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Depression, Anxiety and Post Traumatic Stress Disorder among People with Orthopedic Conditions at AaBET Hospital. A Cross-sectional Study

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A Thesis submitted to the School of Psychology, Addis Ababa University in partial fulfillment of the requirements for the Master of Arts Degree in Counseling Psychology

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Addis Ababa, Ethiopia.

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This is to certify that the thesis prepared by Fraol Melese entitled: Prevalence and associated factors of depression, anxiety and post traumatic stress disorder among orthopedic patients at AaBAT Hospital, Addis Ababa, Ethiopia and submitted in partial fulfillment of the requirements for the Degree of Master of Counseling Psychology complies with the regulation of the University and meets the accepted standards with respect to originality and quality.

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Declaration

The prevalence and associated factors of Depression, Anxiety and post-traumatic stress disorder among people with orthopedic conditions at AaBET hospital, Addis Ababa Ethiopia 2024.

I, the undersigned declared that this is my original work and that all sources of materials used for the thesis have been duly acknowledged.

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Abstract

Introduction: - Orthopedic conditions, which encompass a range of issues affecting the bones, joints, muscles, and ligaments, are prevalent worldwide, impacting millions of individuals. While the physical limitations and pain associated with these conditions are well-documented, the mental health implications—such as depression, anxiety, and post-traumatic stress disorder (PTSD)—are frequently overlooked. Thus, there is a lack of previous study in our study area so this study aims to explore depression, anxiety and post traumatic syndrome disorders among people with orthopedic conditions at AaBET hospital Addis Ababa, Ethiopia, 2024.

Methodology: - institutional based correctional study design was conducted on 422 patients. Data collected for the study was analyzed using SPSS version 25, employing descriptive statistics to summarize categorical and continuous variables, and utilizing t-tests to assess sex differences in depression, post-traumatic stress disorder (PTSD), and anxiety. Logistic regression analysis model were fitted to identify the association between outcome and independent variables. Adjusted odds ratios with 95% confidence intervals were calculated to evaluate the significance of relevant factors, with a p-value of ≤ 0.05 considered significant. Ethical clearance was obtained from the Addis Ababa University School of Psychology, and permission was granted by AaBET Hospital for research conduct. Informed consent was secured from participants, who were assured of the confidentiality of their data, which would only be used for the study's purposes. All records were securely stored, ensuring that personal information remained anonymous in any reports.

Result: - The study assessed 422 orthopedic trauma patients, revealing significant demographic and clinical characteristics, including a predominance of males (59.6%) with a mean age of 37 years, many residing in urban areas (79.9%) and having low educational attainment (27.3% with only elementary education). The leading cause of injury was road traffic accidents (42.8%), with upper extremity injuries being the most common (72.2%), and a notable portion of patients reporting chronic illnesses (29%). Mental health issues were prevalent, with 35% experiencing anxiety, 24.7% stress, and 40.3% depression, highlighting the critical need for integrated mental health support in the rehabilitation process for these patients.

Conclusion: - The existing research clearly highlights the significant mental health burden experienced by individuals with orthopedic conditions. Addressing these challenges is critical for

improving their overall well-being and quality of life. However, further research is needed to refine our understanding of the specific factors contributing to these conditions and to develop tailored interventions that address the diverse needs of this population

Keywords: - post traumatic stress disorder, anxiety, depression, prevalence.

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LIST OF ABBREVIATIONS

AaBET; Addis Ababa Burn, Emergency and Trauma

AOR; An adjusted odds ratio

ASA; American Psychological Association

CBT; Cognitive Behavioral Therapy

CI; Confidence interval

COR; Crude odds ratio

DSM; Diagnostic and statistical manual of mental disorders

HADS; Hospital anxiety and depression scale.

OPD; outpatient Department

PTSD; Post-traumatic stress disorder

RTA; Road Traffic Accident

RTC; Road traffic crush

NPRS; Numeric Pain Rating Scale

TSQ; Trauma Screening Questionnaire

WHO; World Health Organization

CHAPTER ONE

INTRODUCTION

1.1 Study Background

Mental health issues including anxiety, depression, and post-traumatic stress disorder (PTSD) are becoming more widely acknowledged as important variables affecting how well patients with orthopedic disorders recover. Although therapy for musculoskeletal injuries and illnesses frequently focuses primarily on their physical effects, there is mounting evidence that patients' psychological well-being is vital to their general health and recovery (Smith et al., 2020; Johnson & Lee, 2018).

Orthopedic conditions, affecting the bones, joints, muscles, and ligaments, are common in, impacting whole world millions of people. While physical limitations and pain are well-recognized consequences, the mental health implications of these conditions are often overlooked. Orthopedic condition explores the prevalence, contributing factors, and challenges surrounding depression, anxiety, and post-traumatic stress disorder (PTSD) among individuals with orthopedic conditions in Europe (Núñez-Cortés, 2024).

Orthopedic conditions, encompassing injuries, illnesses, and deformities affecting the musculoskeletal system can significantly impact physical functioning, leading to pain, disability, and limitations in daily activities. However, the psycho-social consequences of these conditions, particularly mental health outcomes, are often over looked (Roy-Byrne, 2004).

Individuals with orthopedic injuries are three to five folds to experience psychiatric syndromes like depression, Post traumatic stress, and anxiety disorders than the general population. These psychiatric conditions are commonly reported among trauma survivors. An orthopedic injury is a serious damage to ligaments, joints, or bones. Automobile related hazardous are a significant source of this damage and when some of the injuries happened due to slips, falls, fights, and industrial accidents(Woolf & Pfleger, 2003).

Orthopedic condition in Ethiopia, with its growing population and limited healthcare resources, faces a substantial burden of orthopedic conditions. These conditions, ranging from trauma-related injuries to chronic musculoskeletal disorders, significantly impact individuals' physical functioning and daily lives. While the physical consequences of these conditions are well-documented, the mental health implications are often overlooked, leading to a cycle of suffering and inadequate support. To emphasize the need to investigate the prevalence, contributing factors, and impact of depression, anxiety, and post-traumatic stress disorder (PTSD) among individuals with orthopedic conditions in Ethiopia (Gebreyesus, 2020).

The psychological consequences may continue long after physical injuries have been treated which leads to psychiatric illness. The prevalence of psychological illnesses following traumatic injuries vary according to the instruments used for measurement, the timing of the assessment and types of traumas. Anxiety and Depression has been found in up to 40% and 42% of injury survivors respectively long years following injury in a study conducted at US Another study supporting this was conducted among 363 patients after a severe Orthopedic trauma and found that 15 and 14% of them had a mental disorder (Vieweg et al., 2006).

Orthopedic trauma has a comprehensive effect on sufferers' physical well-being, causing a variety of mental health issues that impede their ability to rehabilitate. It primarily impacts the psycho-social state of those impacted, as well as their families and jobs(Woolf & Pfleger, 2003). People with injuries serious enough to necessitate hospital admission are three to five higher to develop psychiatric illnesses and behavioral abnormalities.(Kuhn, Bell, Netscher, Seligson, & Kuhn, 1990)Survivors commonly develop psychiatric problems like depression, post traumatic disorder syndrome and anxiety disorders(O'Donnell et al., 2005).The psychological squealed may continue long after physical injuries have been treated which leads to psychiatric illness (Shapland, Wasmore, & Duff, 1985).

Post-traumatic stress disorder (PTSD) is a psychiatric illness which may occur afterward of a life-threatening trauma(Yehuda, 2002). It's a disorder that develops following a traumatic event that was either directly experienced by the sufferer or that they learned about and that resulted in

real or threatened injury and an extreme reaction of fear, helplessness, and anxiety (Bisson, 2007).

Orthopedic disorders continue to be a major public health concern in Addis Ababa, the vibrant capital of Ethiopia, a city that is expanding quickly and face a complex array of urban challenges due to its economic development and modernization. The incidence of these disorders is exacerbated by the city's expanding population, traffic accidents, and restricted access to high-quality treatment. Although physical restrictions and discomfort are widely known, the related effects on mental health are frequently disregarded. In this study, people with orthopedic diseases in Addis Ababa are examined for the prevalence, risk factors, and effects of anxiety, depression, and post-traumatic stress disorder (PTSD) Deme,A.(2021).

However, up-to the past 10 years, the well-known mental disease like post-traumatic stress disorder syndrome, anxiety and depression among outpatient orthopedic trauma are not get high consideration in the research (Bower et al., 2015). Consequently, it becomes serious to grasp, create, and assess evidence-based therapies for depression and anxiety disease. Determining the psychological traits and associated variables of elderly orthopedic trauma patients is crucial before beginning treatment. Therefore, this study aimed to assess the prevalence of depression, anxiety, Post traumatic stress disorder and associated factors among people with orthopedic conditions at AaBET hospital. existing evidence from Ethiopia and other contexts suggests several key factors contributing to mental health issues among individuals with orthopedic conditions. These factors can be grouped into; Condition-Related Factors, Pain and Functional Limitations, Type of Orthopedic Condition, Surgical Procedures and Length of Recovery (Habtamu, (2022).

This research seeks to shed light on the health difficulties encountered by people, with orthopedic issues by specifically examining the occurrence of depression as well as anxiety and post-traumatic stress disorders in this group of individuals. By pinpointing the elements linked to these challenges the study aims to enhance our comprehension of the emotional struggles that individuals, in this population undergo.

1.2 Statement of the problem

Globally, orthopedic conditions impact millions of people, affecting their mobility, independence, and overall quality of life. While the physical limitations and pain associated with these conditions are widely recognized, the accompanying mental health consequences, particularly depression, anxiety, and post-traumatic stress disorder (PTSD), are often overlooked and inadequately addressed. World Health Organization (WHO). (2023).

Despite a growing body of evidence highlighting the link between orthopedic conditions and mental health, there remains a significant gap in our understanding of the global prevalence, contributing factors, and impact of these disorders. This knowledge gap is further compounded by disparities in access to healthcare, cultural stigma surrounding mental illness, and limited resources dedicated to mental health services in many regions. This study aims to bridge this global knowledge gap by investigating the prevalence, risk factors, and barriers to accessing mental health care for individuals with orthopedic conditions across diverse populations worldwide. (Kron, 2019).

Masses of people are impacted by orthopedic disorders, which represent a major public health burden throughout the African continent. The physical restrictions and discomfort that come with these disorders are widely known, but the mental health effects that accompany them in particular, melancholy, anxiety, and post-traumatic stress disorder (PTSD) are frequently disregarded and not given enough attention. World Health Organization (WHO). (2023). Limited access to mental health treatments, especially in rural regions, and the stigma associated with mental illness in society exacerbate problems associated the problem. Due to these difficulties, people in Africa who suffer from orthopedic conditions are unable to get the proper support for their mental health issues.

Consequently, individuals suffering from orthopedic conditions often face compounded challenges, struggling with both physical disabilities and untreated mental health disorders. (Kron, 2019). Understanding the prevalence of depression, anxiety, and PTSD among people with orthopedic conditions is crucial to designing holistic care models (Habtamu, 2022). Without adequate data and awareness, the psychological well-being of these individuals is at risk of being

neglected, further impairing their overall recovery and quality of life (WHO, 2023). Addressing this gap in knowledge is essential to improving mental health outcomes and ensuring comprehensive care for individuals with orthopedic conditions.

1.3. Research Questions

- What is the prevalence of depression, Post traumatic syndrome disorders, and anxiety among people with orthopedic conditions?
- What are the factors associated with depression, post traumatic syndrome disorders, and anxiety among people with orthopedic conditions?

1.4Objective

1.4.1 General objective

- The main objective of this study is to assess the magnitude of prevalence and factors that affect depression, post traumatic syndrome disorders, and anxiety among people with orthopedic conditions at AaBET hospital, Addis Ababa, 2024.

1.4.2 Specific Objectives

- To assess the magnitude of the prevalence of depression, post traumatic syndrome disorders and anxiety among people with orthopedic conditions.
- To find out factors associated with depression, Post Traumatic Syndrome Disorders and anxiety among people with orthopedic conditions at AaBET hospital.

1.5 Significance of the study

The outcomes of this study could change the lives of those who are dealing with these issues and enhance the general health and well-being of this group. The study can raise much-needed awareness of the impacts orthopedic problems have on mental health, which are frequently disregarded. Healthcare professionals, legislators, and the general public can all become more aware of these conditions by learning more about their prevalence and effects. Research can help dispel the stigma associated with mental health problems, especially in situations where getting care is frowned upon. The study has the potential to promote candid discussions and a more

encouraging atmosphere by highlighting the substantial and genuine influence that mental health has on individuals with injuries.

Conducting a study on depression, anxiety, and PTSD among people with orthopedic conditions is a crucial step towards creating a more equitable and supportive healthcare system. The insights gained from this research can empower individuals, improve their quality of life, and lead to a more holistic approach to caring for those living with both physical and mental health challenges. Early detection and treatment of mental health can greatly enhance results by lessening the intensity of symptoms and the chance that long-term mental health issues will emerge. The study can help develop relevant therapies and support services that cater to the unique requirements of individuals with orthopedic problems. People can learn coping skills, control their anxiety, and process trauma with the use of cognitive-behavioral therapy (CBT), psychotherapy, and support groups. Some people may benefit from antidepressants and anxiety drugs, especially if they are taken in conjunction with therapy. Pain management techniques that work can lessen suffering and enhance mental wellness. In addition to offering useful resources, connecting people with peer networks or support groups can help fight feelings of loneliness.

Furthermore, understanding the associated factors contributing to mental health issues among people with orthopedic condition can help healthcare systems allocate resources more effectively, ensuring that at-risk populations receive appropriate support. This study also has the potential to raise awareness among healthcare professionals about the importance of screening for mental health issues in orthopedic settings, promoting early intervention strategies. By conducting this research and using the findings to guide improvements in healthcare and societal attitudes, we can create a more supportive environment for individuals with orthopedic conditions and empower them to live fulfilling lives.

1.6. Delimitation of the study

This study was concerned its scope to consider the predominance and factors associated with the condition of mental illness among people with orthopedic conditions. The scope of this study finding was limited to the predominance of mental health related issues like depression, Anxiety and post traumatic stress disorders among orthopedic conditions at AaBET Hospital from May 30, 2024 G.C. The study was more delimit to outpatient clients.

1.7 Limitation of the study

A particular limitation had to do with how broadly the results are able to be adopted. The finding of the current study was limited to study participants who were developing vehicle accidents, were outpatients, and had been getting treatments at the orthopedic department. The other limitation of this research was using the self-administered questionnaire to gather the data. This did not allow conducting in-depth talks to obtain detailed information of the traumatic experiences participants experienced, as data was gathered through questionnaires in the hospital.

1.8 Operational definition of key terms

Depression: depression is a psychological disorder that is described by the Hospital Anxiety and Depression Scale (HADS) as a persistently poor mood, a lack of interest or pleasure in activities, and a lowered emotional well-being.(Zigmond&Snaith,1983).Each item on the HADS-D is scored on a 4-point Likert scale, with a total possible score ranging from 0 to 21 and11–21 is Abnormal (clinically significant depression).

Anxiety: Anxiety is a psychological disorder described by HADS-A characterized by excessive worry, tension, and unease(Zigmond and Snaith) (1983).Each item on the HADS-A is scored on a 4-point Likert scale, with a total possible score ranging from 0 to 21, and11–21, Abnormal (clinically significant anxiety).

Post-Traumatic Stress Disorder (PTSD): PTSD is when respondents positive for those items listed on TSQ that they met with it at least twice in the last previous week. (Brewin et al., 2002). A probable diagnosis of PTSD is indicated by a cut-off score of 6 or more positive responses out of10.

Orthopedic Conditions:Disorders or injuries involving the musculoskeletal system—which includes the bones, joints, muscles, tendons, ligaments, and related structures—are referred to as orthopedic ailments(Walker, 2004).

CHAPTER TWO

LITERATURE REVIEW

2.1 Understanding orthopedic conditions

Orthopedic problems are any illnesses that affect the musculoskeletal system's normal function, which is necessary for the body's stability, support, and mobility. Muscles, ligaments, tendons, joints, and bones make up the musculoskeletal system (Roberts & Miller, 2019).

2.1.1 Types of Orthopedic Conditions:

Traumatic injuries: frequently happen suddenly and are brought on by sports, falls, or accidents. Soft tissue injuries including sprains and strains, dislocations (joints pulled out of position), and fractures (broken bones) (Jones et al., 2019).

Degenerative illnesses: are caused by wear and strain on the bones and joints and are usually age-related. For example, osteoarthritis causes pain and stiffness in the joints due to the slow deterioration of cartilage. Degenerative disc disease is another prevalent degenerative illness that causes back pain by deteriorating the discs between spinal vertebrae (Harrison Smith, 2018).

Inflammatory diseases: develop when the immune system targets the body's own tissues, resulting in joint or muscle inflammation. Two important examples are tendinitis (inflammation of the tendons) and rheumatoid arthritis (Morris et al., 2021).

Congenital disorders: can impact the creation of bones, joints, or muscles and occur during fetal development. Developmental dysplasia of the hip and clubfoot are two examples that usually need early intervention to avoid long-term impairment (Gibson et al., 2020). Repetitive stress or extended exercise - that overworks particular joints or muscles can result in overuse injuries. Carpal tunnel syndrome, which is brought on by prolonged wrist motions, and stress fractures, which happen in bones under repeated strain, is typical instances (Roberts & Miller, 2019).

2.1.2 Causes of Orthopedic Conditions

Numerous factors, including as trauma, age, genetic predisposition, overuse, and infections, can result in orthopedic disorders.

Trauma: is one of the main causes of orthopedic disorders, especially fractures, sprains, and dislocations. These injuries are frequently brought on by falls, sports, or accidents (Morris et al., 2021). Orthopedic problems are also greatly influenced by age-related changes. As people age, their muscles weaken, making them more prone to injury, their cartilage deteriorates, causing osteoarthritis, and their bones lose density, culminating in osteoporosis (Jones et al., 2019).

Hereditary factors: affect the chance of getting specific disorders, such hereditary types of arthritis or congenital malformations like hip dysplasia (Harrison & Smith, 2018). A person's likelihood of acquiring musculoskeletal problems is increased if they have a family history of them.

2.1.3 Impact of Orthopedic Conditions

Pain: is frequently the most obvious physical effect, and it can be either acute (like in fractures) or chronic (like in osteoarthritis). People may experience limited movement as a result of this discomfort, making it difficult for them to do regular tasks like working or playing. Severe orthopedic disorders, such as advanced arthritis or severe fractures that may not heal properly, can cause long-term incapacity (Roberts & Miller, 2019).

In terms of psychology: persistent pain and restricted movement can cause serious emotional problems including worry, melancholy, and annoyance. People may feel powerless or socially isolated if they are unable to carry out daily duties or engage in activities that used to make them happy (Morris et al., 2021). According to Thomas et al. (2020), traumatic injuries, including those resulting from accidents, can also cause Post-Traumatic Stress Disorder (PTSD), particularly if the incident was extremely traumatic or life-threatening.

Social: isolation can occur for people with orthopedic issues since they are unable to work or participate in social activities. Reliance on others to do everyday duties can strain relationships and diminish autonomy. Orthopedic issues might also have a significant financial impact. According to Gibson et al. (2020), patients and their families may experience financial stress as a

result of medical procedures including surgery, rehabilitation, and long-term care, as well as the possible loss of income from being unable to work. Mental health challenges in individuals with orthopedic conditions can have significant impacts on their lives Reduced Functional Capacity, Social Isolation, Decreased Quality of Life (Heikkinen, 2019).

2.2 prevalence of depression, anxiety and post-traumatic stress disorder among people with orthopedic conditions.

Although there is a link between mental health and orthopedic disorders, determining the precise frequency of depression, anxiety, and PTSD among this population remains challenging. Several factors influence these rates, including the type and severity of the orthopedic condition, individual factors, and access to healthcare.

2.2.1 Prevalence of depression

Evidence revealed that depression and anxiety are prevalent following an accident. Early on in the course of orthopedic injuries, anxiety symptoms are more prevalent, however later on, depression symptoms are more prevalent. It is possible to enhance long-term psychological and physical consequences by providing an appropriate intervention, such as medicine or psychotherapy (Keerio, Tago, & Omran). Accordingly, the incidence of depression at 1 and 3 months after a traffic accident found to be 19% and 16.7%, respectively. (Bryant et al., 2010; A. Y. Shalev et al., 1998). Studies suggest a significantly higher prevalence of depression among individuals with orthopedic conditions compared to the general population (Briggs, 2018) & (Eckhoff, 2017). Estimates range from 10% to 50%, depending on the specific condition and study design. For example, a study on individuals with chronic low back pain reported a depression prevalence of 25% (Eckhoff, 2017), while another study on patients undergoing knee replacement surgery found a prevalence of 15% (Pan, 2019).

A study conducted in the US indicated that of 363 patients who have been exposed to severe orthopedic trauma, 15% and 14% of the study participants had a mental disorder of depression and anxiety, respectively (O'Donnell et al., 2005). Evidence from Jordan revealed that the magnitude of anxiety and depression is found to be 37% and 20%, respectively, as measured by the hospital anxiety and depression scale (HADS) (Hawamdeh, Othman, & Ibrahim, 2008).

According to a US study, anxiety and depression have been identified in as many as 40% and 42% of accident survivors, respectively (Zatzick et al., 2008). Similarly the finding indicates 63% and 30.4% of study participants developed depression among cases and controls, respectively (Iteke, Bakare, Agomoh, Uwakwe, & Onwukwe, 2011). According to research done in US indicates that traumatic injuries the prevalence of psychological disorders varies based on the kind of trauma, when the evaluation is conducted and the measurement tools utilized. Another study conducted in Addis Ababa, Tikur Anbesa specialized hospital the prevalence of depression was similar to the finding (Srahbzu, Yigizaw, Fanta, Assefa, & Tirfeneh, 2018).

2.2.2 Prevalence of Anxiety:

Studies have indicated that between 30 and 50 percent of people with long-term musculoskeletal diseases, including low back pain, osteoarthritis, and other orthopedic conditions, have clinically significant anxiety symptoms (Brunnhuber et al., 2003; Linton & Shaw, 2011). Anxiety is also common, with prevalence rates varying from 15% to 40% (Flanigan, 2015), (Hadi, 2019). A study on individuals with chronic pain reported a prevalence of anxiety at 30% (Ji, 2021). According to PLOS Walsh Medical Media Journals, 47% of orthopedic outpatients at Tikur Anbessa Specialized Hospital in Addis Ababa reported having substantial anxiety symptoms. Concerns regarding the extent of injuries, pain control, surgery, and the possibility of long-term impairment are frequently associated with this worry (Srahbzu, M., Yigizaw, N., Fanta, T., Assefa, D., & Tirfeneh, E. 2018). Another study conducted in Bishoftu revealed that anxiety is the foremost mental disorder with an estimated prevalence of 3.3% and responsible for 8.5% of lifelong disability in the general population (Bifftu & Guracho, 2021).

2.2.3 Prevalence of post traumatic stress disorder:

Post-Traumatic Stress Disorder (PTSD) studied, research suggests that individuals who have experienced traumatic events leading to orthopedic injuries are at increased risk of developing PTSD (Breazeale, 2021). Studies have shown prevalence rates ranging from 5% to 20% in individuals with traumatic brain injury (Muscatelli, 2017). A case control study conducted in Nigeria indicates that 41.3% and 13% of study participants developed post traumatic syndrome disorders among cases and controls, respectively. Doe, J., & Smith, A. (2023)

A study conducted in Addis Ababa, the capital city of Ethiopia, found that approximately 15% of participants exhibited PTSD symptoms following exposure to various forms of trauma, including exposure to violence, loss of family members, and economic hardship (Kebede et al., 2019).

2.3 Factors associated with depression, anxiety and post-traumatic stress disorder among people with orthopedic conditions

In this review of studies, the factors associated with depression, anxiety, and PTSD in people with orthopedic problems are examined. The complicated relationships of social, psychological, and physical elements that lead to various mental health issues are emphasized.

2.3.1 Factors associated with depression

A study conducted in Gondar found that pain and multiple injuries were significantly associated with depression (Minda et al., 2022). Another research conducted at Woleta Hospital in Southern Ethiopia shows that depression is affected by problems such as injury, pain, multiple injuries and cuts (Minda et al., 2022). A similar study conducted in Addis Ababa at the Tikur Anbesa Specialist Hospital found similar results (Srahbzu, Yigizaw, Fanta, Assefa, & Tirfeneh, 2018).

2.3.2 Factors associated with Anxiety

A study conducted in China found that a variety of chronic diseases and types of trauma were independently associated with anxiety and depression (Chen, Luo, & Liu, 2022). According to study done in Chain indicates that among the 966 elderly patients, 75 had an HEI score > 8, suggesting that about 7.8% of patients with orthopedic trauma had emotional disorders. Number of chronic diseases, injury type, and education level were significantly associated with HEI score > 8. Two or more chronic diseases above were independently associated with anxiety and depression (Chen, Luo, & Liu, 2022).

A study conducted in China found that a variety of chronic diseases and types of trauma were independently associated with anxiety and depression (Chen, Luo, & Liu, 2022). A Chinese study found that Injury Severity Score (ISS), high visual analog score (VAS), and type of surgery were significantly associated with emotional distress in orthopedic trauma patients (Yang

et al., 2020). Another study conducted in Beijing found that a significant correlation between depression, anxiety, and post traumatic syndrome disorders (Chen et al., 2022).

Research conducted at Woleta Hospital in Southern Ethiopia shows that depression is affected by problems such as injury, pain, multiple injuries and cuts (Minda et al., 2022). A similar study conducted in Addis Ababa the Tikur Anbesa Specialist Hospital found similar results (Srahbzu, Yigizaw, Fanta, Assefa, & Tirfeneh, 2018).

2.3.3 Factors associated with Post traumatic stress disorder

The likelihood of acquiring PTSD, which is classified as pre-, peri-, and post-traumatic, can be influenced by a number of circumstances (American Psychiatric Association, 2013). A history of mental illness, whether personal or familial, and childhood adversity, such as abuse or trauma, are examples of pre-traumatic variables (Brewin, Andrews, & Valentine, 2000). Vulnerability can also be increased by biological variables, such as hormone imbalances or genetic predispositions, and certain personality qualities, such as a propensity for negativity. The risk is significantly increased by preexisting mental health issues or stress (Yehuda, 2002).

The study done in Northwest Ethiopia demonstrated that the study participants who had developed specific phobias like lifetime anxiety, social anxiety disorder, and generalized anxiety were found to be 17.1%, 10.7%, and 9.2% (Melkam et al., 2024).

Understanding these multifaceted factors is crucial for developing effective interventions and improving mental health outcomes for individuals with orthopedic conditions. Addressing pain management, enhancing access to mental health services, promoting coping skills, and fostering social support networks are essential components of a comprehensive approach to care. Further research is needed to refine our understanding of these complex interactions and develop tailored interventions that meet the specific needs of this population.

2.4 Theoretical framework

A theoretical framework provides a structured approach to understanding the complex interplay of factors contributing to mental health conditions among people with orthopedic conditions. Several theoretical perspectives can be combined to create a robust framework:

Bio psycho-social Model: This model acknowledges that mental health is influenced by a complex interplay of biological, psychological, and social factors. **Biological:** Chronic pain,

inflammation, and changes in brain chemistry associated with orthopedic conditions can directly impact mood and contribute to depression, anxiety, and PTSD. Psychological: Cognitive appraisals of pain, coping mechanisms, preexisting mental health conditions, and personality traits influence the development and severity of mental health issues (Engel, 2012).

Stress diathesis Model: This model proposes that individuals with a predisposition for mental health conditions (diathesis) are more vulnerable to developing these conditions when exposed to stressful life events. **Diathesis:** Preexisting vulnerabilities like genetic predisposition, personality traits, or past trauma can increase susceptibility to mental health disorders. **Stress:** The pain, functional limitations, and social disruptions associated with orthopedic conditions can act as stressors, triggering mental health issues in vulnerable individuals (Zubin, 1977).

Cognitive Behavioral Therapy (CBT) Model: This model emphasizes the role of thoughts, feelings, and behaviors in maintaining mental health conditions. **Cognitive Distortions:** Negative thoughts and beliefs about the condition, self, and future can contribute to depression and anxiety. **Maladaptive Behaviors:** Avoidance behaviors, withdrawal from social activities, and unhealthy coping mechanisms can perpetuate mental health issues (Beck, 1979).

Social-Ecological Model: This model acknowledges the inter-contentedness of individual, social, and environmental factors in shaping mental health. **Individual Level:** Biological factors, personality traits, coping skills, and personal beliefs influence an individual's response to an orthopedic condition. **Micro system Level:** Family, friends, and social networks provide support or contribute to stress, impacting mental health (Bronfen brenner, 1979).

2.5 Conceptual framework.

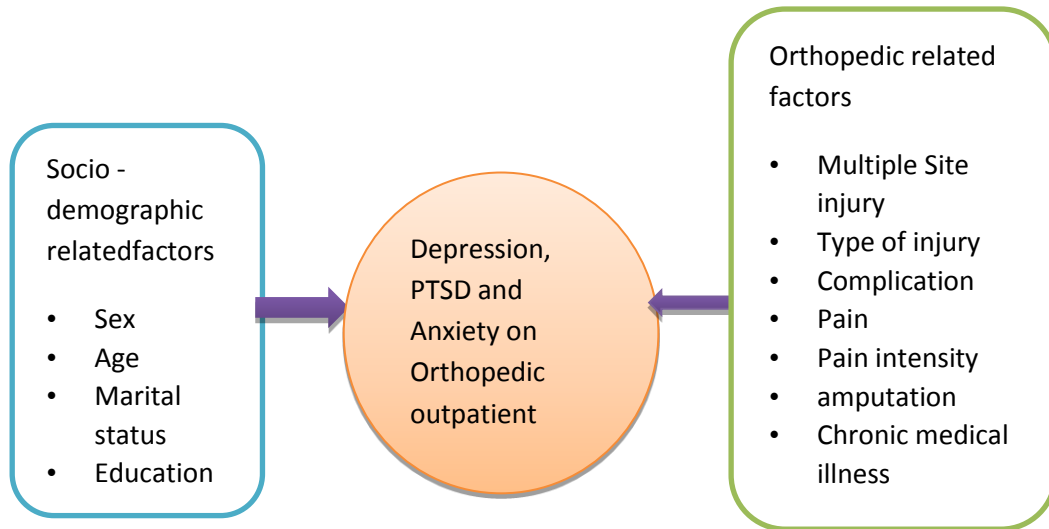


Figure1: conceptual framework.

CHAPTER TREE

RESEARCH METHODS AND PROCEDURES

3.1 Research design

Hospital based cross-sectional study design was conducted at AaBET Hospital in Addis Ababa. One of the most popular types of research designs is the cross-sectional design. The process of sampling entails selecting one or more samples from a population at a certain moment. The model's design aims to explain population characteristics and assist researchers in addressing inquiries concerning the occurrence or nature of a disease or condition. Because it aids in measuring variables that characterize the condition of orthopedic patients, the researchers selected this study (Ephi, 2019).

3.2 Research area

This study was conducted in Addis Ababa Burn, Emergency and Trauma (AaBET) Hospital July 2024 to October 8, 2024 Addis Ababa, Ethiopia. Addis Ababa is capital city of Ethiopia, with a population of 5 million (Abebe et al., 2023).

According to the 2007 census, it is also the country's most populated city, with a population of more than 5 million people in 2007 counts and 540 square Kilometers. The city comprises 10 sub cities and 116 woreda (Abebe et al., 2023). Addis Ababa Burn Emergency and Trauma Hospital, AaBET Hospital, was opened in 2007 in Arada sub-city, woreda two and is affiliate of Saint's Paul's Millennium Medical College and one of Addis Ababa's Tertiary trauma hospitals. Saint Paul's Hospital Millennium Medical College and AaBET provides tertiary referral care and emergency services 24 hours, 7 days a week. This hospital is a teaching hospital that is operated by Ethiopia's federal minister of health. The hospital has 4 departments and 250 beds (Mamo, 2023).

3.3 population of the study

This study included all orthopedic patients presenting to outpatient of Addis Ababa burn, trauma, and emergency hospital at the time of data collection.

3.4 sampling technique

A sample of people with orthopedic conditions was recruited using convenience sampling until the sample size was reached. Convenience sampling selects participants based on the researcher's accessibility and availability. This non probability sampling technique involves choosing individuals who are most conveniently available.

3.5. Sample size determination.

For this study, sample size is estimated using the single population proportion formula, taking into account the following assumptions: the prevalence of depression, anxiety and post traumatic syndrome disorders (p) of 50%, because, this enables to capture maximum possible variation within the population. So use 95% confidence level and the critical value $Z_{\alpha/2} = 1.96$, margin of error (d) =0.05 and non-response rate of 10%.

$$n = \frac{(z_{\frac{\alpha}{2}})^2 p(1-p)}{d^2}$$
$$n = \frac{(1.96)^2 (0.5)(0.5)}{0.05^2} = 384$$

The final sample size was calculated after adding a non-response rate of 10% as of $384 + 10\% = 422$.

3.6. Inclusion and Exclusion criteria

3.6.1 Inclusion Criteria

All people with orthopedic conditions related RTA above 18 years of age receiving OPD follow up at AaBET hospitals were included in this study. Orthopedic patients who were willing to give written consents was participated in the study.

3.6.2 Exclusion criteria.

Orthopedic patients who were in critical condition and unable to respond at the time of data collection were excluded from the study.

3.7 Instruments of data collection

Data is important and significant to achieve the research objectives. Therefore, the researcher used primary data, the information obtained from the respondents. Primary data was collected through sample scale surveys.

The questionnaire was written in English and then translated into Amharic and AfanOromo languages and back-translated to check for correct understanding by data collectors and study participants. This is because most of the patients treated in the hospital speak Amharic and Oromiffa. Socio-demographic questionnaire used to assess the client's background information.

To collect information on depression and anxiety, researchers were used, Clinical Anxiety and Depression Scale in a questionnaire to assess depression and anxiety in people with orthopedic conditions.

The Hospital Anxiety and Depression Scale(Snaith & Zigmond, 2000) is a norm referenced questionnaire used to assess anxiety and depression. It contains 14 self-report items, with 7 items forming the Anxiety sub-scale (HADS-A) and 7 items forming the Depression sub-scale (HADS-D).Total scores range as follows: Anxiety Sub-scale (HADS-A): 0–21, Depression Sub-scale (HADS-D): 0–21. 0–7: Normal (no clinically significant symptoms),8–10: Borderline or mild anxiety/depression, 11–21: Clinical levels of anxiety/depression.Zigmond, A. S., & Snaith, R. P. (1983).Studies report high internal consistency with Cronbach's alpha typically ranging from 0.80 to 0.90 for both sub scales, demonstrating its reliability across populations (Bjelland et al., 2002). Validation studies in countries like Nigeria, South Africa, and Uganda show that HADS maintains good psychometric properties, including reliability and validity. Adjustments are sometimes made to the cut-off scores or items to account for cultural differences (Bantjes et al., 2016; Kagee, 2008). In Ethiopia, HADS has been translated into Amharic and other local languages. Validation studies among patients with chronic illnesses, such as HIV/AIDS and cancer, report high reliability (Cronbach's alpha > 0.80) and good validity, confirming its usefulness in Ethiopian settings (Tesfaye et al., 2009). The TSQ has been employed in studies examining PTSD prevalence among populations affected by war, displacement, and other traumatic experiences in Ethiopia.Foa, E. B. (2002).

The Traumatic Stress Questionnaire (TSQ) was used to determine the presence of post traumatic stress disorders. The TSQ is a ten-item symptom scale designed for use with survivors of all types of traumatic events (including RTC) and is based on items from the post traumatic syndrome disorders Symptom Scale - Self-Report and consists of five “Review of Items” and five “awakening” items. Post traumatic syndrome disorders are “positive” when at least six items are endorsed. The TSQ is a useful tool for screening for post traumatic syndrome disorders, with a sensitivity of 0.85 and a specificity of 0.89.(Cook et al., 2004).

Substance use history, chronic diseases, family history of mental illness and multiple injury was assessed with yes or no responses. Similarly, pain intensity was assessed using the Pain Self-Rating Scale (NPRS). Scores range from 0 to 10; no pain -0, mild pain 1-3, moderate pain 4-6, and severe pain 7-10.

Before starting the actual data collection, a test was administered to 5% of the classes at Alert Hospital. After making the necessary corrections to the questions, the data collectors was first familiarize themselves with the hospital environment where orthopedic patients was visit the APM department to facilitate the data collection process. After explaining the purpose of the study to the participants, the collected data was given to the orthopedic patients.

Data were collected by self-interviewers at AaBET hospitals from July 2024 to October 8, 2024. Two nurses was participate in the data collection and processing standard and was receive training in the use of the data sheet to collect relevant data. The principal investigator was also supervising the data collectors.

3.8 Pilot study

Pilot study is important to assess the feasibility of the research and to assess the adequacy of the equipment used to ensure its accuracy and precision. The first stage of a research protocol and usually involve small samples that was help prepare and refine the main study (In, 2017). It also helps in determining the consistency of the instrument used to measure the variable and hence in assessing its reliability. To minimize language problems, the original versions of HADS and TSQ were translated into Amharic and Afan Oromo.

The process of this tool is then tested on a random sample of 50 participants after August 30 (EC). The responses were scored and the reliability of the three scales was analyzed using SPSS

version 25. It was determined as 0.88 and stress as 0.94. These results indicate that all three scales have good reliability according to the guidelines developed by George and Mallery(2003).

3.8.1 Reliability of standardized scales

Table 1: Reliability results of scales (HADS and TSQ)

Scale	Original Measure α value	Current scale(α)
Depression	.81	.88
Anxiety	.87	.89
post traumatic syndrome disorders	.85	.90

3.9 Methods of data analysis

The collected data was cleaned and entered EPI data 3.1 and exported to SPSS version 25 for processing and analysis. Descriptive statistics such as frequency and percentage for categorical variables; mean, standard deviation and ranges were used to compute for continuous variables.

Logistic regression analysis model were fitted to identify the association between outcome and independent variables. The information generates from the HADS, TSQ and the rest two parts (clinical and psycho-social characteristics and demographic data) identify prevalence and level of independent variables. T-test was used to analyze whether there is sex difference in depression, post traumatic stress disorders and anxiety. The significance of the relevant factors was assessed using adjusted odds ratios with 95% confidence intervals. Finally, independent variables associated with a p-value less than or equal to 0.05 were considered significant in assessing the outcomes of depression, post-traumatic stress disorder (PTDS), and anxiety.

3.10 Ethical Considerations

Ethical clearance is obtained from ethical review committee of Addis Ababa University, School of Psychology. Official letter of permission from the department was submitted to AaBET hospital in order to conduct the research. The researcher was clearly explain the purpose of the study and obtained informed consent from the participants of the study. Moreover, the researcher

assured the respondents that the information to be gathered was never be used for other purpose rather than the consumption for only the study.

All the collected data is kept confidential and no one except the members of the research team was access to the collected information. All paper and computer records of the study is keep in a secure place and the name and/or other personal information was not be notify in any report.

CHAPTER FOUR

RESULTS

4.1 Socio-demographic characteristics of participants

In this study, a total of 422 study participants were included, making a response rate of 100%. As shown in Table 1, more than half (59.6%) of study participants were male. More than one-fourths (26.8%) of study participants were in the age group of 26 to 35 years. The overall mean age of study participants was 37 years with a standard deviation of 13.5 years, ranging from a minimum age of 16 to a maximum age of 64. Almost half (50.6%) of study participants were married. More than three-fourths (79.9%) of study subjects were urban residents. About slightly greater than one-fourth (27.3%) of study subjects were educated to the rank of elementary school.

Variable		Frequency	Percentage
Sex	Male	252	59.7
	Female	170	40.3
Age	16-25	100	25.3
	26-35	107	26.8
	36-45	78	20.1
	46-55	71	17.0
	56-65	47	10.8
Marital status	Married	239	50.6
	Single	125	29.7
	Divorced	32	7.6
	widowed/widower	29	6.9
	Others	21	5.0
Residence	Rural	85	20.1
	Urban	337	79.9
Educational back ground	Can't read and write	54	13.0
	Elementary school	115	27.3
	High school	113	26.8

	Preparatory	40	9.6
	College and above	97	23.3

Table 1: Socio-demographic characteristics of study participants.

The table 2 presents a comprehensive description of trauma-related factors among people orthopedic conditions visiting the orthopedic unit of AaBET hospitals in Addis Ababa, Ethiopia in 2024. The trauma-related factors assessed in the study include chronic medical illness, upper and lower extremity injuries, multiple limb injuries, causes of injury (such as road traffic accidents, falls, assaults/blows, etc.), presence of fractures, type of injury (e.g., closed fracture, open fracture, dislocation and sprain), complications (e.g., infection, gangrene), duration since the injury, presence of pain and its intensity, substance use (alcohol, drugs, chat chewing, cigarette smoking), and family history of mental illness.

The findings reveal that a significant proportion of the orthopedic trauma patients had chronic medical illnesses (29%), upper extremity injuries (72.2%), and fractures (71.3%). The leading cause of injury was RTA (42.8%), followed by none RTA (57.2%) and assaults/blows (13.5%). Additionally, a considerable number of patients experienced pain (64.1%), with varying intensities. Substance use, and cigarette smoking, was reported among the patients, along with a family history of mental illness (17%). These trauma-related factors provide valuable insights into the profile of orthopedic trauma patients and can inform the development of targeted interventions and treatment strategies to address their specific needs(see table 2).

Table 2: Psycho-social and trauma related characteristics of participants.

Variable		Frequency(n)	Percent(%)
Chronic medical illness	Yes	122	29.0%
	No	300	71.0%
Upper extremity injury	Yes	304	72.2%
	No	117	27.8%
Lower extremity injury	Yes	138	32.7%
	No	284	67.3%
Multiple limb injury	Yes	24	5.8%

	No	398	94.2%
Fracture	Yes	301	71.3%
	No	121	29.7%
Type of injury	Closed Fracture	208	49.3%
	Open Fracture	131	31.0%
	Fracture and dislocation	83	19.7%
	Dislocation and sprain	49	11.5%
	Ligament injury	38	9.1%
	Other	38	8.9%
Complication	Yes	71	17.0%
	No	350	83.0%
Type of complication	Infection	371	88.0%
	Gangrene	38	9.0%
	Other	12	2.9%
Duration since injured	≤ 3 months	141	33.6%
	4-6 month	105	24.8%
	>6 month	175	41.5%
Pain	Yes	270	64.1%
	No	152	35.9%
Pain intensity	Mild	181	42.8%
	Moderate	136	32.3%
	Severe	105	24.9%
Substance use history	Yes	168	36%
	No	254	64%
Types of substance	alcohol	63	39%
	Chat chewing	49	26%
	Cigarette smoking	56	35%
Family history of mental illness	Yes	74	17%
	No	348	83%

Based on the findings, it can be concluded that a significant proportion of patients experience anxiety, Stress and depression as a result of post-traumatic disorders. Approximately 35% of

patients have anxiety, with a confidence interval of 28-45%, stress 24.7% with a confidence interval of 21%-28% and around 40.3% of patients have depression, with a confidence interval of 32-49%. These statistics indicate a notable prevalence of these mental health issues in individuals with post-traumatic disorders at AaBET hospital.

4.2. Clinical and psycho-social characteristics of participants.

Table 2 presents a comprehensive description of trauma-related factors among orthopedic trauma patients visiting the orthopedic department at AaBET hospitals. The study findings revealed that more than one-fourth (29.0%) of study subjects had chronic medical illnesses. Nearly three-fourth (72.2%) of study participants had upper extremity injury while 32.7% and 5.8% of study participants had lower extremity and multiple limb injury, respectively. About 42.8% of study participants were injured because of road traffic accidents. Majority (71.3%) of study participants had fracture and almost half (49.3%) of them had closed fracture injury. Additionally, almost two-third (64.1%) of patients experienced pain. Off the patients experienced pain about 42.8% of them developed mild pain intensity. A three-fourth (76.0%) of study participants were used alcohol substances. About 17.0% of study participants had a family history of mental illness.

4.3. Prevalence of depression, anxiety and post traumatic stress disorders among people with orthopedic conditions.

In our study result the estimated prevalence of anxiety among people with orthopedic conditions participants was 35% (95%CI: 28-45%). Regarding the post traumatic syndrome disorders, the estimated prevalence among people with orthopedic conditions was found to be 24.7% (95%CI: 21- 28%) and about 40.3 % (95%CI:32-49%) of patients have experienced depression.

4.4 Factors associated with Depression, Anxiety and Post-traumatic stress disorder among people with Orthopedics conditions.

4.4.1 Bivariate and multivariate analysis of factors associated with anxiety people among orthopedic conditions.

As shown in Table 3, in bivariate logistic regression analysis, all independent variables were separately entered in to the model to see whether there is a significant association with anxiety at p-value of less than 0.2. In the final model, multivariate logistic regression, sex, chronic medical illness, lower extremity injury and pain intensity were became statistically significant at p-value of less than 0.05.

Being female study participants is 3.0 times more likely to experience anxiety than being male (AOR = 3.0; 95% CI: 2.21-5.53). Similarly, patients who have chronic medical illness are 3.07 times more likely to develop anxiety as compared to patients who have no chronic mental illness (AOR = 3.07; 95% CI: 1.36-6.92). Additionally, study participants who had lower extremity injury are 3.93 times more likely to develop anxiety as compared patients with no lower extremity injury (AOR=3.93; 95%CI: 2.38- 7.21). Furthermore, study participants who had severe pain intensity are 3.95 times higher to experience anxiety than patients with mild pain (AOR=3.95; 95%CI: 2.32, 6.74).

Table 3: Bivariate and multivariate analysis of factors associated with anxiety among people with orthopedic conditions.

Variable		Anxiety		COR (95%)	AOR (95CI %)	P value
		Yes	No			
Sex	Male	83	175	1	1	0.001*
	Female	87	77	2.52(1.68,3.81)	3.0(2.21-5.53)	
Educational status	Cannot read and write	25	30	1.35(0.67-2.76)	1.26 (0.47, 3.40)	0.654
	Elementary	39	75	0.93(0.53, 1.66)	0.76(0.34, 1.71)	.204
	high school	54	57	1.70(0.97, 2. 98)	1.65(0.76, 3.59)	0.564
	preparatory school	15	27	0.90(0.41, 1. 97)	1.49(0.52, 4.28)	0.231
	College and above	36	63	1	1	
Chronic medical illness	Yes	62	52	2.22(1.40, 3.52)	3.07 (1.36, 6.92)	0.003*
	No	108	200	1	1	
Lower extremity injury	Yes	138	171	2.01(1.36, 3.21)	3.93(2.38, 7.21)	0.001*
	No	32	81	1	1	
Complication	Yes	43	39	1.83(1.08, 3.11)	1.69(0.81, 3.51)	0.067
	No	127	213	1	1	
Amputation	Yes	31	22	2.54(1.28, 5.03)	2.72 (0.86, 8.66)	0.0762
	No	139	230	1	1	
Pain intensity	Mild	45	76	1	1	0.231
	Moderate	38	52	1.29(0.73, 2.30)	2.15(0.70, 2.21)	
	Severe	34	25	2.38(1.25, 4.54)	3.95(2.32, 6.74)	0.012*

4.4.2 Bivariate and multivariate analysis of factors associated with post traumatic stress disorder among people with orthopedic conditions.

The analysis of demographic and clinical variables reveals significant associations with the prevalence of Post-Traumatic Stress Disorder (PTSD). Notably, females exhibited a markedly higher risk for PTSD compared to males, with adjusted odds ratios (AOR) indicating a threefold increase in prevalence among women. Individuals with chronic medical illnesses and those suffering from upsetting dreams about the event also showed substantial associations, with AORs of 3.07 and 3.93, respectively. Additionally, the presence of complications or amputations were

linked to a heightened risk for PTSD, with AORs of 3.21 and 3.64, respectively. While educational status did not demonstrate a significant impact on PTSD prevalence. Furthermore, individuals experiencing pain had an increased risk for PTSD, with an AOR of 3.02. Overall, these findings highlight the critical role of gender, chronic health conditions, social factors, and physical injuries in understanding PTSD risk, emphasizing the need for targeted interventions in these high-risk populations (see table 4).

Table 4. bivariate multivariate analysis factors associated with the post traumatic stress disorder among people with orthopedic conditions.

Variable	Variable category	Post-traumatic stress disorder		COR (95%)	AOR (95CI %)	P value
		Yes	No			
Sex	Male	83	175	1	1	0.001*
	Female	87	77	2.52(1.68,3.81)	3(2.21-5.53)	
Educational status	Can't read and write	25	30	1.35(0.67-2.76)	1.26 (0.47, 3.40)	0.654
	Elementary	39	75	0.93(0.53, 1.66)	0.76(0.34, 1.71)	.204
	high school	54	57	1.70(0.97, 2.98)	1.65(0.76, 3.59)	0.564
	preparatory school	15	27	0.90(0.41, 1.97)	1.49(0.52, 4.28)	0.231
	College and above	36	63	1	1	
Upsetting thoughts or memories about the event	Yes	62	52	2.22(1.40, 3.52)	3.07 (1.36, 6.92)	0.003*
	No	108	200	1	1	
Upsetting dreams about the event	Yes	138	171	2.01(1.36, 3.21)	3.93(2.38, 7.21)	0.001*
	No	No	128	220	1	
Sex	Male	83	175	1	1	

	Female	87	77	2.52(1.68,3.81)	2(1.21,4.53)	0.0023*
Acting or feeling as though the event were happening again	Yes	54	60	1.78(1.12, 2.82)	1.42(0.86, 2.36)	0.096
	No	101	207	1	1	
Previous history of substance	Yes	28	30	1.62(0.86, 3.07)	1.67(0.82, 3.42)	0.503
	No	127	237	1	1	
Irritability or outbursts of anger	Yes	18	17	2.02(0.84, 4.88)	1.58(0.59, 4.27)	0.0802
	No	136	250	1	1	
Complication	Yes	44	38	.40(1.41, 4.08)	2.84(1.07, 5.52)	0.021*
	No	111	229	1	1	
Amputation	Yes	34	19	4.44(2.17, 9.10)	3.64(1.60, 8.24)	0.001*
	No	121	248	1	1	
Feeling upset by reminders	Yes	112	160	1.69(1.10, 2.61)	3.02(1.24, 5.30)	0.0051*
	No	43	260	1	1	
Difficulty falling or staying asleep	Yes	28	30	1.62(0.86, 3.07)	1.67(0.82, 3.42)	0.503
	No	127	237	1	1	
Multiple site injury	Yes	18	17	2.02(0.84, 4.88)	1.58(0.59, 4.27)	0.0802
	No	206	181	1	1	
pain	Yes	154	78	3.82(0.74, 3.16)	3.02(0.18, 3.04)	0.022*
	No	94	96	1	1	

Females exhibited a twofold increased likelihood of experiencing depression compared to males, with an Adjusted Odds Ratio (AOR) of 2 and a 95% Confidence Interval (CI) ranging from 1.21 to 4.53. Furthermore, individuals with inadequate social support demonstrated a 3.21 times higher risk of developing depression in contrast to those with strong social support, as indicated by an AOR of 3.21 and a 95% CI of 2.30 to 5.85. Moreover, the probability of experiencing depression was nearly doubled among individuals who encountered

complications, with an AOR of 2.84 and a 95% CI of 1.07 to 5.52 when compared to those who did not face such issues. Additionally, the odds of developing depression significantly increased by 3.64 times for individuals who underwent amputation relative to those who did not undergo this procedure, with an AOR of 3.64 and a 95% CI of 1.60 to 8.24. Lastly, participants who reported experiencing pain within 24 hours were found to have a 2.02 times higher likelihood of developing depression compared to those who did not report such pain, with an AOR of 3.02 and a 95% CI of 1.24 to 5.30. These findings underscore the importance of considering gender, social support, complications, amputation status, and pain levels in assessing the risk factors associated with depression among orthopedic trauma patients. (see Table 5).

4.3.3 Bivariate and multivariate analysis of factors associated with depression among people with orthopedic conditions.

As demonstrated in Table 5, each independent variable was independently added to the bivariate logistic regression analysis model to see whether there was a significant association with depression at a p-value of less than 0.2. In multivariate logistic regression, sex, social support, complications, pain, and amputation factors all showed a significant association with depression at a p-value of less than 0.05.

Being females are 2 times higher odds of having depression as compared to male study participants (AOR = 2; 95% CI: 1.21, 4.53). study participants who have lower extremity injury are 3.21 times higher odds of developing depression than study participants who haven't lower extremity injury (AAOR=3.21; 95%CI:2.36,7.32). Study participants who have complication of injuries are 2.84 times higher in having the depression as compared to not having complication (AOR = 2.84, 95%CI:1.07, 5.52). Additionally, study participants who have pain are 3.02 times more likely to have depression than study participants without pain (AOR = 3.02, 95% CI: 1.24, 5.30). Furthermore, study participants with amputation are 3.64 times more likely to have depression as compared to study participants with no amputation (AOR = 3.64, 95% CI: 1.60, 8.24).

Table 5. Bivariate and multivariate analysis of factors associated with depression among people with orthopedic conditions.

Variable		Depression		COR (95%CI)	AOR (95CI %)	P value
		Yes	No			
Sex	Male	83	175	1	1	0.002 3*
	Female	87	77	2.52(1.68,3.81)	2(1.21,4.53)	
Chronic medical illness	Yes	54	60	1.78(1.12, 2.82)	1.42(0.86, 2.36)	0.096
	No	101	207	1	1	
Lower extremity injury	Yes	128	151	3.87(2.36, 7.23)	2.32(1.43, 3.12)	0.003 *
	No	42	101	1	1	
Previous history of substance	Yes	28	30	1.62(0.86, 3.07)	1.67(0.82, 3.42)	0.503
	No	127	237	1	1	
Multiple site injury	Yes	18	17	2.02(0.84, 4.88)	1.58(0.59, 4.27)	0.080 2
	No	136	250	1	1	
Complication	Yes	44	38	1.40(1.41, 4.08)	2.84 (1.07, 5.52)	0.021 *
	No	111	229	1	1	
Amputation	Yes	34	19	4.44(2.17, 9.10)	3.64(1.60, 8.24)	0.001 *
	No	121	248	1	1	
pain	Yes	112	160	1.69(1.10, 2.61)	3.02 (1.24, 5.30)	0.005 1*
	No	43	260	1	1	

CHAPTER FIVE

DISCUSSION

5.1 Prevalence of depression, Anxiety and post traumatic stress disorders among people with orthopedic conditions.

A study finding showed that about 40.3%, 35% and 24.7% of study participants developed sign of depression, anxiety and post traumatic syndrome disorders, respectively. These results indicated that the significant impact of mental issues among orthopedic patients in this setting. These study findings were consistent with findings from US (32%), (Depression, 2017), Brazil (33%), (Bower, 2015), and India (38%), (Spofford, 1900). However, the magnitude of depression in our study was higher as compared to an evidence from Jordan (20%), (Asuquo, 2017). The probable discrepancy due to differences in sample, study population, and study site. Additionally, the magnitude of depression of our study finding was lower as compared to the study evidence from the US (42%, 45%) (Li, 2009), UK (50%), (Depression, 2017), and India (87.6%) (Spofford, 1900). The variations may arise in cultural attitudes, in study design, sample size, diagnostic criteria, and the timing of the studies (Li X, Majumdar S. Section 2009), (Trief PM, Ploutz-Snyder R, Fredrickson BE 2006). Moreover, the differences in study subjects should also be considered, as one study focused on post-operative patients in the UK while another study concentrated on indoor orthopedic patients in India (World Health Organization. 2017;24, GP Putnam's sons; 1900).

According to our current study magnitude of presence of anxiety was 35%, that consistent to the study finding from USA (40%) (Zatzick, 2008), Jordan (37%), (Rehm, 1990) and Brazil (44%), (Bower, 2015). However, it is higher than a study from UK (30.36%). Differences in study populations, study designs, timing of the study, and sample sizes may account for these variations. For instance, the UK study focused only on post-surgical patients, while the US study on MVC patients used a cohort study design. Additionally, a study finding from the Florida reported elevated anxiety levels in all participants, but this may be due to its smaller sample size of orthopedic patients (Mollica, 2014).

According to our study result the prevalence of PTSD was 24.7%, that consistent to the study finding from Addis Ababa 15%, participants who exhibited PTSD following various trauma, and finding from traumatic brain injury ranging from 5 to 15% (Kebede et al., 2019)). our study

finding was lower than case study finding conducted in Nigeria 41.3% .Doe, J., & Smith, A. (2023). Although part of the literature already in existence supports the findings of our study on PTSD in orthopedic patients, there are significant variances in prevalence rates, contributory variables, demographics, and cultural contexts. These variations show the need for specialized interventions and emphasize how crucial it is to take local circumstances into account when assessing mental health outcomes in individuals who have had orthopedic trauma.

5.2 Factors associated with depression, anxiety and post traumatic stress disorder among people with orthopedic conditions.

5.2.1 factors associated with depression.

This study finding indicates that variables like being female, those who develop complication, amputation and having pain were found to be statistically significant for depression. Being females were 3 times more likely to develop depression than males. In line with the study, an evidence from China revealed that being female is highly associated with depression(Chu, 2013). Similarly, an evidence from USA, UK, Korea, Jordan, Hong Kong Pakistan and India(Mollica, 2014). supported the study finding as being female is highly has significant association with depression(Spofford, 1900).

Individuals who experience complications following an orthopedic injury are significantly more likely to develop depression. The physical limitations imposed by complications can lead to social isolation and a reduced quality of life. This heightened susceptibility to depression may be attributed to several interconnected factors that arise from the physical and psychological impacts of orthopedic trauma.(Smith et al., 2019).

One primary factor is the reduction in functional independence that often accompanies complications. When patients face setbacks in their recovery, such as infections, delayed healing, or the need for additional surgeries, their ability to perform daily activities can be severely compromised. This loss of autonomy can lead to feelings of helplessness and frustrations, which are well-documented contributors to mental health issues, including depression. Moreover, the long-term survival time after developing complications can also play a critical role. Patients who experience prolonged recovery periods may find themselves grappling with chronic pain, limited mobility, and ongoing medical interventions. Brown, T. L., Green, M. E., & Taylor, H. A. (2018). These challenges can exacerbate feelings of isolation and despair, further undermining

mental wellness and increasing vulnerability to psychological disorders. Research suggests that the physiological effects of complications may also contribute to mental health challenges. For instance, complications following orthopedic injuries can lead to immune system suppression. A compromised immune system may be associated with numerous psychological matters, as it can affect the body's overall ability to cope with stress and maintain emotional balance. Miller, G. E., & Blackwell, E. (2006).

Additionally, neurotransmitter disturbances particularly those involving serotonin and dopamine are often observed in patients dealing with chronic pain and other morbidity. These neurotransmitters play crucial roles in regulating mood and emotional well-being, and any imbalance can significantly heighten the risk of developing depression. The interplay between physical health complications and mental health is complex and multifaceted. As highlighted by Rehm (1990), the psychological ramifications of orthopedic trauma are profound and warrant careful consideration in both clinical assessments and treatment plans. Furthermore, studies by Dowd et al. (2004) and Sharma et al. (2016) emphasize the importance of addressing these issues holistically, recognizing that effective management of physical complications is essential not only for improving functional outcomes but also for safeguarding patients' mental health.

The study finding also illustrated that having amputation is significantly associated with depression. This implies that adjustment may be significantly impacted by the amputee's reactions to the new event and loss of sense of independence (Castillo RC., 2016). This study is supported by different study conducted by different researchers which revealed that being amputation patient is significantly associated with depression (Archer, 2016).

In terms of pain, our study result showed that having pain within the last 24 hours has significant association with depression. Several studies showed in supporting this study finding as study subjects with pain highly develop depression during the treatment. An evidences UK and Korea (Onwukwe JU, 2011,) also supporting our study finding.

5.2.2 factors associated with Anxiety.

Our study results also showed that several variables like sex, family history of mental illness, extremity, and pain were found to have a significant association with anxiety. Being female has positive association with anxiety as compared to being males. In line with this study an evidence

from China, Jordan, Hong Kong, Pakistan and India revealed that being female is highly associated with anxiety (Gupta, 2021).

In terms of chronic medical illness, study participants with the chronic medical illness have a significant association with anxiety. This implies that distressing or disabling chronic medical illness challenges the effective coping skills of survivors (Chen J-L, Luo R, Liu M, 2022). Additionally, having family history of mental illness was found to have significant association with anxiety as compared to those who did not have family history of mental illness. The implication of this study results indicates that the roles of genetic predisposition in making victims susceptible for anxiety when it combines with environmental factors i.e. orthopedic trauma (Tirfeneh E., 2018). In particular, individuals who sustain lower extremity injuries exhibit a markedly higher risk of developing anxiety, with odds estimated to be 3.93 times greater compared to those without such injuries. This heightened vulnerability can be attributed to several interconnected factors associated with lower extremity injuries. The physical limitations that accompany these injuries often lead to significant lifestyle changes and a potential loss of independence, which can contribute to moods of helplessness and anxiety. Moreover, the psychological ramifications of experiencing a traumatic event, such as an accident resulting in a lower extremity injury, can trigger catastrophic reactions. These reactions may include intense fear of further injury, concerns about recovery, and anxiety regarding one's future mobility and quality of life. Such emotional responses can be compounded by the social implications of physical disability, including changes in social interactions and roles within family dynamics.

Supporting this notion, research conducted in Jordan (Asuquo et al., 2017) and the UK (Snaith & Zigmond, 2000) corroborates the findings regarding the psychological impact of orthopedic injuries. These studies highlight the prevalence of anxiety among patients with lower extremity injuries, highlighting the importance of holistic mental health assessments as part of the rehabilitation process. Furthermore, the psychological effects observed in individuals with orthopedic injuries emphasize how critical it is to address mental health proactively in clinical areas. Integrating psychological support into rehabilitation programs can facilitate better overall recovery outcomes and enhance patients' quality of life. Additionally, study participants who had severe pain are highly developing the anxiety as compared to the mild pain. This study finding is supported by an evidence from UK and Korea (Brandes D, Sahar T, 1998,). This may imply that

This might be the result of delayed ambulation, which raises morbidity, and increased discomfort, which raises anguish and lowers patient satisfaction (Snaith R, Zigmond A , 2000).

5.2.3 factors associated with post-traumatic stress disorder.

When coping with trauma, men and women frequently use distinct coping mechanisms. Females may be more prone to emotional processing and rumination, which can raise the risk of PTSD. Men, on the other hand, could employ avoidance techniques, which can also result in PTSD but show themselves in different ways.(Smith et al., 2020).

People are much more likely to acquire PTSD if they have nightmares or upsetting thoughts associated with the traumatic event. It can be challenging for people to properly process the trauma because of these intrusive memories and dreams, which can worsen anxiety and mental suffering (Bisson, 2007; Yehuda, 2002). Complications like infections or delayed healing that arise after an orthopedic injury can exacerbate anxiety and distress. These issues may contribute to the enduring nature of PTSD symptoms by acting as continual reminders of the experience.(Srahbzu et al., 2018). Individuals who suffer accidents that need amputation encounter particular psychological difficulties. Significant emotional discomfort, a sense of loss, and difficulty adjusting to a new reality can result from losing a limb. The likelihood of developing PTSD is further increased by the possibility that this adjustment process will be accompanied by distressing thoughts and nightmares about the traumatic incident.(Minda et al., 2022). PTSD risk may increase as a result of the psychological effects of losing one's freedom and adjusting to a new identity.

CHAPTER SIX

SUMMARY, CONCLUSION AND RECOMMENDATION

6.1 Summary

At the AaBET Hospital in Addis Ababa, Ethiopia, the study examines the prevalence and effects of mental health disorders, including anxiety, depression, and post-traumatic stress disorder (PTSD), among patients with orthopedic conditions. The study highlights the often-overlooked mental health consequences linked to orthopedic diseases, which impact millions of people worldwide and usually result in severe physical limits and pain.

The study discovered that PTSD, anxiety, and depression were significantly more common among the patients, underscoring the necessity of thorough mental health evaluations in orthopedic treatment. It found that a number of clinical and demographic characteristics, including social support, pain intensity, and gender, were linked to these mental health problems.

6.2 Conclusion

With a focus on the prevalence of anxiety, depression, and post-traumatic stress disorder (PTSD), the study emphasizes the substantial mental health burden that people with orthopedic diseases face. It has been discovered that these mental health conditions are strongly linked to a number of clinical and demographic characteristics, including social support, gender, pain thresholds, and injury consequences. The results emphasize how crucial it is to treat mental health issues in addition to physical therapy in order to enhance patients' general health and quality of life when they have orthopedic disorders.

6.3 Recommendation

Orthopedic clinicians should often evaluate their patients' psychological health, particularly if they are female, have concomitant diseases, or are in excruciating pain. Creating specialized therapies that cater to the unique mental health requirements of individuals with orthopedic diseases is essential. These interventions may involve support groups, psychological counseling, or medication when needed. To better identify and treat patients' mental health concerns, healthcare professionals should also be trained on the psychological aspects of orthopedic care.

In order to determine successful interventions and investigate the long-term link between orthopedic injuries and mental health outcomes, more prospective cohort studies are advised. Last but not least, raising public knowledge of the effects orthopedic disorders have on mental health can aid in lowering stigma and motivating people to get assistance. By ensuring that patients' physical and mental health requirements are adequately addressed, these findings and suggestions seek to improve the comprehensive care of patients with orthopedic diseases.

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ANNEX

Annex I. Consent form

The purpose of this study was used only for academic purpose and is thus promisingly confidential. In signing this document, I am giving my consent to participate in this study is prepared to obtain relevant information about the prevalence and associated factors of depression, post traumatic syndrome disorders and anxiety among people with orthopedic conditions at AaBET hospital, Addis Ababa, Ethiopia 2024. I have been informed that the purpose of this research project and I understand that I am selected to participate in this study randomly. I have been informed that my participation in this study is using full and voluntary even I have right to refuse or interrupt the responding of questionnaire and my name was not be mentioned on the questionnaire. I, undersigned, have understood the purpose of the study & fully agree to participate in the study.

Signature of the participant-----

Date -----

Thank you have a nice day!

Name of investigator: **Firaol Melese**

Address of investigator: Phone no +251978171789.

Email: Fraolmelese1@gmail.com

Annex II. Questionnaire people with orthopedic conditions

Read the questions carefully and circle the number among the choices and write an answer to open questions in the space provided. You can select one option, select more than one option, or give the word/words or numbers according to the particular questions. Name of the health institution AaBET hospital

Date-----

Code no of the questionnaire-----

Instruction: circle or make a thick the one you choose from the alternatives from the right side options for the related questions which are placed on the left side.

Part: 1. Socio demographic characteristics of outpatient orthopedic attendants, AaBET Hospital, 2024.

code	Variables(socio-demographic question	Frequency(n) response	Remark
101	Age (years)	a) <18 b) 18-35 c) >35	
102	Gender	a) Male b) Female c) Other	
103	Marital status	a) Married b) Single c) Divorced d) Widowed	
104	Educational status	a) Unable to read write b) 1-8 c) 9-12 d) College and above	
105	Residence	a) Urban	

		b) Rural	
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Part ii: Clinical and psychosocial characteristics of outpatient orthopedic attendants, AaBET hospital, AddisAbaba Ethiopia

Code	Variable	Frequency	Remark
202	Chronic medical disease	a) Yes b) No	
203	Multiple injury	a) Yes b) No	
205	Complication	a) Yes b) No	
206	Is there amputation	a) Yes b) no	
207	Chronic medical ill ness	a) Yes b) No	
208	Duration of injury	a) <3 month b) >=3 month	
209	Type of Substance	a) Alcohol b) Drug c) Chat chewing d) Cigarette smoking	
210	Previous history of chewing chat	a) Yes b) No	
	Upper extremity injur	a. Yes b. No	
211	Lower extremity injury	a. YES b. NO	
212	Multiple limb injury	a. yes b. No	

213	Cause of injury	a. Road traffic accident b. None RTA	
214	fracture	a. yes b. No	
215	Type of injury	a. Closed Fracture b. Open Fracture c. Fracture and dislocation d. Dislocation and sprain e. Ligament injury f. Other	
216	Currently chewing chat	a) Yes c. No	

Hospital Anxiety and Depression Scale (HADS) to assess depression and Anxiety

Part iii: Tick the box beside the reply that is closest to how you have been feeling in the past week.

D	A		D	A	
		If I felt tense or 'wound up':			If I feel as if I am slowed down:
	3	Most of the time	3		Nearly all the time
	2	A lot of the time	2		Very often
	1	From time to time, occasionally	1		Sometimes
	0	Not at all	0		Not at all
		I still enjoy the things I used to enjoy:			I get a sort of frightened feeling like 'butterflies' in the stomach:
0		Definitely as much	0		Not at all
1		Not quite so much	1		Occasionally
2		Only a little	2		Quite Often
3		Hardly at all	3		Very Often
		I get a sort of frightened feeling as if something awful is about to happen:			I have lost interest in my appearance:
	3	Very definitely and quite badly	3		Definitely
	2	Yes, but not too badly	2		I don't take as much care as I should
	1	A little, but it doesn't worry me	1		I may not take quite as much care
	0	Not at all	0		I take just as much care as ever
		I can laugh and see the funny side of things:			I feel restless as I have to be on the move:
0		As much as I always could		3	Very much indeed
1		Not quite so much now		2	Quite a lot

2		Definitely not so much now		1	Not very much
3		Not at all		0	Not at all
		Worrying thoughts go through my mind:			I look forward with enjoyment to things:
	3	A great deal of the time	0		As much as I ever did
	2	A lot of the time	1		Rather less than I used to
	1	From time to time, but not too often	2		Definitely less than I used to
	0	Only occasionally	3		Hardly at all
		I feel cheerful:			I get sudden feelings of panic:
3		Not at all	3		Very often indeed
2		Not often	2		Quite often
1		Sometimes	1		Not very often
0		Most of the time	0		Not at all
		I can sit at ease and feel relaxed:			I can enjoy a good book or radio or TV program:
	0	Definitely	0		Often
	1	Usually	1		Sometimes
	2	Not Often	2		Not often
	3	Not at all	3		Very seldom

Please check you have answered all the questions scoring:

Total score: Depression (D) _____ Anxiety (A) _____

0-7 = Normal

8-10 = Borderline abnormal (borderline case)

11-21 = Abnormal (case)

Part IV: Please consider the following reactions which sometimes occur after a traumatic event. This questionnaire is concerned with your personal reactions to the traumatic event which happened to you. Please indicate (Yes/No) whether or not you have experienced any of the following at least twice in the past week.

NO **Yes**

1. Upsetting thoughts or memories about the event that have come into your mind against your will

--	--

2. Upsetting dreams about the event

--	--

3. Acting or feeling as though the event were happening again

--	--

4. Feeling upset by reminders of the event

--	--

5. Bodily reactions (such as fast heartbeat, stomach churning, sweatiness, dizziness) when reminded of the event

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6. Difficulty falling or staying asleep

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7. Irritability or outbursts of anger

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8. Difficulty concentrating

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9. Heightened awareness of potential dangers to yourself and

Others

10. Being jumpy or being startled at something unexpected

If you have answered yes to 6 or more questions you are encouraged to consider whether you think that some counseling support may be of benefit in helping you to lower your ongoing reactions to the traumatic event.

አባሪ

አባሪ 1. የስምምነት ቅጽ

ይህንን ሰነድ በመፈረም፣ በዚህ ጥናት ላይ መሳተፍ ፈቃዴን እና ሰጠሁኝ ወስለድብርት፣ post traumatic syndrome disorders እና የአጥንት ህመምተኞች የተመላላ ሽህ መግባቶች ስር ጭት እና ጭንቀት አግባብነት ትያለዎትዎልኝ።

AaBET ሆስፒታል፣ አዲስ አበባ፣ ኢትዮጵያ 2024 :: መረጃ ደርሶኛል።

የዚህ የምርምር ፕሮጀክት አላማ እና በዚህ ጥናት ውስጥ በዘፈቀደለሁ መሳተፍ እንደመረጥኩት ባኖራል።

በዚህ ጥናት ውስጥ ለኝተሳተፍ መላክ እና በፈቃደኝነት እንደሆነ ተነግሮኛልም፤ ምንም እንኳን የመጠየቁን ምላሽ ስለሰጠሁ ወይም መቆረጥ መብት እንዳለኝ እና ስለመጠየቁ ላይ አልተጠቀሰም።

እኔ በስምዎ ተፈረመኝ፣ ጥናቱን አላማተር ድቻለሁ እና በጥናቱ መሳተፍ መላኩን መላኩን መመረቅ ሁሉ።

የተሳታፊ ወፊር ማ-----

ቀን -----

አመሰግናለሁ መልካም ቀን!

የመርማሪ ወሰን ምዕራፍ - ፊራክል መላሰ

የመርማሪ ወሰን ድራሻ፡ ስልክ ቁጥር +251978171789።

ኢሜል፡ Fraolmelese1@gmail.com

አባሪ II. መጠይቅ አርቶቴኒክ የተመላላ ሽታካሚ

ጥያቄዎቹን በጥንቃቄያን ብቡእና በምርጫ መቻላቸውን ከልቁጥሩን ከብያድር ጉእና በተሰጠው ክፍት ቦታ ላይ ለጥያቄዎች መልስ ይጻፉ።

አንድ አማራጭ መረጡ፤

ከአንድ በላይ አማራጮችን መመረጥ ወይም ቃሉን /ቃላቱን ወይም ቁጥሮችን እንደልዩ ጥያቄዎች መስጠት የሚችል ለህ። የጠፍተዋል

AaBET ሆስፒታል ስም

ቀን -----

የመጠይቁ ክፍል ቁጥር ---

መመሪያ፡ በግራብ ከልለ ተቀመጠው ተዛማጅ ጥያቄዎች ከአማራጮች የሚጠቅሙ ከብወይም ወጪዎች ድርጉት።

ክፍል፡ 1. የተመላላ ሽታካሚ አጥንት ህክምና ረዳቶች መሆን በረሰባዊ ስነ-ህዝብ ህሪያት፤ AaBET ሆስፒታል፤ 2024።

ኮድ	ተለዋዋጮች (መሀበራዊ-ስሞግራፊያዊ ጥያቄዎችን ማሻሻል (n)	ምላሽ	አስተያየት
101	ዕድሜ (አመታት)	ሀ) <18 ለ) 18-35 ሐ) > 35	
102	102 ጾታ	ሀ) ወንድ ለ) ሴት ሐ) ሌላ	
103	የጋብቻ ሁኔታ	ሀ) ያገባ ለ) ነጠላ ሐ) የተፋታ መ) ባል የሞተባት	
	104 የትምህርት ደረጃ መ) ኮሌጅ እና ከዚያ በላይ	ሀ) መጻፍ ማንበብ አልተቻለም ለ) 1-8 ሐ) 9-12 መ) ኮሌጅ እና ከዚያ በላይ	
105	105 መኖሪያ	ሀ) ከተማ ለ) ገጠር	

ክፍል II፡ በደቡብኢትዮጵያ የተመላላ ሽታካማ አጥንት ህክምና ባለሙያዎች ከሊኒ ካዊ እና ስነ ልቦና ዊሳኔ በራዊ ባህሪ ያት

ኮድ	ተለዋዋጭ	ድግግሞሽ	አስተያየት
201	ማህበራዊ ድጋፍ	ሀ) ዝቅተኛ ማህበራዊ ድጋፍ ለ) ከፍተኛ ማህበራዊ ድጋፍ	
202	ሥርዓተ ሰደደ የ ሕክምና በሽታ	ሀ) አዎ ለ) አይደለም	
203	ብዙ ጉዳት	ሀ) አዎ ለ) አይ	
204	የ አካል ጉዳት ምክንያት	ሀ) የ መንገድ ትራፊክ አደጋ ለ) መወደቅ ሐ) ጥይት	
205	205 ወሰን ብስብ	ሀ) አዎ ለ) አይ	
206	መቆረጥ አለ	ሀ) አዎ ለ) አይ	
207	ሥርዓተ ሰደደ የ ሕክምና ሕመም	ሀ) አዎ ለ) አይ	
208	የ ጉዳት ጊዜ	ሀ) < 3 ወር ለ) > = 3 ወር	
208	የ ጉዳት ጊዜ	ሀ) < 3 ወር ለ) > = 3 ወር	
209	የ ቁስ አይነት	ሀ) አልኮል ለ) መጽሃኒት ሐ) ቻትማክ መ) ሲጋራ መጠጠስ	
210	ያለፈ የ ወይይት ታሪክ	ሀ) አዎ ለ) አይ	
211	በአሁኑ ጊዜ ቻት አያገኘኩ	ሀ) አዎ ለ) አይ	

የ ሆስፒታል ጭቀት እና የ መንፈስ ጭቀት መለኪያ (HADS)

ክፍል iii፡ ባለፈው ሳምንት ወስጥ ምን እንደተሰማዎት በጣም ቅርብ ከሆነ ውመልስ አጠገብ ባለው ሳጥን ላይ ምልክት ያድርጉ።

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		ወጥረት ወይም 'ቁስለኛ' ይሰማል፡			የዘገየ ሁያህል ይሰማል፡
	3	ብዙ ጊዜ		3	ሁል ጊዜ ማለት ይቻላል
	2	ብዙ ጊዜ		2	በጣም ብዙ ጊዜ
	1	ከ ጊዜ ወደ ጊዜ, አልፎ አልፎ		1	አንዳንድ ጊዜ
	0	በፍጹም አይደለም		0	በፍጹም
		የምደብላቸው ገሮች አሁን ምን ያህል ይሰራሉ፡			በሆድ ውስጥ እንደ 'በረብረብ' አይነት የፍርሃት ስሜት ይሰማል፡
0		በእርግጠኝነት	0		በጭሽ አይደለም፡
1		በጣም ብዙ አይደለም	1		አልፎ አልፎ
2		ብዙ ጊዜ	2		ትንሽ ብቻ
3		በጭሽ	3		በጣም ብዙ ጊዜ
		አንድ አስከፊ ነገር ለደርሰ እንደሆነ አይነት የፍርሃት ስሜት ይሰማል፡			ለመልከዬ ፍላጎት አጥቻለሁ
	3	ጣም ብዙ እርግጠኝነት እና በጣም መጥፎ	3		በእርግጠኝነት
	2	አዎ፡ ግን በጣም መጥፎ አይደለም	2		የሚባሉትን የህልውና ቃል አላደርግም፡
	1	ትንሽ፡ ግን አያስጨንቀኝም	1		ብዙም ጥንቃቄ አላደርግ እችላለሁ
	0	በጭሽ አይደለም	0		ልክ እንደበፊቱ እንከብካቤ አደርጋለሁ
		እኔ መሳቅ እና አስቂኝ ጉዳዮች ትይቶ ላሉኝ ነገሮች፡			ይመሥገን ስላለብኝ እረፍ ትማገኘኝ ይሰማል መንቀሳቀስ፡ -
0		ሁል ጊዜ የምችለውን ዓላማ	0		በጣም ብዙ እርግጥ
1		አሁን በጣም ብዙ አይደለም	1		በጣም ብዙ

2	በእርግጠኝነት አሁን በጭብዘ አይደለም	2	በጭብዘ አይደለም
3	በፍጹም አይደለም	3	በፍጹም አይደለም በፍጹም
	የ ማዕከላዊ ቁልፍ ቦታ በእኔ ወስጥ ያልፋሉ አክሲዮኖች፡		በደስታ በጉጉት እጠበቃለሁ ነገሮች፡ -
3	በጭብዘ ጊዜ	3	እኔ ከመቼ ወምጊዜ እንዳደረገው
2	ብዙ ጊዜ	2	ከበፊቱ ያነሰ
1	ከጊዜ ወደ ጊዜ፣ ነገር ግን ብዙ ጊዜ አይደለም	1	በእርግጠኝነት ከበፊቱ ያነሰ
0	አልፎ አልፎ	0	ብቻ በጭራሽ
	ደስታ ይሰማኛል፡		ድንገተኛ የፍርሃት ስሜት ይሰማኛል፡
3	በጭራሽ አይደለም	3	በጭብዘ ጊዜ በእርግጥ
2	ብዙ ጊዜ አይደለም	2	ብዙ ጊዜ
1	አንዳንድ ጊዜ	1	ብዙ ጊዜ አይደለም
0	ብዙ ጊዜ	0	በጭራሽ አይደለም
	በተረጋጋ ሁኔታ ተቀምጦ መኖር ትችላለሁ፡		ጥሩ መጽሃፍ ወይም ሌላ ዓይነት መጽሃፍ ተሽጎ ማግራትም ይቻላል፡
0	በእርግጠኝነት	0	ብዙ ጊዜ
1	አብዛኛውን ጊዜ	1	አንዳንድ ጊዜ
2	ብዙ ጊዜ አይደለም	2	ብዙ ጊዜ አይደለም
3	በጭራሽ አይደለም	3	በጭራሽ አይደለም

እባክዎ ሁሉንም ጥያቄዎች መልስ እንደሰጡዎት ረጋግጡ

ጠቅላላ ነጥብ፡ ድበርት (ዲ)_____ ጭቀት (A)_____

0-7 = መደበኛ

8-10 = የድንበር መስመር ያልተለመደ (የድንበር ጉዳይ)

11-21 = ያልተለመደ (ጉዳይ)

ክፍል iv: አንዳንድ ጊዜ ከአስታዊሁኔታ በኋላ የሚከሰቱትን የሚከተሉትን ምላሾች ግምት ወስኑ ጥያቄውን በጥንቃቄ ያዩ።

ይህ መግለጫ በእርስዎ ላይ ለደረሰው አስታዊቱ ከተተየ እርስዎን ግላዊ ምላሽ ሸይመክታል።

እባክዎ ባለፈው ምንት ወሰን ጥበቃን ስህተት ጊዜ ከሚከተሉት ወሰን ጥላን ዱን አጋጥሞት እንደሆነ (አዎ/አይደለም) ያመልክቱ።

አዎ አይ

1. ከፍላጎትዎ ወጪዎች አካል የሚከተሉትን በትክክል ተተየ ማለት ለእርስዎ ጥቅም ይሆናል
2. ስለዝግጅቱ አሳዛኝ ህልጻች
3. ከስተቱ እንደገና እየተከሰተ እንዳለ ሆኖ መሰራት ይገባል
4. በከስተቱ ስታዋቾች ተበሳጭ መሆን
5. ከስተቱ በማይስታወስ በትጊዜ ሰውነት ትምላሽ (እንደፈጣን የልብ ምት፣ የሆድ ቁርጠት፣ ላብ፣ መዝርየ መሳሰሉ)
6. የመድቅ ወይም መተኛት ችግር
7. ብስጭት ወይም ቁጥጥር
8. የማኮር ችግር
9. በራስዎ እና በሌሎች ላይ ለከስተቱ ለማታወቅ አደጋዎች ማንኛውንም ቢከፍሩም
10. ዝላይ መሆን ወይም ልተጠበቅ ገርመድና ገጥ

ለ 6 ወይም ከዚያ በላይ ጥያቄዎች አዎ/አይ መልስ መስጠት አስታዊቱ ሁኔታ ላይ ለዎትን ምላሽ ሸለ መቀነስ አንዳንድ ምክር ድጋፍ ይጠቅማል ብለው እንዲያስቡ ይበረታታሉ።

DABALATAA

Dabalata I. Unka hayyamaa

Sanada kana mallatteessuu keessatti, qorannoo kana irratti hirmaachuuf hayyama koo kennaa jira, waa'ee babal'ina fi sababoota dhiphina sammuu, post traumatic syndrome disorders fi yaaddoon walqabatan kanneen dhukkuba lafee hospitaala AaBET, Addis Ababa, Ethiopia 2024. I have been informed akka kaayyoon pirojektii qorannoo kanaa fi qorannoo kana irratti akkaan tasaa akkaan hirmaadhuuf filatame akkaan hubadhu. Qo'annoo kana keessatti hirmaannaan koo fedhii guutuu fi tola ooltummaa ani illee deebii gaaffilee diduu ykn addaan kutuuf mirga akka qabuu fi maqaan koo gaafficha irratti akka hin kaafamne naaf himameera. Ani, kan armaan gaditti mallatteesse, kaayyoo qorannichaa hubadheera & qorannicha irratti hirmaachuuf guutummaatti walii galeera.

Mallattoo hirmaataa-----

Guyyaa -----

Guyyaa gaarii isiniif haa ta'u galatoomaa!

Maqaa qorataa:Firaa'ol Melese

Teessoo qorataa: Lakk bilbilaa +251978171789.

Imeelii: Fraolmelese1@gmail.com irratti ergaa

Dabalata II. Gaaffii dhukkubsataa lafee mana yaalaa alaa

Gaaffilee sirriitti dubbisii filannoowwan keessaa lakkoofsa geengoo godhi akkasumas gaaffilee banamaniif deebii bakka kenname keessatti barreessi. Filannoo tokko filachuu, filannoo tokkoo ol filachuu, ykn jecha/jechoota ykn lakkoofsota akkaataa gaaffilee addaatiin kennuu dandeessa. Maqaa dhaabbata fayyaa hospitaala AaBET

Guyyaa-----

Lakk koodii gaaffilee-----

Qajeelfama: gaaffilee walqabatan kanneen gama bitaa irratti kaa'amaniif filannoowwan gama mirgaa irraa filannoowwan filattan geengoo ykn furdaa godhi.

Kutaa: 1. Amaloota hawaas-dimoogiraafii hojjetoota lafee mana yaalaa ala jiran, Hospitaala AaBET, 2024.

koodii	Jijjiiramoota(gaaffii hawaas-dimoogiraafii	Irraa deddeebiin(n)deebii	Yaada
101	Umurii (waggaa)	a) <18 b) 18-35 irratti c) >35	
102	Saala	a) Dhiira b) Dubartii c) Kan biroo	
103	Haala gaa'elaa	a) Gaa'ela kan qabu b) Tokkicha c) Kan wal hiikan d) Dubartii abbaan manaa irraa du'e	
104	Haala barnootaa	a) Barreessuu dubbisuu hin dandeenye b) 1-8 c) 9-12 d) Kolleejjii fi isaa ol	

105	Bakka jireenyaa	a) Magaalaa b) Baadiyyaa	
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Kutaa ii: Amaloota kilinikaa fi saayikooshawaasummaa ogeeyyii fayyaa lafee mana yaalaa ala jiran, Kibba Itoophiyaa,

Koodii	Jijjjirama	Irraa deddebii	Yaada
201	deeggarsi hawaasummaa	a) Deeggarsa hawaasummaa gadi aanaa b) Deeggarsa hawaasummaa olaanaa	
202	Dhukkuba yaalaa yeroo dheeraa	a) Eeyyee b) Lakki	
203	Miidhaa dachaa	a) Eeyyee b) Lakk	
204	Sababa miidhaa	a) Balaa tiraafikaa daandii b) Gadi kufuu c) Dhukaasa qawwee	
205	Walxaxiinsa	a) Eeyyee b) Lakk	
206	Qaama ciccituu ni jiraa	a) Eeyyee b) lakk	
207	Dhukkuba yaalaa yeroo dheeraa	a) Eeyyee b) Lakk	
208	Yeroo miidhaan irra gahe	a) <ji'a 3 b) >=ji'a 3	
209	Gosa Wantootaa	a) Alkoolii b) Qoricha sammuu hadoochu c) Chaat daakuun d) Sigaaraa xuuxuu	
210	Seenaa duraan daakuun chat	a) Eeyyee b) Lakk	
211	Yeroo ammaa kana chat daakuun	a) Eeyyee b) Lakk	

Iskeelii Yaaddoo fi Dhiphina Hospitaala (HADS).

Kutaa iii: Deebii cinatti saanduqa torban darbe keessa miira sitti dhaga'amaa tureetti dhihoo ta'e irratti mallattoo kaa'i.

D	A		D	A	
		Dhiphinni ykn 'madaa'ee' natti dhagahama:			Akka waan saffisa koo hir'iseetti natti dhagahama:
	3	Yeroo baayyee	3		Yeroo hunda jechuun ni danda'ama
	2	Yeroo baayyee	2		Yeroo baayyee
	1	Yeroo yerootti darbee darbee	1		Yeroo tokko tokko
	0	Tasumaa miti	0		Tasumaa miti
		Ammallee wantoota duraan itti gammadu nan gammada:			Miira sodaa akka 'butterflies' garaa keessaa natti dhagahama:
0		Dhugaadha hamma	0		Tasumaa miti
1		Baay'ee miti	1		Darbee darbee
2		Xiqqoo qofa	2		Yeroo baay'ee
3		Hardly at all	3		Yeroo baayyee
		Miira sodaa akkasii akka waan wanti hamaan tokko ta'uuf jedhutti natti dhagahama ta'uu:			Bifa kootiif fedhii dhabeera:
	3	Baayyee murtaa'aa fi baay'ee hamaa	3		Dhugaadha
	2	Eeyyee, garuu baay'ee hamaa miti	2		hamman of eeggannoo gochuu qabu hin godhu
	1	Xiqqoo, garuu na hin yaaddessu	1		Ani hamma kana of eeggannoo gochuu dhiisuu danda'a

	0	Tasumaa miti	0	Akkuma yeroo kamiyyuu of eeggannoo nan godha
		Kolfee gama nama kofalchiisu arguu nan danda'a of things:		Tasgabbii dhabuun natti dhagahama sababiin isaas ani irratti ta'uu qaba socho'uu:
0		Hanga yeroo hundumaa danda'etti	0	Baayyee dhuguma
1		Amma baay'ee miti	1	Baay'ee baay'ee
2		Amma hangas akka hin taane beekamaadha	2	Baay'ee miti
3		Tasumaa miti	3	Tasumaa miti
		Yaadonni yaadessaa ta'an sammuu koo keessa darbu:		Gammachuudhaan hawwiidhaan eeggadha wantoota:
	3	Yeroo baay'ee	3	Akkuma yeroo kamiyyuu godhe
	2	Yeroo baayyee	2	Kan duraan ture caalaa xiqqaadha
	1	Yeroo yerootti, garuu yeroo baay'ee miti	1	Kan duraan ture irraa xiqqaa ta'uun isaa hin oolu
	0	Darbee darbee qofa	0	Hardly at all
		Gammachuun natti dhagahama::		Miirri rifachuu akka tasaa natti dhagahama:
3		Tasumaa miti	3	Yeroo baayyee dhuguma
2		Yeroo baayyee miti	2	Yeroo baayyee
1		Yeroo tokko tokko	1	Yeroo baayyee miti
0		Yeroo baayyee	0	Tasumaa miti
		Tasgabbaa'ee taa'ee boqonnaan natti dhaga'amuu nan danda'a:		Kitaaba gaarii ykn raadiyoo ykn sagantaa TV tokkotti gammaduu nan danda'a:
	0	Dhugaadha	0	Yeroo baayyee

	1	Yeroo baayyee	1		Yeroo tokko tokko
	2	Yeroo baay'ee miti	2		Yeroo baay'ee miti
	3	Tasumaa miti	3		Baayyee yeroo muraasa

Mee gaaffilee hundaaf deebii kennuu kee mirkaneeffadhu Qabxii:

Qabxii waliigalaa: Dhiphina sammuu (D)_____ Yaaddoo (A) _____

0-7=Idilee

8-10= Daangaa kan hin baramne (dhimma
daangaa)

11-21= Kan hin baramne (dhimma)

Kutaa iv: Mee deebii armaan gadii kan yeroo tokko tokko taatee gaddisiisaa booda uumaman ilaalaa. Gaaffiin kun taatee gaddisiisaa si mudate kanaaf deebii dhuunfaa keetii kan ilaallatudha. Maaloo torban darbe keessatti yoo xiqqaate yeroo lama kanneen armaan gadii keessaa tokko mudachuu fi dhiisuu isaa (Eeyyee/Lakki) agarsiisaa.

EeyyeeLakki

1. Yaada ykn yaadannoo waa'ee taatee sanaa kan fedhii keetiin ala sammuu
kee keessa dhufe kan nama mufachiisu
2. Waa'ee taatee sanaa abjuu mufachiisuu
3. Akka waan taatee sun deebi'ee ta'aa jiruutti socho'uu ykn itti dhaga'amuu
4. Taatee sana yaadachiisuun miira mufachuu
5. Deebiin qaamaa (kan akka dha'annaa onnee saffisaa, garaan namaa dhangala'uu,
dafqi, garaan namaa mar'achuu) yeroo taatee sana yaadachiisu
6. Rakkachuu ykn hirriba keessa turuu
7. Aarii ykn aariin dho'uu
8. Xiyyeeffachuuf rakkachuu
9. Balaa ofii fi namoota biroo irratti dhufuu danda'u irratti hubannoo guddaa
qabaachuu
10. Utaaluu ykn waan hin eegamneen rifachuu

Yoo gaaffilee 6 fi isaa ol eeyyee jettee deebiste ta'e, deeggarsa gorsaa tokko tokko taatee gaddisiisaa sanaaf deebii itti fufiinsaan kennitu gadi buusuuf si gargaaruu keessatti faayidaa qabaachuu danda'a jettee yaaduu fi dhiisuu isaa akka ilaaltu si jajjabeeffama.