎች የስነ-ልቦና-ማህበራዊ ሁኔታዎች

ተ.ቁ	ጥያቄዎች		አስተያየት
801	የምግብ፣ የውሃ ድጋፍ አግኝተዋል?	1. አዎ 2.አይ	
802	በሚፈልጉበት ጊዜ አፋጣኝ እርዳታ አግኝተዋል? (መድሀኒት ወይስ የትኛውም ህይወት አድን ድጋፍ?	1. አዎ 2.አይ	
803	ተፈናቅለው ነበር?	1. አዎ 2.አይ	

ክፍል 9 ፡ የሱስ አጠቃቀም

በህይወትዎ በሙሉ እና ባለፉት ሶስት ወራት ውስጥ አልኮል, ትምባሆ እና ጫት የመጠቀም ልምድዎን በተመለከተ ጥቂት ጥያቄዎችን እጠይቅዎታለሁ . እያንዳንዱን ጥያቄ በተቻለ መጠን በትክክል ለመመለስ ሞክሩ።

ተ.ቁ	ጥያቄዎች		አስተያየት
901	በህይወትዎ ከታች ከተዘረዘሩት እፅ ሞክረው ያውቃሉ? እባክዎን ለእያንዳንዱ እፅ ምላሽ ክብ ያድርጉ		
	ሀ. የትምባሆ ምርቶች (ሲጋራዎች)	1.አዎ 2.አይ	
	ለ. የአልኮል መጠጦች (ቢራ, ወይን, ወዘተ.)	1.አዎ 2.አይ	
	ሐ. ጫት	1.አዎ 2.አይ	
በጥያቄ 901 ውስጥ ላሉ ሁሉም እፅ መልሶች “አይ” ከሆኑ፣ ቃለ መጠይቁን ያቁሙ፣ ከእነዚህ እፆች ለአንዱም “አዎ” ከሆነ፣ ጥያቄ 902 ይጠይቁ ።			
902	ባለፉት ሶስት ወራት ውስጥ ከሚከተሉት እፆች የትኛውን ተጠቀሙ?		
	ሀ. የትምባሆ ምርቶች (ሲጋራዎች)	1.አዎ 2.አይ	
	ለ. የአልኮል መጠጦች (ቢራ, ወይን, ወዘተ.)	1.አዎ 2.አይ	
	ሐ. ጫት	1.አዎ 2.አይ	

ለትዕግስትዎ እና ለተሳትፎዎ እናመሰግናለን!!

11.3. Annex III: Declaration

I, the undersigned, hereby declare that the work entitled "(Prevalence of Post-Traumatic Stress Disorder, Depression and Associated Factors In Post- Conflict Areas, North Shoa Zone, Ethiopia)" presented in this research proposal is original. It has not been presented to any other university or institution. Where, the work of other people has been used, reference has been provided. In this regard, I declare this work to be my unique work.

Name and signature of the investigators

Name	Signature	Date
_____	_____	_____