





Addis Ababa University, College of Health Sciences,

School of Medicine, Department of Psychiatry

# Suicidal Ideations and Attempt among Ethiopian Physicians

# Suicidal Ideations and Attempt among Ethiopian Physicians

A Thesis Submitted to Addis Ababa University, College of Health Sciences, School of Medicine, Department of Psychiatry, In Partial Fulfillment of the Requirements for Postgraduate Specialty Certificate in Psychiatry 2022


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## Abbreviations

AAU – Addis Ababa University

APA (American Psychological Association)

ATTS- Attitude Toward Suicide questionnaire

CO- Carbon mono oxide

C-SSRS-Colombia Suicide Severity Rating Scale

DSM-Diagnostic Statistical Manual

EC- Ethics Committee

EMA-Ethiopian Medical Association

EMeWA: Ethiopian Medical Women's Association

GP – General Practitioner

ICD – International Classification of Disease

The K6-Kessler Psychological Distress Scale

MOH-Ministry of Health-Ethiopia

OD – Over Dose

PHQ2-Patient Health Questioner

SES-Socio Economic Status

SGIM-Society of General Internal Medicine

WHO – World Health Organization

## Abstract

**Background**: Physicians have a higher suicide risk than the general population which could be a result of burnout, difficult working environment, excessive sense of responsibility, dissatisfaction, personality trait, substance abuse, depression, and poor coping style also the harsh medical school culture. However, to the author's knowledge there is no study concerning physician suicide and a little is known about suicide among Ethiopian Physicians.

**Objective**: To assess the prevalence and identify associated factors of suicidal ideation and attempt among Ethiopian physicians.

**Materials and Methods:** A cross-sectional study design was employed. Data collection was done online using self-administered questionnaires. We used CSSRS to assess suicidal behavior, PHQ2 to assess depressive symptoms, K6 to assess psychological distress, ATTS to assess physicians' attitude towards suicide. Structured questions were used to assess socio demographic variables. Data cleaning was done using excel query and, exported to IBM SPSS version 26 for statistical analysis.

**Result:** A total of 650 physicians participated in the study. Of these, 226 (34. 8%) were females and the mean age was 29.89 with SD (4.6). Lifetime suicidal ideation was reported by 218 (33.5%) participants while one-year ideation was reported by 101(15.54%) participants. Lifetime prevalence of attempted suicide was 8.3% while one-year prevalence was 2.62%. Female physicians had 1.5 times higher suicidal ideation (42.0%) compared to male physicians (29.0%). Lifetime suicidal attempt was also higher in females (11.1%) compared to males (6.8%) Both attempt and ideation had strong association with psychological distress, depression, family history of suicide and positive attitude towards suicide with Chi-square test. Suicide ideation was highly associated with being female (P= 0.02), age <35 (P=0.03) years, income< 15,000 birr (P=0.009), not attending any religious practice (P=0.02) and currently practicing medicine in the capital city(P=0.01).

**Conclusion**: The study showed high level prevalence of suicidal ideation and attempt among Ethiopian physicians. The finding warrants establishing policy and implementation plan for physicians' wellbeing in the country.

# 1 Introduction

## 1.1 Background

Ethiopia has the world's lowest physician density and the biggest physician emigration in Sub-Saharan Africa (Johansson, n.d.). The WHO says Ethiopia has one doctor per 10,000 people. This is lower than half Kenya's, four times Nigeria's, and nine times South Africa's proportion (Asfaw et al., 2020). Studies show 11% female and 89% male physicians in the country(Berhanu Feysia et al., 2012).

Ethiopia was fourth among the 25 countries with the least healthcare access in studies done in 2016, with 22 doctors per million people and 600 Specialist, according to the report doctor to patient ratio stands at one to 17,000 people and "99% of doctors face criticism that only 1% of their peers deserve."(*Https://Addisstandard.Com/Analysis-Ailing-State-Health-Care-Ethiopias-State-Run-Hospitals-Takes-Blame/*, n.d.).

Suicidal behavior is a complex process that consists of suicidal ideation, planning, suicide attempts, and the final act of suicide(Bifftu et al., 2019). WHO reported that suicide is a huge but largely preventable health problem, causing almost half of all violent deaths and resulting in more than one million deaths worldwide each year(*Suicide: An Unnecessary Death*, n.d.).

As suicide accounts for 1.4% of the worldwide sickness burden, it mostly affects 15- to 35-year-olds. The WHO estimates 800,000 suicides annually, one suicide every 40 seconds, or 11.5 per 100,000 people. Suicide is the second highest cause of death among teenagers and young adults, accounting for 8.64% of fatalities worldwide (Asfaw et al., 2020).

Long-term evidence reveals doctors are more prone to commit suicide, indicating higher physician suicide rates (Krahn & Gonzalez-Arriaza, 2005). 400 U.S. doctors commit suicide each year(Moutier et al., 2012). Being a physician comes with certain risks, one of which is a higher than average risk of suicide, especially for women (Lindeman et al., 1996).

Numerous global studies on all medical and surgical professions show that one-third of doctors' experience burn out. Burnout, despair, substance misuse, and suicide are more common in medical students compared to physicians.(Yale University et al., 2016).

According to a 2020 study on the prevalence of burnout among Ethiopian physicians, which was conducted at AAU, Department of Psychiatry, 49.7% of Ethiopian physicians experienced emotional tiredness, 79.6% depersonalization, and 60.7% reduced feeling of personal accomplishment, which is linked to poor job performance, physical and mental health difficulties, such as depression and suicidal ideation/attempt, and substance usage.

Physicians have a higher suicide rate than the general population. Although there has been substantial criticism of the physician suicide data, it is generally accepted that the physician suicide rate ranges between 28 and 40 per 100,000, compared to 12.3 per 100,000 for the general population.(Castilla-Puentes, 2018).

Among the possible explanations for this increment are job difficulties, psychological difficulties, and easy access to and scientific knowledge of lethal means of suicide. Working in a hospital entails dealing with life and death, with physical, emotional, and suffering experienced jointly with patients and their families, creating a stressful environment predisposing professionals to mental illnesses such as stress, anxiety, depression, and substance abuse. (Castilla-Puentes, 2018).

Family, adoption, and twin studies suggest suicide is genetic and heritable. According to previous studies, suicide heritability is 43%. Monozygotic twins have a higher suicide concordance than dizygotic siblings.(Hettige et al., 2018).

Medical students and practitioners are experiencing more burnout, despair, and suicidal ideation. Concerns about time, secrecy, stigma, and career impact prevent medical students and residents from receiving mental health care (Moutier et al., 2012).

Suicidal thoughts and attempts are prevalent among medical students in South Africa (32.3%), Egypt (12.7%), and Ethiopia (23.7%) (Asfaw et al., 2020).

According to my knowledge, no studies has been conducted in Ethiopia on suicidal ideation or attempt among physicians.

While there is a large collection of research on mental health concerns among medical students and physicians, few studies have examined strategies to reduce depression and suicide in these populations. No programs promote suicide education and referrals (Moutier et al., 2012).

A data concerning suicide among Ethiopian medical community is Desperately lacking. Thus the aim of this study is to assess the prevalence and associated factors of suicidal ideation and suicide attempts among Ethiopian physicians.

## 1.2 Statement of the Problem

The extreme nature of the medical profession has been shown to predispose physicians to suicidal ideation and attempts, also strongly linked to lethal mechanisms and an increased suicide fatality rate.

Furthermore, the community's cultural background, along with attitude toward discussing the issue, precludes anyone from seeking assistance or conducting materialized research on the subject. To the best of the authors' knowledge, no research has been conducted on this subject.

## 1.3 Significance of the Study

As suicide is a taboo topic, it is difficult to ask or talk about it in public, and there has been no previous research conducted on Ethiopian physicians. Assessing the prevalence of suicidal ideation and attempt, as well as having access to the perspectives and opinions of physicians across the country is aim of this study. The researcher believes that will aid in objectively assessing the need for and indicating how to create a welcoming and supportive environment for physicians.

It would be enlightening and groundbreaking work to assist the country's most prominent health and educational systems in assessing and reevaluating curriculum to improve the service we provide to the community of physicians. The findings hopefully will inspire collaboration among physicians and physician organizations, helping in improve physician’s quality of life.

# 2 Literature Review

## 2.1 Global Overview

In one study, physicians' relative suicide risk was 1.1-3.4 for men and 2.5-5.7 for women compared to the general population, and 1.5-3.8 for men and 3.7-4.5 for women compared to other professionals. Women physicians are more prone to suicide due to their social roles (Notman & Nadelson, 1973).

In most countries, women have more at-home responsibilities (childcare, nursing, housework) than men. Combining a full-time doctor's job and at-home responsibilities might be difficult to manage (Notman & Nadelson, 1973).

Although income gender-inequalities have not been reported in physicians (Smith, 1990), (Finch, 2014). Some authors suggested that the medical field was dominated by men and reported poor integration of women physicians within the profession (Hawton et al., 2001). Female doctors/residents react by putting extra pressure on themselves to prove they're as strong, self-sufficient, and worthy as men (Pospos et al., 2019).

The increased risk of suicide among physicians is attributable to psychosocial working conditions or personality traits. Psychosocial work environment has been shown to be a risk factor, with doctors facing conflicts with colleagues, lack of cohesive teamwork, and social support (Firth-Cozens, 2000). Physicians must also routinely face breaking bad news (Schildmann et al., 2005).

Physicians frequently encounter illness, anxiety, suffering, and death. Perfectionism, compulsive attention to detail, exaggerated sense of duty, excessive sense of responsibility, and the desire to please everyone is valued in the workplace, but they increase stress and depression, which increases the risk of suicidal behavior, which keeps physicians in a vicious circle without seeking help (McManus et al., 2004).

Little is known about the causes and transitions between suicidal ideation and attempted suicide and suicide, as well as precipitating or protecting factors (Diekstra & Garnefski, n.d.). Because physicians might be more aware of these characteristics than the general population (Hem et al., 2000), having suicidal thoughts should be taken particularly seriously in this profession. Suicidal ideation is considered a sensitive and specific indicator of suicide risk.(Galfalvy et al., 2008).

In the U.S., suicide is the 10th leading cause of death. Men commit suicide four times as often as women, accounting for 79% of U.S. suicides. Even more doctors commit suicide. Findings show that the suicide rate ratio for male doctors was 1.41 and for female doctors it was 2.27. (Moutier et al., 2012).

Research shows 10 to 15% of US, UK, Norwegian, and Japanese doctors had depressive symptoms; 24% and 29% of Dutch doctors reported anxiety and depression. One study found 31.7% of Chinese doctors were depressed, while another found 65.3%. which is associated with a high risk of suicide (Moutier et al., 2012).

Suicide is a serious occupational hazard for doctors, and the risk begins in medical school. Medical students have a higher suicide rate than the general population. Adjustment issues, ethical dilemmas, and witnessing death and suffering can cause emotional distress in medical students, which can lead to poor academic performance, substance abuse, academic dishonesty, and suicide (Asfaw et al., 2020).

Physician job satisfaction ensures the quality and sustainability of health care.(Mullola et al., 2019) ,(Sibbald, 2003) ,(Dutheil et al., 2019) . A confluence of forces has changed medicine in the past decade in unprecedented ways. Increased administrative tasks and time pressure have reduced doctors' autonomy (Dutheil et al., 2019); (the Society of General Internal Medicine (SGIM) Career Satisfaction Study Group (CSSG) et al., 2000). (Konrad et al., 1999). A survey in the USA found that physicians' satisfaction has declined over the last 10 years, with less time spent per patient and on private life(Murray et al., 2001). Also, medical errors are the third leading cause of death in the US(Makary & Daniel, 2016).

Anesthesiologists, psychiatrists, GPs, and surgeons were most at-risk. The high risk of suicides in anesthesiologists (Hawton et al., 2001) may be due to easy access to potentially lethal drugs, a high prevalence of burnout, a high workload with fear of harming patients, organizational burden with poor autonomy, and conflicts with colleagues (Lindfors et al., 2006).

For psychiatrists, stressful and traumatic experiences like dealing with suicidal patients increase the risk of suicide. General practitioners were historically an at-risk occupation, with moral loneliness, job interference with family life, constant interruptions at home and work, increasing administrative constraints, and high patient expectations, leading to low job satisfaction and poor mental health (Cooper et al., n.d.).

Awareness creation and appropriate mental health promoting and suicide prevention programs reduce stress and improve health service and the physician's quality of life.

## 2.2 Africa

Studies about physician suicide rates in low-income countries like Africa are still lacking. (Dutheil et al., 2019). The prevalence of suicidal behavior varies across countries, depending on the culture, ethnicity, and social, economic, and religious characteristics of the population. The frequency of suicidal behavior in Arab and Muslim countries is not well defined, given the scarcity of publications on this subject. This may be due to the fact that the subject of suicide remains a taboo, although less than before.(Guedria-Tekari et al., 2019) .

About 800,000 die from suicide every year, with 79% occurring in low- and middle-income countries (Pengpid & Peltzer, 2020).

lifetime prevalence of suicide attempt of 0.7% in Nigeria, 2.9% in South Africa, and Eswatini (formerly known as Swaziland), one in ten participants engaged in suicidal ideation, plans, and/or attempts in the past 12 months; 3.6% had attempted suicide. Associated factors identified include female sex, childhood sexual abuse, adult sexual abuse, threats, having family members who died from suicide, and family alcohol problems (Pengpid & Peltzer, 2020).

A number of studies in low and middle-income countries (LMICs) have reported varying prevalence of suicide among medical professionals, with low rates. This may be because of the methods used in suicide assessment and the stigma associated with the topic. Despite the fact that medical professionals provide care for other members of the population who are at risk of suicide, they are not immune to suicidal tendencies themselves.(Rukundo et al., 2019).

Medical professionals have a tendency to deny their own mental health problems, and report less suicidal ideation compared with members of the non-medical professions. A number of predisposing/risk factors for suicide have been documented among medical professionals, but there is little information about these factors in low/middle-income countries. The challenge of stigma and under-reporting of suicide-related deaths and the difficulty of finding publications on suicidal behaviors among physicians or health workers in Africa (Rukundo et al., 2019).

## 2.3 Ethiopia

There was a 4.5 percent attempted suicide rate among the general hospital population in rural west Ethiopia between 1966 and 1972, and a 14.3 percent rate among senior high school students (Kebede & Alem, 1999).

The lifetime prevalence of suicide attempts in rural Ethiopia was 3.2 percent. Those studies that focus solely on younger age groups tend to have higher estimates. Up to ten percent for boys and twenty percent for girls. (Kebede & Alem, 1999).

In 1999, a qualitative study in Butajira, Ethiopia on rural community awareness and attitudes toward suicide was conducted. Informants' attitudes towards attempters were cruel, feared, untrustworthy, and sinners; others said they were foolish, mad, hasty, faithless, and had no place in society. Only a few participants thought they deserved sympathy.

The 12-month prevalence of suicidal ideation, plans, and attempts in a community sample from Ethiopia was 7.0 percent, 4.6 percent, and 3.7 percent, respectively(Jordans et al., 2018)

People who commit suicide are experiencing an urgent psychiatric problem that must be addressed immediately. As a country, Ethiopia has been plagued by a high suicide rate. Suicidal behavior and the behaviors of those who seek help are stigmatized, shamed, and criticized in the community as a result of these cultural taboos. (Bifftu et al., 2019).

According to the authors readings, studies on the prevalence and associated factors of suicidal behavior in Ethiopia were conducted among: adults in Addis Ababa; cancer patients at Ayder Comprehensive Specialized Hospital; pregnant mothers in southern Ethiopia; people with severe mental disorders in Addis Ababa; schizophrenia patients at Amanuel Mental Specialized Hospital; and undergraduate medical students at Haromaya University and Gondar University. Also, awareness and attitudes of a rural Ethiopian community towards suicidal behavior and trends in suicide, para-suicide, and accidental poisoning in children in Addis Ababa, Ethiopia.

The prevalence of suicidal ideation and attempted suicide was found to be 11.8% and 5.6%, respectively. Associated factors include to be male gender, single, living with others, and long illness duration.(Haile, n.d.) The majority of those who have a history of suicidal ideation and attempts have co-occurring substance use disorders as compared to those who have no suicidal ideation and attempts (Duko & Ayano, 2018).

Research conducted at Ayder Comprehensive Specialized Hospital found that cancer patients have high suicidal ideation and attempts. Suicidal ideation was associated with sex, cancer stage, depression, anxiety, social support, and performance. Cancer increases suicidal acts, attempts, and ideation. It's also associated with a higher risk of committing suicide. According to the study, 27.9% and 8.4% of people had suicidal ideation or attempts, respectively. Suicidal ideation was more common in this setup than in the UK, Korea, Japan, China, and the USA. (Araya & Gidey, 2020).

Suicide ideation was low among medical students, but suicide attempts were high. Female sex, depression, khat chewing, and poor social support are associated with suicide ideation. Female sex, depression, and mental illness are associated with suicide attempts. 14% and 7.4% of medical students had suicidal ideation and attempts, respectively(Asfaw et al., 2020) .

High suicidal ideation and attempts compared to other university students. Suicidal ideation is linked to GPA, alcohol use, depression, anxiety, and poor social support. Depression and anxiety were found to be associated with suicidal attempts. (Asfaw et al., 2020).

Suicidal ideation and attempts were 23.7% and 3.9% among participants, respectively. 62.2% of respondents attempted suicide once, 15% twice, and 2% more than twice. Poisoning (48.1%) and hanging (42.2%) were the most common methods. 48.9% of those who attempted suicide were serious or determined to die, while 46.7% merely tried. (Asfaw et al., 2020).

The prevalence of suicidal behavior among pregnant mothers was 47%. The associated factors were being unmarried, gestation age greater than 27 weeks, history of having chronic medical illness, depression, and intimate partner violence were significantly associated with suicidal behavior. Pregnant mothers in the community had a high prevalence of suicidal behavior compared to studies conducted among general populations (Molla et al., 2022).

The studies are suggestive of high suicidal ideations and attempts, as well as a permissive attitude towards suicide, which the researcher predicts the factors mentioned also affect the physician community. The research will help in building nationwide data on the prevalence of suicidal ideations and attempts among Ethiopian physicians.

## 2.4 Conceptual Framework

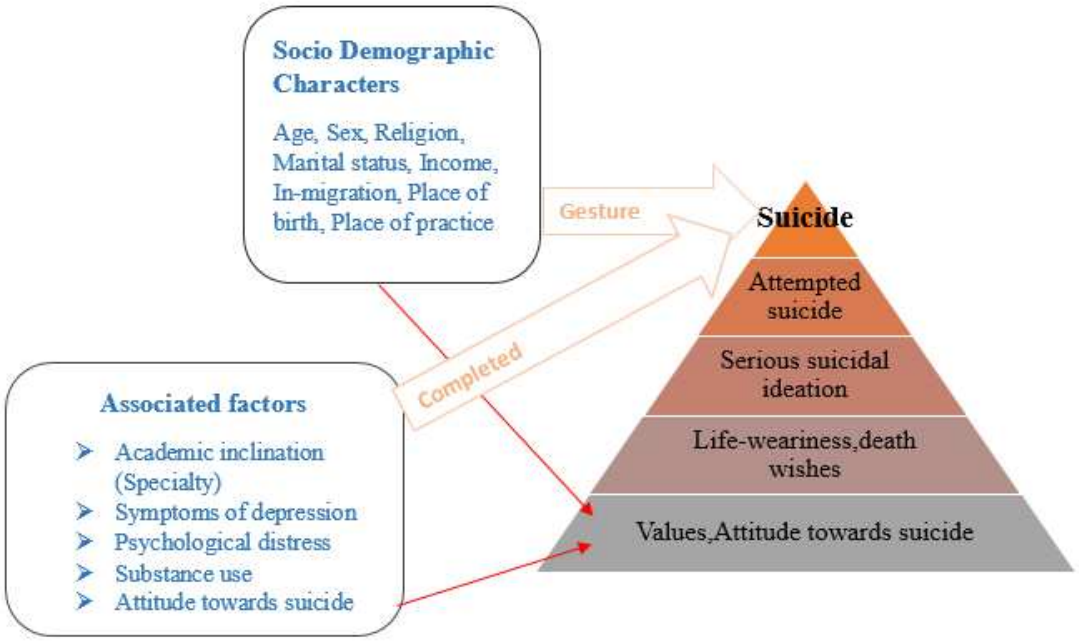



**Figure 1:** Conceptual frame work of suicide, adopted and modified

# 3 Research Questions

- What is the proportion of suicidal ideation and attempts among Ethiopian Physicians?
- What factors are associated with suicidal ideations and attempts?

# 4 Objective

## 4.1 General Objective

- To assess the proportion of suicidal ideation, attempts and identify associated factors among physicians

## 4.2 Specific Objectives

- To determine the proportion of suicidal ideation and attempts
- To identify associated factors with suicide

# 5 Methods and Materials

## 5.1 Study area

The study was conducted in Ethiopia. Ethiopia is situated in the Horn of Africa with a population of 120 million and 11 regional states and two self-governing cities. There are 234 hospitals (till 2007) in the country . According to WHO's estimate there are approximately 9650 doctors in Ethiopia. The study aimed at covering all Ethiopian physicians, who are currently living in the country, except Tigray Regional State for there was no internet service.

## 5.2 Study Design

A cross-sectional survey was conducted from July 14 to Sept 30 2022.

## 5.3 Source and Study Population

5.3.1 Source population

All accessible Ethiopian physicians who were practicing medicine throughout Ethiopia.

5.3.2 Study Population

Ethiopian physicians willing to participate in the study online during the study period, who are part of online pages / platforms including Hakim, EMA and EMeWA.

## 5.4 Inclusion and Exclusion Criteria

### 5.4.1 Inclusion Criteria

- All Ethiopian physicians accessible by internet, practicing or non-practicing, living in the country.
- Those who were willing to participate

### 5.4.2 Exclusion Criteria

- Interns
- Those who are not currently living or practicing in Ethiopia

## 5.5 Sample Size Determination and Procedure

### 5.5.1 Sample size determination

This kind of study was not previously conducted in this country and taking WHO estimate of number of physicians in Ethiopia being 9650 to calculate sample size, single population proportion formula was used. With minimum sample size 385

$$n = \frac{\left(\frac{z\alpha}{2}\right)^2 \times p(1-p)}{d^2} \quad or \quad n = \frac{N}{1 + N * (e)^2}$$

n = Minimum sample size for a statistically significant survey

Z- Critical value (95 % confidence level) = 1.96

e/d- Margin of error 5 %= 0.05

P- Sample population (Uncertain) = 0.5 ---------- 370

P- Sample population = 0.05

We initially set time limit to collect data during the study period with minimal sample requirement of 385 Because of current internet connection and other problems we expected lower response rate but with efforts made to contact different physician platforms 656 responses were collected within the study period.

The high respondent rate may be secondary to efforts made and questioner's may easily be answered and assured complete anonymity as the issue is sensitive, believing more respondent will make data representative and give power to the study minimizing the bias due to online survey. we allowed more responses than sample size.

### 5.5.2 Sampling Procedure

As the study was an online survey, any physician who wants to participate did participate. Letter of Ethical clearance was given to administrators of EMA and Hakim page.

## 5.6 Variables

### 5.6.1 Dependent variable

- Suicidal ideation
- Suicidal attempts

### 5.6.2 Independent variable

- Sociodemographic characters
- Academic inclination (specialty /sub specialty)
- Attitude towards suicide
- Symptoms of depression
- Substance use
- Psychological distress

## 5.7 Data Collection Instruments and Techniques

The following English version structured self- administered questionnaires were employed for data collection. Socio-demographic-questioner, Colombia Suicide Severity Rating Scale (CSSRS), Patient Health Questioner (PHQ2), Kessler Psychological Distress Scale (K10), and Attitude toward suicide questionnaire (ATTS).

Feasibility of the survey was initially tested on 20 physicians and it showed the method used and questionnaire was feasible to use in this country.

Suicide was assessed with Colombia Suicide Severity Rating Scale (CSSRS). The CSSRS was developed for classifying suicidal and other self-injuries behaviors, initially developed for a trial in adolescents. It has gained wide acceptance with supported inter ratter agreement, convergent validity, divergent validity, specificity and sensitivity to identify suicidal behavior, internal consistency and sensitivity to change by psychometric property studies. It asses' different levels of suicidal ideation and behavior.

The Kessler Psychological Distress Scale (K6) is a simple measure of psychological distress. The K6 scale involves 6 questions about emotional states each with a five-level response scale. The measure can be used as a brief screen to identify levels of distress, which only 4 questions used in this study excluding question on feeling of worthlessness and hopelessness/ sad.

Patient Health Questioner (PHQ2), is a brief screening tool for major depression, with two questions targeting core symptoms of depressed mood and anhedonia, shows sufficient validity across adult population.

The ATTS was used to measure participant's attitude towards suicide and suicidal behavior. The original version of the tool consists 61 items. The present study used the 11 items questionnaire in which respondents were asked to give a response of yes /No and not sure (Maybe.) Nine questions were summed together with maximum score of 22 and minimum score of 0. Higher scores were given to participants who had more open attitude saying suicide is ok, acceptable and relatable human experience which is not always impulsive decision. A Score of 11 and less are considered to have negative attitude; 2 questions were analyzed separately as they were assessing feeling and cause of mental illness and multiple responses were allowed. Psychometric properties of the original ATTS questionnaire have been well documented; appropriate for wide range of population and not limited for use among certain age groups or people with specific cultural background.

To facilitate online access to the questioner, a Google poll was created. Physicians who volunteer to participate in the study had their data collected online. Professional organizations such as EMA and EMeWA and Hakim pages were contacted for dissemination of questioners and access to members on their online platforms. Principal investigators and responsible physicians distributed the questioner to ensure adequate data collection and sample representation to maintain quality of data collected.

### 5.7.1Operational Definition

**Physician** - A licensed health care professional may be an academician or clinician, a general practitioner (GP), a specialist or a sub-specialist.

**Attitude** - In this study 11 questions which asses value and outlook associated with suicide were asked such as, suicide being a person's right, if suicide is justifiable and more. answers which don't accept suicide in any way were considered as negative attitude with score < 12 while answers willing to entertain and understand the possibility of suicide as a human experience were taken as positive attitude.

## 5.8 Data Analysis

The obtained data was imported to excel and excel power query was used to clean up before being transferred to IBM SPSS version 26 for statistical analysis.

Descriptive analysis was used to summarize the profile of the outcome and the independent variables. The dependent variables, suicidal ideation and attempt were categorized as Yes (1) and No (0). To assess association between independent and dependent variables first Chi-square test was employed from these variables with significant association were further put in to Binary logistic regression model. The independent variables were selected based on evidence from existing literature and theoretical assumption of relevant association with the outcome variable. Level of significance was set at p value < 0.05 with Confidence interval of 95%.

## 5.9 Ethical Consideration

Primarily, ethical clearance was sought from the ethical committee of the department of Psychiatry, School of Medicine, College of Health Science, Addis Ababa University prior to initiation of the study. Then the ethical clearance was submitted to EMA for cooperation before beginning of data collection.

Each participant was informed about the purpose and importance of the study and contact information was posted for those who had concerns. Informed consent; which was taken as participant's willingness to participate on the online survey. Data collection was anonymous and confidentiality was maintained at all level of the study.

# 6 Result

Within the specified study period, 656 participants responded to the online questionnaire. Of these, information from 6 questionnaires were excluded from analysis because of incompleteness.

## 6.1 Sociodemographic Characteristics

From 650 participants 424 (65.2 %) were male and of these 169 (26 %) reported to have grown up in the rural parts of Ethiopia. Majority of participants were within the age group of 24-35; with mean age of 29.89 (95% CI, SD +/- 4.60). Two hundred sixty-five (40.77%)participants were single whereas (229) 35.23% were married. Those who were residing in Addis Ababa, the capital city, accounted for 347 (53.38%) while the rest were residing in different regions excluding Tigray. from these, 47 (7.23%) were working in rural parts of Ethiopia. Three hundred thirty-seven physicians (51.8%) moved throughout the country changing working or living place twice or more.

Most physicians on this study were followers of Orthodox Christianity followed by Protestant and Islam religion; 2.93% participants reported not practicing any religion while 1.69% reported to be Atheist.

Twenty-seven participants (4.15 %) were currently unemployed. Thirty-six participants (5.54%) were not currently practicing medicine. The median income of the study population was 11,000ETB per month; Range income from 0 to 520,000 ETB.

**Table 1:** Socio- demographic characteristics of physicians in Ethiopia, July14 – Sept 30 , 2022GC

| | | Female | Male | Total | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Age Group N= 650** | 24 -35 | 213 | 384 | 597 | 91.85% | **Region of current practice N=650** | Region | Total | | **Religion N=650** | Religion | Count | Percent |
| | 36 -45 | 11 | 33 | 44 | 6.77% | | Addis Ababa | 347 | **53.38%** | | Orthodox | 385 | 59.23% |
| | Over 45 | 2 | 5 | 7 | 1.08% | | Amhara | 80 | | | Pentecostal | 112 | 17.23% |
| **Relationship status N-650** | Single | 80 | 185 | 265 | 40.77% | | Oromia | 69 | | | Muslim | 99 | 15.23% |
| | Married | 89 | 140 | 229 | 35.23 % | | SNNPR | 47 | | | Others | 24 | 3.69% |
| | In relationship | 54 | 86 | 140 | 21.54% | | Harar | 38 | | | Not Practicing | 19 | 2.93% |
| | Others | 3 | 13 | 16 | 2.46% | | Sidama | 32 | | | Atheist1 | 11 | 1..69% |
| | Others (Divorced, complicated, cohabitation …) | | | | | | Dire Dawa | 19 | **46.62%** | | (Others including Catholic, Jehovah'sWitness, Wakefeta and others….) | | |
| | | | | | | | Somali | 12 | | | | | |
| | | | | | | | Others | 6 | | | Frequency | Count | Percent |
| **Monthly income N=631** | < 10,000 | | 251 | 39.8% | | | Other (Afar ,Benishangul , Gambella,& SW) | | | **Change in living/ working place N=650** | Never | 97 | 14.92% |
| | 10,000-14,999 | | 237 | 37.6% | | | | | | | Once | 216 | 33.23% |
| | 15,000-19,999 | | 54 | 8.6% | | | | | | | 2-4 times | 307 | 47.23% |
| | 20,000-29,999 | | 37 | 5.9% | | | | | - | | >4 times | 30 | 4.62% |
| | >30,000 | | 52 | 8.2% | | Region of current practice percentage calculated with category physicians living in the capital city or outside the capital city. | | | | **Employment N=650** | Employed | 606 | 93.23% |
| **Place of Development N=650** | Urban | | 481 | 74% | | | | | | | Self-employed | 17 | 2.62% |
| | Rural | | 169 | 26% | | | | | | | Unemployed | 27 | 4.15% |

### 6.1.2 Characteristics used to identify Physicians

Participant's year of practice ranges from 0 to 41-years maximum; the majority lies in 1- 5 years of practice. Internal medicine, Surgery, Psychiatry, Gynecology & Obstetrics are the specialties chosen highly followed by Pediatrics and Emergency Medicine. Two hundred eight (32 %) of participants are residents while 290 (44.62%) are general practitioners from this 36 (5.54%) of them are not currently practicing medicine. Two hundred seventy-six (42.46 %) were clinicians, while 308 (47.38%) were both academician and clinician working in academic institutes.

**Table 2:** Characteristics used to identify Ethiopian physicians, July14 – Sept 30 , 2022 GC

| | | Total | | | | | |
|---|---|---|---|---|---|---|---|
| **Level of education N = 650** | GP | 290 | 44.62% | **Area of specialty /Department at current practice N = 650** | GP | 113 | 17.38% |
| | Resident | 208 | 32% | | Internal Medicine | 102 | 15.69% |
| | Specialist | 133 | 20.46% | | Psychiatry | 67 | 10.31% |
| | Fellow/Sub-specialist | 19 | 2.92% | | Gynecology and Obstetrics | 60 | 9.23% |
| **Clinical Affiliation N = 650** | Academician& clinician | 308 | 47.38% | | Surgery | 58 | 8.92% |
| | Clinician | 276 | 42.46% | | Pediatrics | 53 | 8.15% |
| | Researcher | 30 | 4.62% | | Non practicing | 36 | 5.4 |
| | Not currently practicing | 36 | 5.54% | | Emergency Medicine | 27 | 4.15% |
| **Attending religious Rituals N = 650** | Everyday | 112 | 17.23% | | Radiology | 23 | 3.54% |
| | 4-5 days a week | 98 | 15.08% | | Dermatology | 15 | 2.31% |
| | Once a week | 142 | 21.85% | | Neurology | 14 | 2.15% |
| | Once a month | 61 | 9.38% | | Orthopedics | 12 | 1.85% |
| | Occasionally (on holidays) | 178 | 27.38% | | Other | 12 | 1.85% |
| | Not at all | 59 | 9.08% | | Anesthesiology | 11 | 1.69% |
| **Year of practice after Graduation N = 650** | < 1 | 135 | 20.77% | | Public Health | 11 | 1.69% |
| | 1 - 5 | 425 | 65.38% | | Family Medicine | 9 | 1.38% |
| | 6 -10 | 67 | 10.31% | | Ophthalmology | 9 | 1.38% |
| | 11 -15 | 13 | 2.0% | | Oncology | 9 | 1.39% |
| | >15 | 10 | 1.54% | | Pathology | 9 | 1.38% |

## 6.2 Prevalence of Psychological distress, medical /mental illness & Substance use

Two hundred twenty (33.85) participants claim to have had depressed mood and loss of interest for two weeks or more in the past one year; with life time prevalence 49.38 %. Seventy-seven (11.8) participants mentioned having these symptoms in the past two weeks.

One hundred five participants mentioned depressive symptoms make it mostly difficult or very difficult (11.8% & 4.3%, respectively) to do their jobs, care for their families, or interact with others. One hundred eighteen (18.15%) participants mentioned they had this symptom twice or more during their life time.

With PHQ2 – cut off point above three, 262 (40.3%) had depressive symptoms and K6 psychological distress with a score of > 13, 452 (69.5%) reported having psychological distress.

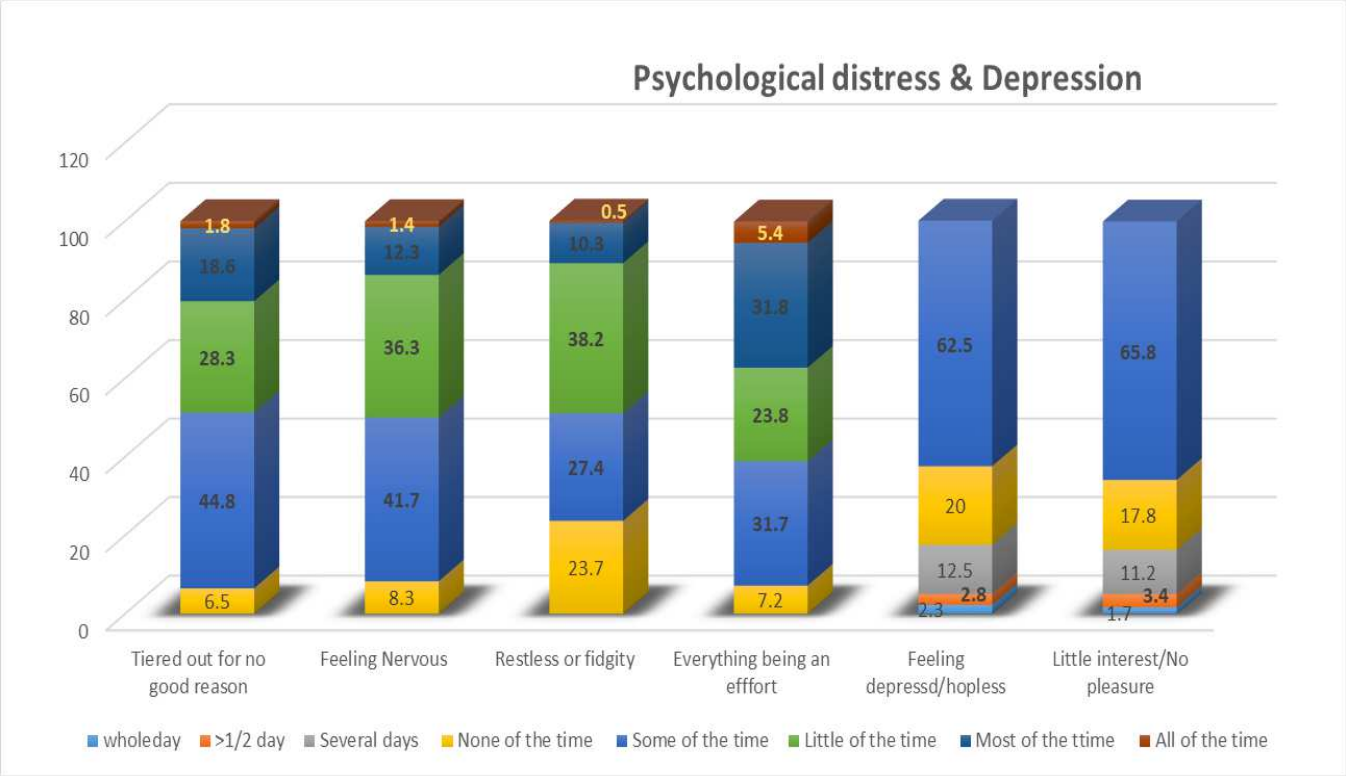



**Figure 2:** Psychological Distress and Depression Item scale report among Ethiopian physicians; July14 – Sept 30, 2022 GC

One hundred twelve (18.2 %) physicians claim to have used drugs/medications other than those required for medical reasons. Seventy (10.8%) of participants claimed their substance use had affected their social life, work responsibility, and functionality. One hundred seventy (26.155%) o participants do not use any substances, while 267 (41.08%) use coffee and the rest 213 (32.77%) use other substances. Forty-two (6.72%) participants use four or more substances together. Of 213 participants who use substances, one person uses 1.78 types of substances in average.

Fifty-five (8.5%) participants mentioned having medical conditions that require treatment or follow-up from this 15 (2.3%) claimed to have mental illness. Of the total participants 39 (6%) are currently taking medication, of which 1.85% are on psychiatric medication, mostly antidepressants and mood stabilizers, with only two participants on antipsychotics. From the NCMI, participants mentioned having HTN, cardiac illness, migraine, and rheumatoid arthritis. Only one patient mentioned to have TB and is currently on anti-TB medication.

**Table 3:** Types of medical illness and medication/ Substance currently being used among Ethiopian physicians ; July14 – Sept 30, 2022 GC

| **Medical condition** | No of ppl | Percentage | | | No of ppl | |
|---|---|---|---|---|---|---|
| Infectious, acute, CMI | 3 | 5.88% | **Substance currently being used N=650** (Multiple response was allowed) | Alcohol | 159 | 24.46 % |
| NCMI | 33 | 64.7 % | | | | |
| Mental illness | 15 | 29.42 % | | Khat | 106 | 16.3% |
| Total | N=51 | 100 % | | Tobacco | 46 | 7.07% |
| **Types of medication used** | No of ppl | | | Cannabis | 44 | 6.77% |
| Other Medications | 23 | 65.71% | | Opioid | 13 | 2% |
| Psychiatric Medications | 12 | 34.29% | | Stimulant | 6 | 0.92% |
| Total | N=35 | 100 % | | Hallucinogen | 2 | 0.31% |
| | | | | Others | 4 | 0.61% |

## 6.3 Attitude, knowledge, and exposure to suicide

More than half of physicians 70.5% claim to have encounter with a person who attempted or committed suicides, with 150 (23.0%) claiming to have had a family member who attempted or completed suicide and another 25.8% claiming to have had one or more close friends who attempted or completed suicide.

Most participants, 529 (81.4%) don't believe that it's OK or it's a person's right to commit suicide, while 48 (7.5%) say it's OK. One hundred thirty (20%) of the physicians would get help to commit suicide if they suffered from a severe, incurable disease, while 95(14.6%) are not sure if they would get help or not.

More than half of the physicians' 383 (58.9%) don't believe suicide could be justified, 214 (32.9%) don't think people who talk about suicide actually commit suicide, and 118 (18.2%) believe talking about suicide shouldn't be allowed as it might exacerbate the case. When asked if there are situations where the only solution is suicide, 12.3 %, 12.6%, and **75.1%** said Yes, Maybe, and **No** consecutively.

Half of the participants, 350 (53.85 %) believe almost everyone has had suicidal thoughts at some point in their lives, and 260 (34%) believe most suicide attempts are impulsive actions not planned at all. Twenty-two (3.38%) participants responded to four or more feelings associated with suicidal behavior. Of the negative emotions expressed, 56 were angry, 29 irritated, 84 disappointed, 15 disgusted, and 244 respondents said they had mixed feelings. On the other hand the positive emotions expressed were 347 sad, 79 confused and 64 worried.

Forty-two (6.42%) participants responded to other feelings, some mentioned feeling responsible, concerned and eager to help, emptied, broken and a feeling of helplessness. Some also said they weren't sure what they felt, while others said they had neutral feelings. Most of the answers given in the "other" category mostly imply a positive attitude. Generally, 276 (37%) participants had an open attitude towards suicide, while the rest had a negative attitude.

A majority of participants believe relationship conflict and loss of previously attended SES to be causes of suicide next to mental illness, and 158 (24.31 %) believe bad spirits contribute to suicide combined with other causes, while 10 (1.54 %) respondents said only bad spirits are cause of suicide, while 26 (4 %) participants responded that all (including physical illness, bad spirit revenge/to punish someone) could be causes of suicide.

## 6.4 Prevalence of suicidal ideation and behaviors

Suicidal ideation is prevalent among 218 physicians at a lifetime prevalence of 33.5% and at a one-year prevalence of 101 (15.54%). Fifty-four (8.3) physicians attempted suicide at some point in their lives, with one year prevalence of 2.62% . Most mechanisms thought by physicians to end their lives are potentially highly lethal, like KCl, barbiturate/anesthesia OD, CO poisoning, hanging, and gunshot.

Ninety-five (42.03%) female physicians had suicidal ideation and 25 (11.06%) attempted suicide, while 123 (29%) male physicians had suicidal ideation and 29(6.8%) attempted suicide throughout their lives.

With a life-time prevalence of suicidal ideation and attempts, some departments/specialties seem to have a higher prevalence than others. According to this study, the most highly implicated departments with suicidal ideation were family medicine (four,44.4%), Psychiatry (twenty-nine,43.3%), anesthesiology (five,38.5%), general practitioners (forty-one, 36.3%), pediatrics (nineteen, 35.8%), and internal medicine (thirty-nine, 33.6%), in descending order. On the other hand, anesthesiology (15.4%), internal medicine (12.1%), pediatrics (11.3%), family medicine (11.1%), and psychiatry (10.4%), in descending order, have suicidal attempts. Because fewer than 20 participants were in the departments of anesthesia and family medicine, the higher prevalence could be due to chance.

**Table 4:** Prevalence of suicidal ideation and attempted among Ethiopian physicians; July14 – Sept 30, 2022 GC

| | **Suicidal Ideation** | | | | | |
|---|---|---|---|---|---|---|
| | Female | Percent | Male | Percent | Total | Percent |
| Yes | 95 | **42%** | 123 | **29%** | 218 | **33.5%** |
| No | 131 | 58% | 301 | 71% | 432 | 66.4% |
| Total | 226 | **100%** | 424 | **100%** | 650 | **100%** |
| | **Suicide Attempt** | | | | | |
| | Female | Percent | Male | Percent | Total | Percent |
| Yes | 25 | **11.1%** | 29 | **6.8%** | 54 | **8.3%** |
| No | 201 | 88.9% | 395 | 93.2% | 596 | 91.7% |

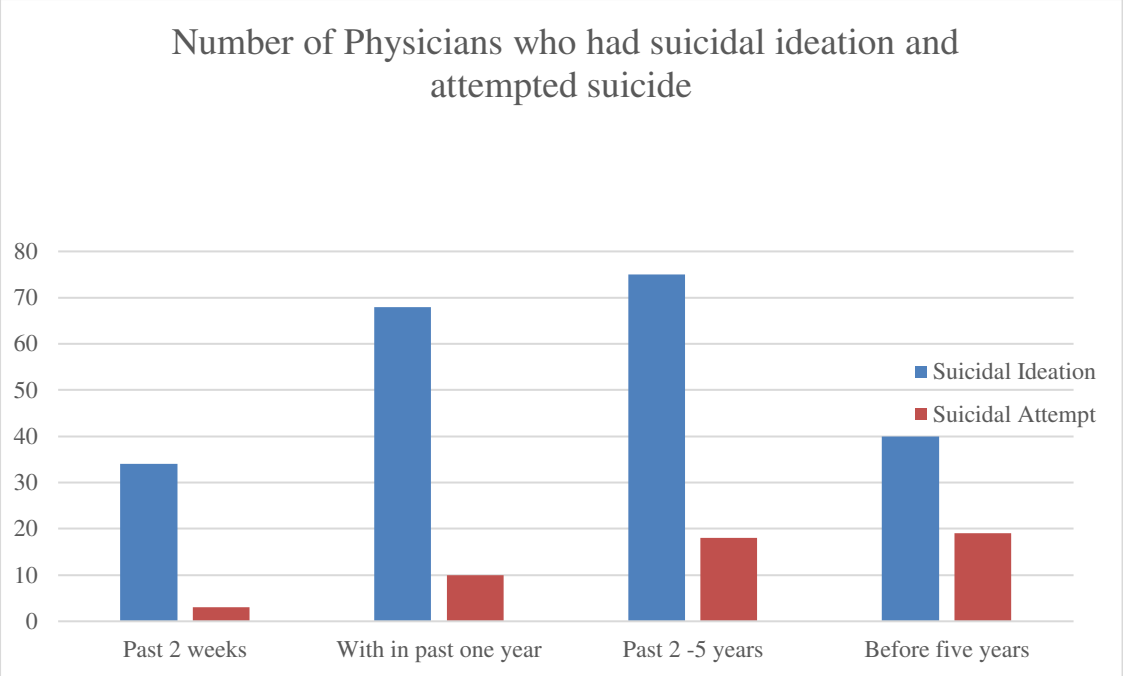



**Figure 3:** The last time physicians had suicidal ideation and attempt; July14 -Sept 30, 2022 GC

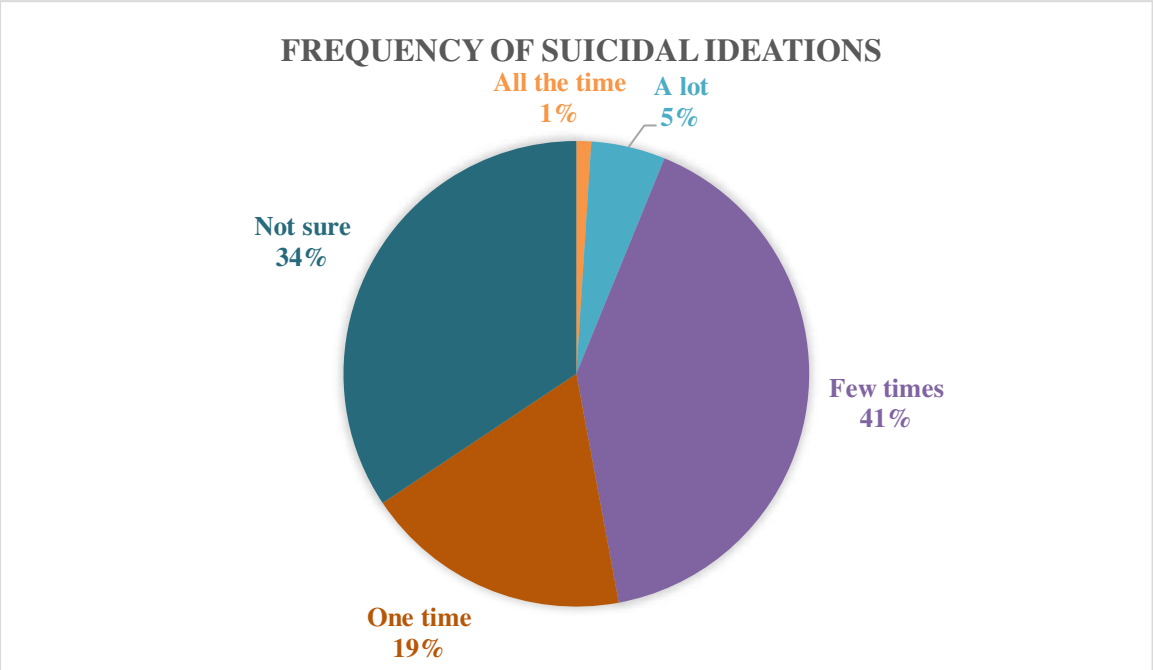



**Figure 4:** Frequency of suicidal ideation among Ethiopian Physicians ; July14 – Sept 30, 2022 GC

From the participants who had active suicidal ideation, 32 (4.92%) of the participants had planned out (worked out the details of) how they would end their life. Of these, 27(4.15%) got ready to end their life by giving away their assets and preparing notes to say goodbye to their family. 33(5.1%) started to do something to end their life but someone or something stopped them before they actually did anything, and 61 (9.4%)of them mentioned they stopped themselves.

Sixty participants, 9.23% mentioned having para suicidal behaviors; hurting themselves purely for other reasons, not at all to end their life (like to make themselves feel better, or get something else to happen), from which 66.67 % (40) believed the mechanism they used could have caused their death. From the mechanisms mentioned, 56.25% claim to use high-risk behavior involving getting intoxicated with alcohol and engaging in reckless driving, while 28.13 % use cutting their hands or holding electric wire.

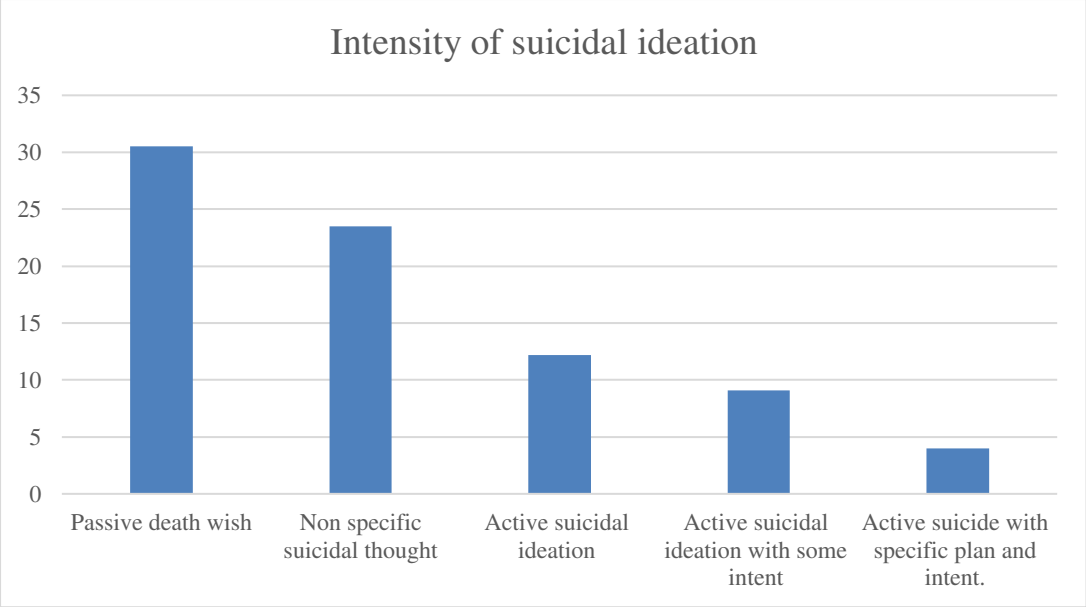



**Figure 5:** Percent of suicidal ideation versus suicidal intensity among Ethiopian physicians; July14 – Sept 30, 2022 GC

Ninety-seven participants (14.92%) claimed to have suicidal ideation or plans that involved suicidal mechanisms. Most of them chose medication overdose and lethal injections; six participants chose Iv KCL. Other medications mentioned were barbiturates, diazepam, amitriptyline, opioids, anesthesia drugs, and insulin. Carbon monoxide is the first choice for poisoning. From the question of the most severe suicidal mechanism, participants' most severe responses were the same as the mechanisms they mentioned: only one person responded differently, saying "burning oneself up."

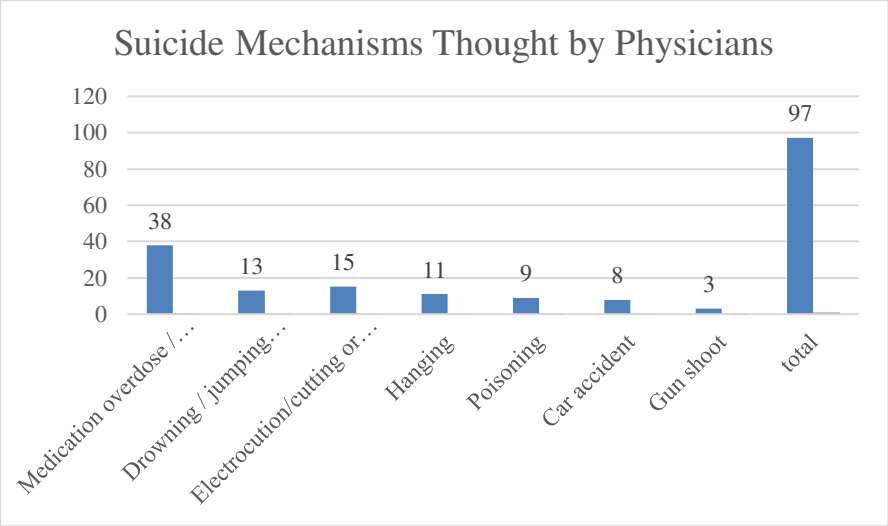



**Figure 6:** Number of thoughts of suicidal mechanism among Ethiopian physicians; July14 – Sept 30, 2022 GC

## 6.5 Factors associated with suicidal ideation and attempts

With chi-square test suicidal ideation tends to be associated with sex, age, not attending any religious rituals, being raised in the urban environment, currently practicing in the capital city, income, psychological distress, depressive symptoms, and a family history of suicidal ideation or attempt.

On the other hand, suicide attempt is highly associated with psychological distress, depressive symptoms, attitude, and a family history of suicidal ideation or attempt.

Even though not statistically significant, female sex, currently practicing in the capital city, the presence of medical/mental illness and substance use has some association with suicide attempt while unemployment has some association with suicidal ideation.

Further binary regression showed with confidence interval of 95% family history of suicide (P=0.031), attitude (P=0,000), depressive symptoms (P=0.000) and psychological distress (P=0.011) being independently associated with ideation while attitude (P=0.025) and family history of suicide (P= 0.003) showed independent association with suicide attempt.

**Table 5:** Associated factors with suicidal ideation and attempt. (Chi-square test)

| | Suicidal Ideation | P Value | Suicide Attempt | P Value |
|---|---|---|---|---|
| Female gender | 95 (42%) | **0.02** | 25(11%) | **0.091** |
| Age < 35 | 207(35%) | **0.036** | 51(9%) | 0.542 |
| Not attending any religious ritual | 28(47%) | **0.027** | 6(10%) | 0.402 |
| Change in religion | 24(41%) | 0.213 | 3(5%) | 0.350 |
| Relation (Not married) | 138(34%) | 0.424 | 35(9%) | 0.794 |
| Unemployed | 13(48%) | **0.098** | 4(15%) | 0.208 |
| Year of practice < 5 | 169(34%) | 0.682 | 39(8%) | 0.392 |
| Income < 15,000 | 175(36%) | **0.009** | 42(9%) | 0.126 |
| Development place at Urban | 172(36%) | **0.059** | 43(9%) | 0.396 |
| Current practice area – Addis Ababa | 132(38%) | **0.012** | 34(10%) | **0.098** |
| Psychological distress | 195(39%) | **0.000** | 49(10%) | **0.024** |
| Depressive symptoms | 163(47%) | **0.000** | 39(11%) | **0.001** |
| Medical/mental illness | 20(36%) | 0.630 | 8(15%) | **0.078** |
| Substance use | 75(36%) | 0.327 | 23(11%) | **0.064** |
| Attitude, Positive | 137(55.69%) | **0.000** | 32(13.01%) | **0.004** |
| Close family member with suicide history | 67(45%) | **0.002** | 24(16%) | **0.000** |
| Close friend with history of suicide | 59(37%) | 0.315 | 18(11%) | 0.193 |

# 7 Discussion

This study showed a high prevalence of suicidal ideation and attempts among Ethiopian physicians. Compared to research done in Ethiopia, the 12-month prevalence of suicidal ideation, plans, and attempts in a community, physicians had two times more suicidal ideation (15.69%), 4.92% plans which is comparable, and 2% attempts lower than the general population 7.0 percent, 4.6 percent, and 3.7 percent, respectively (Jordans et al., 2018).

Compared to African studies, with a lifetime prevalence of suicide attempts of 0.7% in Nigeria and 2.9% in South Africa, one in ten participants engages in suicidal ideation (Pengpid & Peltzer, 2020). The study shows that 8.3% of participants have tried to kill themselves and that 4/10 participants have suicidal thoughts, which is more than the general population.

This study showed higher level of suicidal attempts and 45% of frequency of suicidal thoughts were sometimes or often in contrast to a Norwegian physician study where suicide attempts were 1.3% and the frequency of suicidal thoughts, 7.7% being sometimes or often (Rosta & Aasland, 2013).

This study shows a significantly higher prevalence of suicide ideation and attempts compared to a systematic review and meta-analysis on suicide among physicians and healthcare workers, which involved physicians from Europe, North and South America and found 17% suicidal ideation and 1 % suicide attempts. (Dutheil et al., 2019).

Female physicians have a higher prevalence of suicidal ideation and attempts compared to male physicians. According to studies, due to the lethality of the mechanisms they use, most physicians have complete suicide. By having suicidal attempts of 8.3%, the author believes the unseen and unstudied number of physicians who commit suicide could be significantly higher than this. Based on this, the study thinks that there are about the same number of completed suicides among male and female doctors.

In Ethiopian medical practice, the departments of Psychiatry, Anesthesiology, General Practitioners, and Family Medicine seem to be highly implicated in both suicidal ideation and attempt.; the author couldn't be sure if it was a direct effect of the department or if physicians joined the department with preexisting psychological vulnerability or if it's the effect of working in the department. Further study is needed to assess the association between department and suicidal behaviors with increased sample in each department.

Even if the study is conducted in highly educated group significant proportion of participants thought suicide being unacceptable and that suicide can't be justified; this reflects on biased understanding of suicide, how taboo the subject is and it could be indicative of attitude of the general population.

As suicide is an emergency psychiatric problem that needs to be fixed right away, and the high rate of suicide, cultural taboo, stigma, and criticism of suicidal behavior affect the community's attitude and willingness to get help, more attention should be paid to the problem. Raising awareness and changing negative attitudes will help prevent suicide by creating comfortable environment for discussion and better understanding.

The culture of medical school being (strict, stressful, harsh, less supportive/guidance with high workload and expectation; with inadequate break), young age of exposure to traumatic experiences, work stress, underpayment, lack of adequate mentoring and more contribute to a higher number of psychological distress and depressive symptoms. Studies suggest 90 % of suicides are associated with some form of mental illness, especially depression; depression decreases functionality and work efficiency, which impacts medical services provided to the community besides its additional health impact on the physician.

As one physician GP serves 10,000 people (with the specialty number of people served increases), the loss of one physician basically has a very significant impact. And also, considering how much the country invested in one doctor for undergrad and post-graduate studies, a minimum of 500,000 for specialists, the overall social and economic loss for the country, besides making one person's life and one's family very difficult, affects the overall effort of the country to eradicate poverty.

## Strength & Limitation

The strength of this study lies in its relatively large sample size and diverse physician population, both geographically and departmentally. It uses different tools to measure different parameters.

On the other hand, limitations were due to the country's ongoing war; internet access was not available to all physicians in Ethiopia, and those physicians who are not members of physician associations or groups, or who do not have access to the internet, could not be included in the research, potentially affecting sample stratification and outcome.

The study was done when the country was at war. The current state of the country could have affected the results, but that wasn't looked into.

The instruments used to assess the different parameters haven’t been adopted or validated for this population. As the English language is an academic language and as the tool is used for a highly educated community, compared to other studies done in the same way, the author believes it’s not going to affect the result much.

Despite online surveys and cross-sectional studies having their own limitations and biases, we tried to minimize them with increased sample size to ensure representativeness of the data.

# 8 Conclusion and Recommendations

For a long time now and especially as of late the mental health of health professionals appears to be taking heavy toll. The recent strings of losses announced in this community, particular instance of suicide attests to this observation. This should instigate a call for action, making the protection of mental health of this vulnerable group. This study hopes to inspire similar studies across various subgroups of healthcare professionals; to have better understanding and to come up with better solutions.

Having suicidal thoughts should be taken seriously by the medical profession as it is a particularly sensitive and specific indicator of suicide risk. It's important to pay attention to the fact that doctors are more likely to have suicidal thoughts and try to kill themselves. This is affecting health care and patient satisfaction, adding to the country's economic burden, and causing the country to lose professionals.

The Author would love to recommend that all the concerned bodies (Ministry of Health, Physician Associations, Education Minister, and Medical Schools) give emphasis to this highly neglected yet very important topic which impacts thousands of lives and which actually threatens the future of the medical community unless handled properly. working on physicians' mental health, reducing the harsh learning environment of medical school and the stressful working conditions of health professionals in order to reduce professional work hazards, burn out, and poor health care.

**Recommendations**

- To provide opportunities to build strong relations with colleagues and classmates, minimizing isolation and strengthening inner group support.
- Early in the training, provide emotional intelligence training to assist with emotional awareness, problem solving, and healthy coping strategies; undergraduate school and residency programs.
- Creating mentoring relationships to help newer physicians avoid burnout and learn from experience.
- Identify and resolve misaligned expectations between physicians and their administrators regarding workload, control, and value.

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# 10 Appendices

## Annex 1:

### 1. Participants' Information Sheet

The purpose of this information sheet is to describe the research project in which you have been invited to participate. It outlines the study's purpose, your involvement in it, the benefits and dangers of participating in it, compensations, and the confidentiality of the data you provide.

**Purpose**: The study's goal is to find out how prevalent suicide ideation and attempts are among Ethiopian physicians, as well as what factors are associated with it.

**Procedure**: The electronic survey questionnaire will be sent to you via email or electronic media. It is divided into seven sections and has approximately 70 questions, 15 of which are open-ended takes 10 -15 min to complete.

**Risks:** There are no risks associated with participating in this study, and there will be no consequences if you refuse to participate.

**Benefits**: The aim is to learn more about how common suicide is among physicians and to identify strategies to communicate about it and aid one another.

**Incentives:** There is no incentive or payment for taking part in this research.

**Confidentiality**: This study project's data will remain private. Only the research team will have access to your personal information.

Persons to contact: The ethical committee of Addis Ababa University's School of Medicine's Department of Psychiatry examined and approved this study endeavor. If you require further information, please contact the committee at the address shown below. You can contact members of the research team with any inquiries.

Ethics committee office: +251115 538734

**Advisors: Prof Atalay Alem** and Dr Mahlet Yared

**Investigator**: Dr. Kalkidan Bekele, Final Year Psychiatry Resident

Phone - +251920196454; Email- kalkidanbekele71@gmail.com

## 2. Consent Form

Dear participant, now that you've read about the study and know why it's being done, I'd like to ask for your consent to take part in it.

Participation in this study is entirely voluntary, and you have the freedom to withhold information, refuse to participate, or withdraw from the study at any moment without having to explain yourself to anyone. Withdrawing from the study will have no effect on you.

During the study, all of the information you provide will be kept private. Your candid responses to these questions will help us figure out how prevalent suicidal ideation and attempts are among doctors.

If you have any active suicidal ideations or plans, consult a local psychiatric clinic in your area (links will be provided below.)

You have the right to ask questions and receive answers at any time. If you have any queries or issues, please feel free to contact the research team at the following address.

Investigator:

Dr. Kalkidan Bekele

Phone - +251920196454

Email-kalkidanbekele71@gmail.com

## Annex 2: Questionnaire

**Part one - Socio-Demographic Questions**

1, Gender A. Male B. Female

2, Age _____

3, Religion

A, Orthodox B, Muslim C, Protestant D,Catholic

E, Jehovah F, Wakefeta G, not practicing any religion H, Atheist I, Others, specify _____

4, Have you ever changed your religion? A, YES B, NO

(if yes to above question answer question A &B)

A, How many years /months back did you change your religion? _____

B, What was your previous religion? _____

5, How often do you attend religious rituals (e.g. prayer, dua, salutation. Meditation, etc…)

6, **Relation status**

A, Single B, In relationship C, Married

D, Divorced E, Widowed/widower

7, **Employment**

A, Employed B, Unemployed C, Self-employed

8, **Level of practice**

A, GP B, Resident C, Specialist D, Subspecialist

9, Current Department of practice/Specialty _____

10, Clinical Affiliation

A, Academician & clinician (working in academic institute)

B, Clinician C, Researcher

11, Years of practice (after graduation) _____

12, Income per month _____

13, Where did you grow up? Urban/Rural_____

14, Which university did you attend undergrad? _____

15, Have you changed region or living place?

A Never moved B once C two- four times D five or more

16, Area of current practice , Region _____

A, Urban B, Rural

Use the following score for the next questions **(5)**

**All of the time (4) Most of the time (3) Some of the time**

**(2) Little of the time (1) None of the time**

| SN | **Part Two - Psychological Distress** | **5** | **4** | **3** | **2** | **1** |
|---|---|---|---|---|---|---|
| **1** | How often did you feel tired out for no good reason? | | | | | |
| **2** | How often did you feel nervous? | | | | | |
| **3** | How often did you feel restless or fidgety? | | | | | |
| **4** | How often did you feel that everything was an effort? | | | | | |

Use the following score for, how frequently you experience the following symptoms?

**0– Not at all 1 – Some days (1-2/wk) 2 – Several days (3 or 4 day/wk)**

**3 – More than half the day (12 hr or more in 24 hr/day) 4- Nearly every day**

| SN | **Part three- Depression # PHQ 2** | 4 | 3 | 2 | 1 | 0 |
|---|---|---|---|---|---|---|
| 1 | Have you ever felt little interest or no pleasure in doing things | | | | | |
| 2 | Feeling down, depressed, or hopeless | | | | | |
| 3 | If you checked off any problems, how difficult Not difficult at all have these problems made it for you to do your work, take care of things at home, or get along with other people? | | | | | |

4, Have you had this symptom for a period of 2 weeks or more? _____

5, When was the last time you had this symptoms? _____

| SN | **Part four – substance use and medical condition** | **YES** | **NO** |
|---|---|---|---|
| 1 | Do you have any medical condition which needs follow up or treatment? If yes, specify _____ | | |
| 2 | Are you currently on any medication? If yes, Specify _____ | | |
| 3 | Have you used drugs other than those required for medical reason? | | |
| 4 | Has your substance use affected any of your social and work life, responsibilities and functionality ? | | |

5, which substance do you use?

A-Khat B- Tobacco C – Alcohol D- Coffee

E- Marijuana F- Opioids G- Cocaine H- Others, Specify _____

| SN | Part five – Attitude / Perception about suicide | YES | Not sure | No |
|---|---|---|---|---|
| 1 | Its ok or it's a person's right to commit suicide | | | |
| 2 | Would you like to get help to commit suicide if you suffered from severe, incurable disease? | | | |
| 3 | There are situations where the only solution is suicide. | | | |
| 4 | Suicide can never be justified | | | |
| 5 | People who talk about suicide don't commit suicide | | | |
| 6 | Talking about suicide shouldn't be allowed as it might exacerbate the case or evokes suicidal thoughts in a person's mind | | | |
| 7 | Suicide can't be prevented. If a person wants to die there is no way to save him | | | |
| 8 | Almost everyone has sometimes in their lives had suicidal thoughts | | | |
| 9 | Most suicide attempts are impulsive actions | | | |

10, What do you think is the most likely cause of suicide?

A, Bad sprit B., Relational conflict C, Revenge/ to punish some one

D, Illness **I, Physical II, Mental**

E, Loss of previously attended status F, Others, Specify_____

| SN | Part six – Encounter to suicidal person | Yes | No |
|---|---|---|---|
| 1 | Do you know any on who committed suicide? If yes specify number----------| | |
| 2 | Do you know anyone who attempted suicide? If yes specify number ----------| | |
| 3 | Any close family member or friends with history of suicide? If yes specify number-------| | |
| 4 | Have you faced any patient who was suicidal? | | |

5, How do you feel when your encounter suicidal person/ a person who attempted suicide?

A, Angry B, Sad C, Confused

D, Irritated E, Anxious F Disgusted G, Other

## Part seven – Suicidal, ideation, attempt or plan

| | | | Yes | No | Maybe |
|---|---|---|---|---|---|
| **1 Wish to be Dead** | **A** | Have you thought about being dead or what it would be like to be dead? | | | |
| | **B** | Have you wished you were dead or wished you could go to sleep and never wake up? | | | |
| **2, Non-Specific Active Suicidal Thoughts** | **A** | Have you thought about doing something to make yourself not alive anymore? | | | |
| | **B** | Have you had any thoughts about killing yourself? | | | |
| **3,Active Suicidal Ideation with Any Methods (Not Plan) without Intent to Act** | **A** | Have you thought about how you would kill yourself? If yes, describe what you thought_____ | | | |
| **4, Active Suicidal Ideation with Some Intent to Act, without Specific Plan** | **A** | When you thought about killing yourself, did you think that this was something you **might** actually do? | | | |
| | **B** | When you made this plan (or worked out these details), was any part of you thinking **about actually doing it**? | | | |
| **5, Active Suicidal Ideation with Specific Plan and Intent** | **A** | Have you **decided** how or when you would make yourself not alive anymore/kill yourself? | | | |
| | **B** | Have you **planned out** (worked out the details of) how you would do it? If yes continue Q no_ 6- 10 | | | |

6, What was your plan? _____

7, Did you really want to die (even a little)? _____Yes _____ No

8, Have you done anything to get ready to commit suicide, like giving things away, writing a goodbye note, getting things in order? _____Yes _____No

9, Has there been a time when someone or something stopped you before you actually did anything to end your life? _____Yes _____No

10, Has there been a time where you changed your mind /stopped yourself before you actually did anything to kill or harm yourself? _____ Yes _____No

## Part seven, Intensity of suicidal ideation and Frequency (Answer only if yes to suicidal ideations or plan)

1, What was most severe suicidal ideation you had: _____

2, How would you rate the severity of this suicidal ideation/plan?

A, Most severe B, Severe C Moderate D, Mild E, Not much

3, How often have you had these thoughts?

(1) Only one time (2) A few times (3) A lot (4) All the time (0) Don't know

4, When was the last time you had suicidal ideations? _____

5, When was the last time you had suicidal attempt? _____

| SN | **8, Para-Suicidal behaviors** | Yes | No | Maybe |
|---|---|---|---|---|
| 1 | Besides suicidal attempt, did you hurt yourself on purpose? If yes, why did you do that? _____ | | | |
| 2 | Did you think it was possible you could have died from this action? | | | |
| 3 | Did this self-harm behavior made you feel better or get something else to happen for you)? | | | |

**9, Potential Lethality Vs Actual lethality**

1, Was any of the suicidal behavior, ideation, plan or attempt had a potential to harm you?

0 = Behavior not likely to result in injury

1 = Behavior likely to result in injury but not likely to cause death

2 = Behavior likely to result in death despite available medical care

2, Was any of the suicidal behavior, ideation, plan or attempt had medical damage/lethality?

0-No physical damage 1-

Minor physical damage 2-

Moderate physical damage; medical attention needed. 3-

Moderately severe physical damage; medical hospitalization 4-

Severe physical damage; medical hospitalization in need of ICU