

**ADDIS ABABA UNIVERSITY COLLEGE OF  
HEALTH SCIENCES, SCHOOL OF  
MEDICINE, DEPARTMENT OF  
PSYCHIATRY**



**Clinical care of patients with Anxiety Disorders Receiving care at  
Psychiatric Outpatient Clinic at Tikur Anbessa Specialized  
Hospital, Addis Ababa, Ethiopia: A Retrospective Chart review**

**Principal Investigator: Emmanuel Asrat, MD, 3<sup>rd</sup> Year Psychiatry Resident**

**Supervisors:**

- **Yonas Baheretebeb, MD, Associate Professor and Consultant Child Psychiatrist**
- **Barkot Milkias, MD, Assistant Professor and Consultant Psychiatrist**

**THESIS SUBMITTED TO THE DEPARTMENT OF PSYCHIATRY,  
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE  
SPECIALTY CERTIFICATE IN PSYCHIATRY**

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- **Henok Hailu, M.A., Counseling Psychologist**

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## Acronyms

NICE – National Institute for Clinical Excellence

GAD – Generalized Anxiety Disorder

APA – American Psychiatric Association

MADU – Mood and Anxiety Disorder Unit

SSRI – Selective Serotonin Receptor Inhibitor

CBT – Cognitive Behavioral Therapy

IPT – Interpersonal Psychotherapy

DSM – Diagnostic and Statistical Manual

DALY – Disability Adjusted Life Years

SAD – Social Anxiety Disorder

GBD – Global Burden of Disease

TASH – Tikur Anbessa Specialized Hospital

OPD – out patient department

EMR – Electronic Medical Review

HMIS – Health Management Information System

PI – Principal Investigator

SPSS – Statistical Package for the Social Sciences

NaSSA - Noradrenergic and specific serotonergic antidepressant or tetracyclic antidepressant

TCA – Tricyclic antidepressant

OCD – Obsessive Compulsive Disorder

UK – United Kingdom

ADHD – Attention deficit hyperactivity disorder

SNRI – Serotonin and norepinephrine receptor inhibitor

PCP – Primary Health care practitioners

SD – Standard Deviation

## ABSTRACT

**Introduction:** Anxiety Disorders are a group of disorders that have a core symptom of excessive fear and anxiety and associated behavioral symptoms. It is a condition that can be experienced by anyone but it needs intervention when symptoms become excessively distressing or disabling, or reduce quality of life.

**Background:** Anxiety Disorders constitute the leading prevalent mental disorders in the world. Globally, there are around 45.82 million incidences of anxiety disorders and 301.39 million prevalence rate of Anxiety Disorders. The DALYs as estimated by the GBD in 2019 was estimated to be around 28 million years. In Ethiopia, it is estimated that the lifetime prevalence of anxiety disorders is around 7.5 % in a study done in Addis Ababa. National Institute for Clinical Excellence (NICE) guidelines recommend the use of psychological interventions in anxiety spectrum disorders. The most evidence is for Cognitive Behavioral Therapy (CBT) which has the highest empirical evidence whereas the most evidence for pharmacotherapy is the use of Antidepressant medications. The treatment gap for mental illness throughout the world is universally large. Despite the enormous burden Anxiety disorders pose to our health care system there hasn't been much evaluation done regarding the quality of care mental health services.

**Objective:** the objective of the study was to evaluate the types of care patients with anxiety received including the psychological and pharmacological treatment provided to them. This study also aims to determine the level of patient engagement to treatment and to determine the associated factors.

**Method:** A Retrospective chart (EMR) review was done to explore the socio-demographic characteristics, Clinical Evaluation, Treatment modalities offered and Treatment Engagement of patients with Anxiety disorders in psychiatric outpatient department of Tikur Anbessa specialized hospital patients that visited the OPD from Hamle 1, 2010 E.C to Hamle 30, 2013 EC. Once the data was obtained it was exported to Excel spreadsheet and it was cleaned and checked for errors and missing variables, and then it was exported to SPSS version 26 and descriptive analysis was done.

**Result:** This study found the commonest diagnosis to be GAD (58.5%) and the second commonest diagnosis was Panic Disorder (32.7%). The study found that there is a high psychiatric comorbidity of anxiety disorders with MDD and other anxiety disorders accounting

for 33.3% and 28.3% respectively. Out of the other anxiety disorders, a higher co-occurrence between panic disorders and generalized anxiety disorders was seen. From the 98 cases that were in the study 32 (32.6%) were offered only medications while 18 (18.4%) of patients were offered only psychotherapy. Both of these modalities were offered in combination in 25 (25.5%) of the cases. Neither medication nor psychotherapy was offered for 23(23.5%) of the cases in the study. Psychoeducation, psychotherapy referral and prescription of medication were found to increase the likelihood of treatment engagement in the study.

# Introduction

## Background

Anxiety is a normal emotion that is experienced by everyone at some time. Symptoms can be psychological, physical or a mixture of both. Intervention is required when symptoms become excessively distressing or disabling, or reduce quality of life, in the context of the absence of any clear external threat.

Anxiety Disorders are a group of disorders that have a core symptom of excessive fear and anxiety and associated behavioral symptoms. Even though Anxiety disorders are highly comorbid with each other they can be distinguished from one another by close examination of the object of fear that induce the anxiety and/or avoidance behavior. The object of fear can be a situation, an animal, or a place. (1)

There are 6 disorders that are classified under Anxiety Disorders in Diagnostic and Statistical Manual-5 (DSM 5). These disorders include Separation Anxiety Disorder, Selective mutism, Specific Phobia, Social Anxiety Disorder (SAD), Panic Disorder, Agoraphobia, Generalized Anxiety Disorder (GAD), Substance/Medication induced anxiety disorder and Anxiety Disorder due to another medical condition. (1)

In Separation anxiety the anxiety is focused on separation from major attachment figures, in most instances the parents, to a degree that is developmentally inappropriate. There is persistent fear or anxiety about harm coming to attachment figures and events that could lead to loss of or separation from attachment figures, as well as nightmares and physical symptoms of distress. Although the symptoms often develop in childhood, they can be expressed throughout adulthood as well. (1)

Selective mutism is characterized by a consistent failure to speak in social situations in which there is an expectation to speak (e.g., school) even though the individual speaks in other situations. The failure to speak has significant consequences on achievement in academic or occupational settings or otherwise interferes with normal social communication. (1)

In Specific Phobia the object of fear is circumscribed to a specific object or situation and provokes excessive fear that is not in proportion to the risk posed by the object. There are various types of specific phobias: animal; natural environment; blood-injection-injury; situational; and other situations. (1)

Individuals with Social Anxiety disorder (social phobia) are fearful or anxious about social interactions and situations where they feel that there is a possibility of being under scrutiny. (1)

In Panic Disorder the individual experiences recurrent unexpected panic attacks and is persistently concerned or worried about having more panic attacks or changes his or her behavior in maladaptive ways because of the panic attacks. Panic attacks are abrupt surge of intense fear or intense discomfort that reach peak within minutes and can exist in other mental disorders including other anxiety disorders. (1)

Individuals with agoraphobia are fearful and anxious about two or more of the following situations: using public transportation; being in open spaces; being in enclosed places; standing in line or being in a crowd; or being outside of the home alone in other situations. (1)

The key characteristic of generalized anxiety disorder are persistent and excessive anxiety and worry about various domains, including work and school performance that the individual finds difficult to control. In addition, the individual experiences physical symptoms, including restlessness or feeling keyed up or on edge; being easily fatigued; difficulty concentrating or mind going blank; irritability; muscle tension; and sleep disturbance. (1)

Substance/medication-induced anxiety disorder involves anxiety due to substance intoxication or withdrawal or to a medication treatment. In anxiety disorder due to another medical condition, anxiety symptoms are the physiological consequence of another medical condition. (1)

National Institute for Clinical Excellence (NICE) guidelines recommend the use of psychological interventions in anxiety spectrum disorders. The most evidence is for Cognitive Behavioral Therapy (CBT) which has the highest empirical evidence whereas the most evidence for pharmacotherapy is the use of Antidepressant medications. Combination therapy is recommended for complex anxiety disorders that are refractory to treatment. (2)

In Panic disorders, Benzodiazepines are associated with a poor outcome in the long term and are best avoided. Antihistamines and other sedating drugs should also not be used in the treatment of Panic disorders. (2)

NICE guideline recommends CBT that is delivered only by suitably trained and supervised people who can demonstrate that they adhere closely to empirically grounded treatment protocols. The optimum amount of duration for CBT for Panic Disorder is around 7-14 hours mostly delivered in the form of weekly sessions of 1-2 hours and should not last for more than 4 months after commencement. (2)

The only long term Pharmacologic treatment that is deemed appropriate is antidepressants. The two classes of antidepressants that have evidence for treatment of panic disorder as per the NICE guideline are Selective Serotonin Reuptake Inhibitors (SSRI) and Tricyclic Antidepressants (TCA). If an SSRI is not suitable or there is no improvement after a 12-week course and if a

further medication is appropriate, imipramine or clomipramine may be considered. If there is no improvement after a 12-week course, an antidepressant from the alternative class (if another medication is appropriate) or another form of therapy should be offered. (2)

There is little difference on the recommendation of psychological therapies for GAD when compared with Panic disorders. These differences are the optimum duration for CBT is 16-20 hours and a briefer CBT may be 8-10 hours with designed to integrate self-help materials  
NICE guidelines for pharmacologic treatment of GAD that differs from Panic disorder guidelines are:

- Benzodiazepines should not be used for more than 2-4 weeks,
- If one SSRI is not suitable or there is no improvement after a 12-week course, and if a further medication is, appropriate, another SSRI or Psychological therapy should be offered. (2)

In Summary, presented below is what suffices for adequate psychopharmacological therapy for the different anxiety disorders as per the literature and NICE guidelines. Only medications that are found in Ethiopia's Formulary is included.

#### For Generalized Anxiety Disorder

- An SSRI (Fluoxetine 20-80mg or Sertraline 50- 200mg) for a minimum of 2+ months. (3) (2)
- A TCA (Clomipramine Dose should be 50-250mg, Imipramine 75-200mg) for a minimum of 2+ months. (4) (5) (6) (2)

\*There is no Strong evidence for the use of Amitriptyline in the treatment of GAD in the literature and NICE guidelines

#### For Panic Disorder

- An SSRI (Fluoxetine 20-80mg or Sertraline 50- 200mg) for a minimum of 2+ months. (7) (2)
- A TCA (Clomipramine Dose should be 25-250mg, Imipramine 25-300mg) for a minimum of 2+ months. (8) (2)

\*There is no Strong evidence for the use of Amitriptyline in the treatment of GAD in the literature and NICE guidelines

#### For Social Anxiety Disorder (Social Phobia)

- An SSRI (Fluoxetine 20-80mg or Sertraline 50- 200mg) for a minimum of 2+ months. (9)

## Statement of the Problem

Anxiety Disorders constitute the leading prevalent mental disorders in the world, which are estimated as responsible for about 28.68 million disability adjusted life years (DALYs) in the global burden of disease (GBD) 2019 study, especially for those in the adolescent age group aged between 10-24 years. (10) People experiencing anxiety often feel excessive fear, nervousness, fidgety, avoiding threats that are perceived and are often accompanied by bodily autonomic dysfunction, such as palpitation, sweating, shortness of breath, and sleep problems. Some Studies have also confirmed that one out of every 14 people meets the diagnostic criteria for anxiety disorders. (11)

Globally, there are around 45.82 million incidences of anxiety disorders and 301.39 million prevalence rate of Anxiety Disorders. The DALYs as estimated by the GBD in 2019 was estimated to be around 28 million years. (10) These are all overwhelming numbers and shows the magnitude of the problem. Anxiety disorders constitute the leading prevalent mental disorders in the world and has a striking impact on the global burden of disease. The National comorbidity study reported that one of four persons met the diagnostic criteria for at least one anxiety disorder and that there is a 12 month prevalence rate of 17.7%. (12)

In Ethiopia, it is estimated that the lifetime prevalence of anxiety disorders is around 7.5 % in a study done in Addis Ababa. The point prevalence of anxiety disorders was around 5.6% in this same study. (13) A similar study done in rural southern Ethiopia, Butajira found the lifetime prevalence to be around 5.7%. (14)

The treatment gap for mental illness throughout the world is universally large, although it is especially pronounced in LMIC. Four out of five persons with severe mental illness in LMIC receive no treatment in the previous year and 9 out of 10 people receive no treatment for schizophrenia in sub-Saharan Africa. (15) (16) In Ethiopia, the Butajira study found that the lifetime treatment access gap for schizophrenia and bipolar disorder to be 90%. Recent studies have replicated similar results. (17) (18)

Despite the enormous burden Anxiety disorders pose to our health care system there hasn't been much evaluation done regarding the quality of care mental health services that are being given to clients. Quality improvement researches need to be done regarding our care services and implementation put in place in order to optimize quality of care.

## Rationale of the study

Even though there is an increasing level of attention given to mental illness recently it is still lacking in meaningful formulation of health care policies and plans. Anxiety disorders need more attention because the disease has early age of onset, has the tendency to relapse for a long time and has a disabling nature. Therefore, our treatment of such a disease needs to be evaluated in order to elevate the care given to our patients. (2)

As to my knowledge there hasn't been any published study done to evaluate the clinical care provided to patients with Anxiety disorders in Ethiopia. In a country where the treatment gap even for severe mental illness is exceptionally high, leaving our existing care unchecked for quality poses a huge problem. (16) Therefore, this research will help us evaluate our management of patients with anxiety disorders in the past 3 years in hindsight so we can formulate ways of improving our care in any hospital where integrated mental health care is given. Tikur Anbessa Specialized Hospital (TASH) is one of the biggest tertiary hospitals where integrated mental health care is given and can serve as a starting point for the quality improvement initiatives.

Additionally, there is no national guideline for the treatment of mental disorders and the results from this research will bring to light the importance of having such standard guidelines. The presence of guidelines will help in setting a standard and evaluating how our quality of care stands compared to it.

# Literature Review

## Epidemiology of Anxiety Disorders

It is now established from a series of studies that anxiety disorders are widespread and together with affective and substance use disorders are the most common mental disorders. (19)

Anxiety disorders have a lifetime prevalence rates ranging from 13.6% and 28.8% in studies done in western countries. Comorbidity among individuals with anxiety disorders is the norm rather than the exception: three out of four people with a lifetime anxiety disorder experience at least one other mental disorder in their lifetime. (20) There is a particularly strong association between anxiety disorders and affective disorders and a lower but significant relation between anxiety disorders and substance use disorders. (19) From the affective disorders, another study noted that unipolar depression is four times more common in GAD than Bipolar Disorders (67% Vs 17%). (21)

Many people who suffer from one anxiety disorder often fulfill the criteria for more than one anxiety disorder. There is often a positive association between the lifetime occurrences of anxiety disorders. There is a strong association between GAD and Panic disorder (12.3) as well as between panic disorder and agoraphobia (11.9). This means that the odds of having GAD is 12.3 times higher for people with panic disorder than for people without the disorder. (19)

Anxiety disorders and affective disorders are also strongly associated with average odds ratio of 6.6. Even though the association is not as strong, there is significant association between substance use disorder and anxiety disorder. (20) (22)

Studies that explore comorbidity patterns of anxiety disorders with other mental disorders is lacking but the comorbidity between anxiety disorders and somatoform disorders is relatively high. (19)

## Studies on treatment of Anxiety disorders

A study on the quality of care for depressive and anxiety disorders in the United States, which consisted of 1636 adult respondents with 12-month depressive, and anxiety disorders acquired from data from a national sample. The study found that there were 174 respondents with dysthymia alone, 831 with major depression alone, and 317 with both disorders. There were 139 respondents with panic disorders alone. Compared with other persons, individuals with depressive or anxiety disorders were significantly more likely to be female, unmarried, unemployed, and to have problems with drugs or alcohol. During a 1 year period 80.8% of individuals with a probable anxiety or depressive disorder saw a primary care physician and 19.4% saw a mental health specialist while only 1.9% saw a specialist without seeing a primary care physician first. Among the individuals 25.6% received some antidepressant or anxiolytic medication and 20.6% received appropriate medication, 31.3% received some counseling. In general, 30.4% received at least 1 appropriate treatment for their disorder. Within people with a depressive or anxiety disorder, provider contact was significantly more likely among individuals with more years of education and greater number of medical disorders and was less likely among individuals without insurance (23).

A study on quality of English inpatient mental health services for people with anxiety and depressive disorders which analyzed 3795 case notes from 54 English mental health service providers, of these a sizable proportion of records indicated that at least one important aspect of the initial aspects were not documented. The study found that aspects of care that were consistently used had benefited from long-standing quality improvement systems but the multiple findings that important personal such as history of traumatic experiences and clinical like previous response to treatment were not recorded in case notes of substantial proportion of individuals which suggests the need to ensure comprehensiveness of assessment over the course of hospital admission.

Most individuals with anxiety disorders receive their care from primary health care practitioners (PCPs) therefore a study on quality of and patient satisfaction with primary healthcare for anxiety was done on 1004 out patients with anxiety disorder. It was found that 57.4% of the patients had received appropriate anti-anxiety medication in the previous 6 months but only 29.1% was at adequate dose and duration. This finding was found to be related to the nature of the care giver as it was seen that there was a higher rate of quality pharmacotherapy and psychotherapy when patients received all or some of their mental health care in specialty settings such as psychiatrists or psychologists. This shows that primary health care givers who have to juggle many medical priorities may not give as intensive or high quality care as specialists. Over all in the study 41.4% had received quality pharmacotherapy and/or psychotherapy. (24)

The same study showed that 43.6% had received some counseling but only 21.2% with a CBT focus. It was noticed in the study that the level of education was directly proportional to the prevalence of psychotherapy as a treatment in a manner that persons with less education were significantly less likely to receive psychotherapy. Above all the study found that only 44.8% of the patients were somewhat satisfied with the care and quality of psychotherapy was the sole positive predictor. Patients who received quality psychotherapy which was defined on the basis of inclusion of elements consistent with evidence based CBT were the most satisfied and the more the CBT element provided and the greater the consistency of delivery, the greater was the satisfaction with the care and these shows a dose response relationship. (24)

Another study done in the U.S. on 366 primary care outpatients who were diagnosed with panic disorder, generalized anxiety disorder, social phobia and/or post-traumatic stress disorder (with or without major depression) on the care received in the previous 3 months found fewer than one in three patents had received either psychotherapy or pharmacotherapy that met a criterion for quality care. In was seen that one third of patients with anxiety had received counseling from their primary health care provider and fewer than 10% had received counseling from a mental health professional. The rates of appropriate psychotherapy where at least several elements of cognitive behavioral therapy were low. (25)

Even though 40% of the study cases had received appropriate anti-anxiety medications, only 25% had received them at a minimally adequate dose and duration. This was lower than the rates of appropriate therapy that was reported for depressed patients in primary care settings which was 35 up to 40%. (25)

Comorbidities were also seen to have a positive outcome on the probability of receiving appropriate treatment as it was shown that patients with medical illness and/or comorbid depression were more likely to receive appropriate anti-anxiety medication, on the contrary, ethnical minorities were less likely to receive appropriate treatment. (25) However, another study aimed at investigating ethnic differences in the prevalence and management of chronic mental disorders in urban areas of Netherlands found that 6413 patients (4.4% of the study population) had anxiety and/or depression and prevalence was higher in Turkish patients. The prevalence of receiving guideline concordant treatment was 42.9%. Prevalence and quality of care for anxiety and depression were comparable between ethnic minorities. (26)

## Research Question

- What type of care is given to patients with anxiety disorder at psychiatric outpatient clinic at Tikur Anbessa Specialized Hospital?

## Objectives of the Study

### General Objective:

- To evaluate the clinical care provided to patients with Anxiety disorders at the psychiatric outpatient clinic at Tikur Anbessa Specialized hospital.

### Specific Objective

Among patients with Anxiety Disorders who received care in psychiatric outpatient clinic of Tikur Anbessa Hospital,

- To determine the demographic and clinical characteristics of the patients,
- To evaluate the clinical assessment and types of care they received,
- To evaluate and describe the psychological and pharmacological treatments provided to them,
- To determine the level of patient engagement/adherence to clinical care,
- To identify the factors associated with the types of care they received and their treatment engagement.

# Methods

## Research Design

- A Retrospective chart (EMR) review was done to explore the socio-demographic characteristics, Clinical Evaluation, Treatment modalities offered and Treatment Engagement of patients with Anxiety disorders in the study period.

### Study setting and Study period

- Psychiatric outpatient department of Tikur Anbessa Specialized Hospital.
- Tikur Anbessa Specialized Hospital was established in 1964 during the reign of Emperor Haile Selassie. It is now the largest referral hospital with more than 700 beds and it is also the principal teaching center for both clinical and preclinical training for most health disciplines.
- It started to give a 3-year post-graduate residency training program in 1995 E.C and the years to follow started providing outpatient psychiatric service with in its premises. The service is run by Psychiatrists, clinical psychologists, clinical psychology masters level students and psychiatry residents. There are 6 OPDs in the hospital specifically for psychiatric visits. The cases that are presented to the outpatient department include neurodevelopmental disorders, neurocognitive disorders, common mental illnesses, and others. (27) (28)
- This research was conducted on study subjects who visited the OPD in the time frame of from Hamle 1, 2010 E.C. to Hamle 30, 2013 E.C.

### Sampling technique

- All patients who were diagnosed with anxiety disorders in the study period.

### Study population:

- All Patients who were diagnosed with Anxiety disorders at the outpatient clinic during the study period.

### Inclusion Criteria

- Eligible patients must meet the following inclusion criteria
  - Must have registered as an out-patient on the HMIS with the diagnosis of Anxiety Spectrum Disorder from Hamle 1, 2010 E.C. to Hamle 30, 2013 E.C.
  - Must have been a new patient seen in Psychiatric outpatient clinic at Tikur Anbessa Hospital in the above time frame.

### Exclusion Criteria

- Patients who are seen outside the study period
- Patients who don't have a diagnosis of Anxiety Spectrum Disorder
- Patients younger than 16 years of age (These group of patients are seen in child Psychiatry OPD at TASH)

- Patients not registered as new on medical registry in the department during the study period.

#### Data collection:

- Data from the Health Management Information System (HMIS) was manually scanned by the PI to determine the Electronic medical record (EMR) numbers of patients diagnosed with Anxiety disorders from Hamle 1, 2010 E.C. to Hamle 30, 2013 E.C.
- Data was then obtained from the EMR by the PI regarding the care for the first 3 months after the diagnosis was made.
- A 3 Months cutoff was selected because NICE guidelines recommends a minimum of 12 sessions of CBT delivered weekly to be the appropriate treatment for anxiety disorders and at least 8 weeks of treatment with an antidepressant to be appropriate. (2) Other researchers also have used a 3-month mark in similar studies that assessed clinical care. (24)
- Then retrospective EMR review was done to determine the care received by a data collection tool in google form.

#### Data collection tool

- The data extraction sheet was prepared using google forms for easier input, decrease paper burden and increase efficiency of time utilization. The data extraction form particularly developed for this study (See Annex I) was used to collect the socio-demographic profile, the clinical evaluation, and the treatment modalities that were offered for patients with Anxiety Disorders during the study period.

#### Operational Definition

- **Anxiety Disorders:** These disorders include Separation Anxiety Disorder, Selective mutism, Specific Phobia, Social Anxiety Disorder, Panic Disorder, Agoraphobia, Generalized Anxiety Disorder, Substance/Medication induced anxiety disorder and Anxiety Disorder due to another medical condition.
- **Clinical Care:** Any form of clinical assessment/evaluation and treatment offered. The treatment includes both psychological and pharmacological interventions.
- **Treatment Engagement:** Although there is no universal definition of treatment engagement some studies suggest that it refers to the patient's commitment to the therapeutic process and some studies operationalize engagement by defining a patient to be engaged if a patient attends his/her first scheduled appointment. Therefore, in this study treatment engagement is defined as having more than one visit in the first 3 months of the visit. (29)
- **Treatment Dropout:** defined as having only one visit in the first 3 months from the first visit.
- **Psychological treatment:** Any form of talk therapy given as a form of therapy to treat anxiety disorder.

- **Pharmacological treatment:** Any form of medications given in the psychiatric visit to treat anxiety disorder.
- **Adequate Psychological treatment:** A structured CBT delivered by a trained professional in a weekly session for not less than 3 months. (2)
- **Adequate Pharmacological treatment:** An SSRI (Fluoxetine 20-80mg or Sertraline 50-200mg) for a minimum of 2+ months or TCA (Clomipramine 50-250mg, Imipramine 75-200mg) for a minimum of 2+ months for GAD. Similar criteria apply for other anxiety disorders with slight modifications. These modifications are for SAD only SSRIs are deemed appropriate whereas Imipramine as low as 25mg is deemed appropriate for Panic disorder. (2) (6) (4) (3) (9)

## Data Analysis

- Data was obtained from the EMR by the use of the data extraction tool using google forms; the data was then exported into an Excel spreadsheet. Then the data was cleaned and checked for any errors and missing variables and the missing variables were then corrected from the EMR. The Cleaned data was then exported to SPSS Version 26 and descriptive analysis was done.
- The relationship between the treatment engagement (defined in the operational definition as having only one visit in the first 3 months of the treatment) and other variables in the treatment care were analyzed using Chi Square and cross tabulation.
- For the variables with significant association ( $P < 0.05$ ) found in the Chi- Square, Logistic regression was done to assess the odds of treatment engagement.

## Ethical Consideration

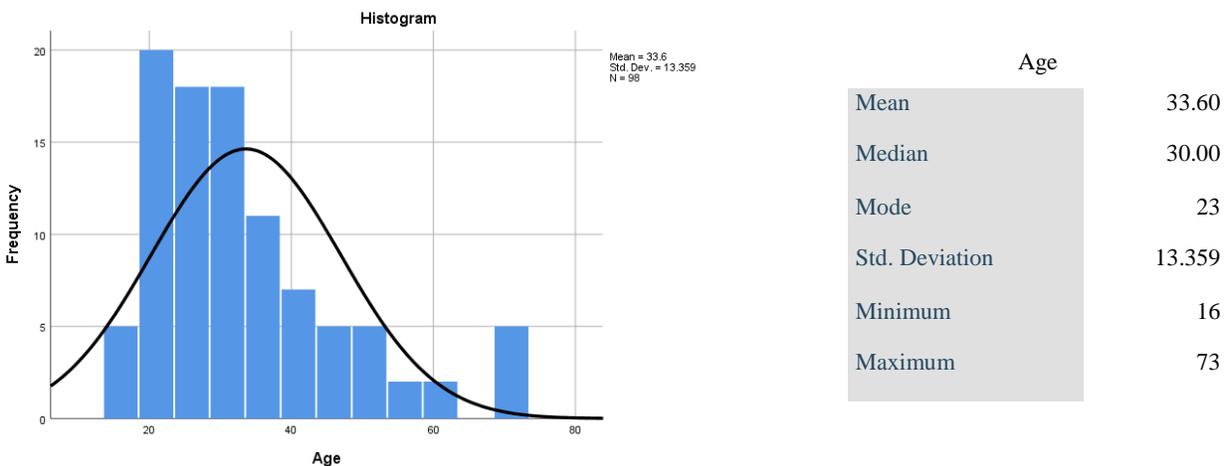
- Ethical Clearance was sought from Ethical clearance from the Research and Ethics committee of the Department of Psychiatry, School of Medicine, College of Health Sciences, Addis Ababa University prior to initiation of the study.
- Data collection was anonymized and confidentiality was maintained at all levels of the study (no identifiable data recorded).

## Results

### Sociodemographic and clinical characteristics of patients with anxiety disorders

The study involved 98 chart reviews with patients' age ranging from 16 to 72 years diagnosed with anxiety disorders. Out of these, the gender distribution was almost equal with 51% females and 49% males. The majority of them were between the age range of 20-40 years old with a mean age of 33.6 years and SD 13.359 years and a median age of 30 years.

**Table 1. Description of central tendencies of age**



**Figure 1. Histogram of Age distribution**

The majority (77.6%) of patients were from Addis Ababa whereas around 10.2% came from Oromia and in 6.1% of the cases the address was not documented. The majority (45%) of the cases were single and in 16 (16.1%) of the cases, marital status was not documented.

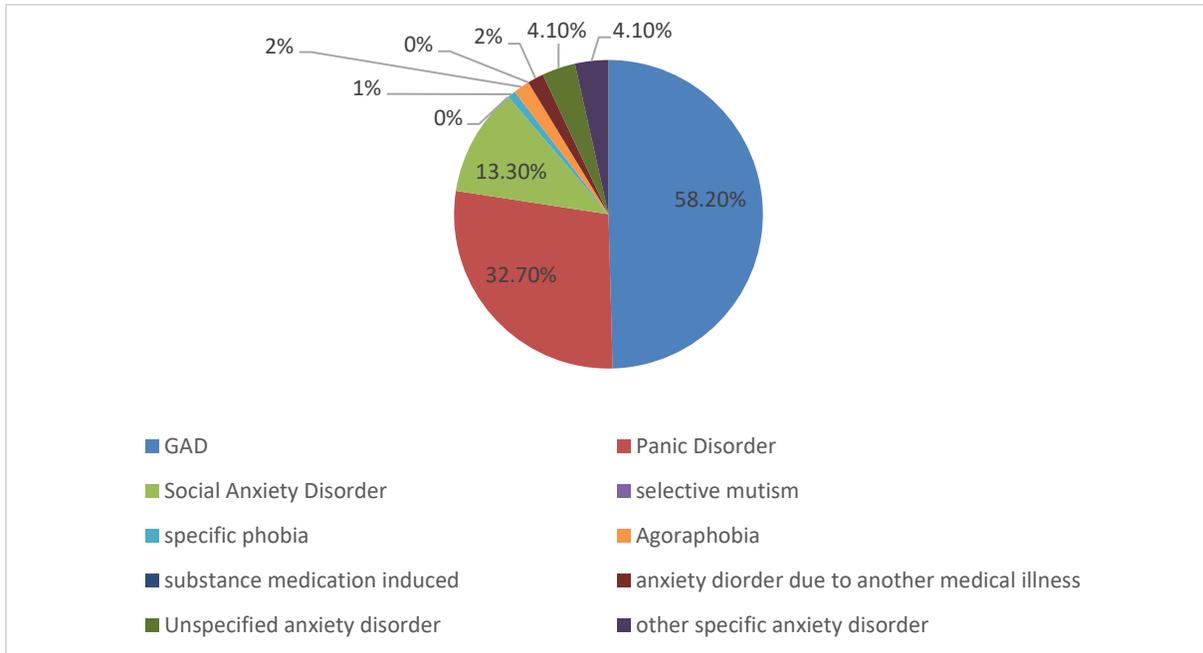
From the total number of patients 70.4% had some formal education and are a follower of Orthodox Christianity (42%). (See Table 2)

**Table 2. Socio-demographic characteristics of all participants (n=98)**

<b>Sex</b>	Male	48	49.0%
	Female	50	51.0%
<b>Address</b>	Addis ababa	76	77.6%
	Out of Addis Ababa	16	16.3%
	Not Documented	6	6.1%
<b>Marital Status</b>	Single	44	44.9%
	Married	24	24.5%
	In a relationship	3	3.1%
	Divorced/Separated	6	6.1%
	Not Documented	16	16.3%
	Widowed	5	5.1%
<b>Educational Status</b>	No formal education	3	3.1%
	1 <sup>st</sup> to 8 <sup>th</sup> Grade	9	9.2%
	8 <sup>th</sup> to 12 <sup>th</sup> Grade	15	15.3%
	Diploma	10	10.2%
	First Degree	23	23.5%
	Above First degree	3	3.1%
	College/University Student	9	9.2%
	Not Documented	26	26.5%
<b>Religion</b>	Orthodox Christianity	41	41.8%
	Muslim	15	15.3%
	Protestant	8	8.2%
	Not Documented	32	32.7%
	Others	2	2.0%

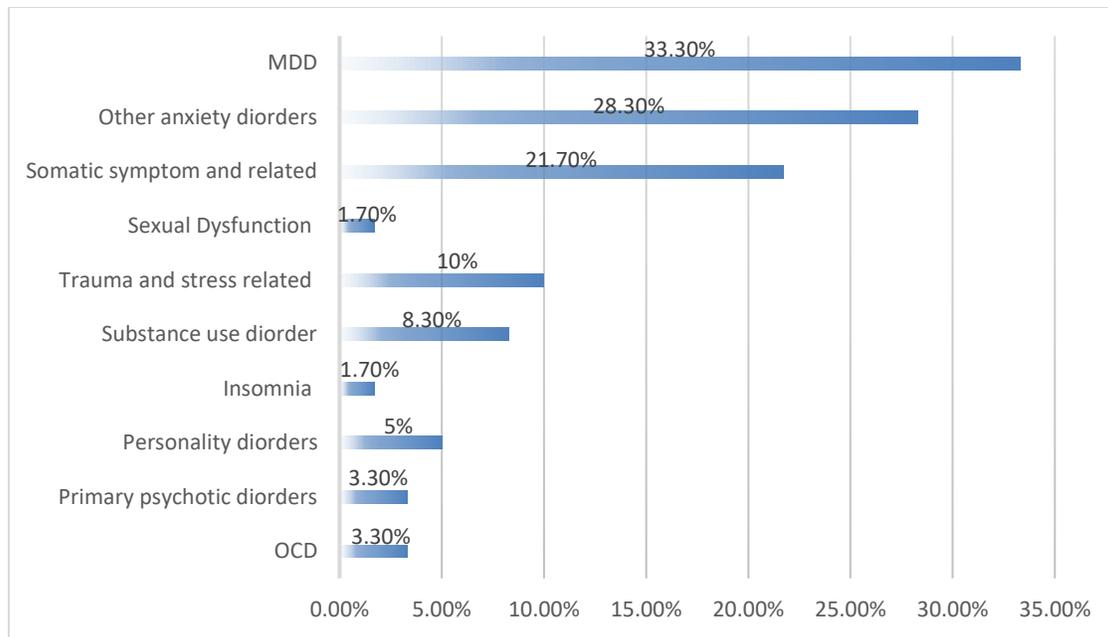
From the 98 cases of Anxiety Disorders that were included in this study, the commonest diagnosis was Generalized Anxiety disorder (58.2%) followed by Panic disorder (32.7%) and

Social Anxiety disorder (13.3 %). Other less common types of anxiety disorder such as Specific phobia, Agoraphobia, Anxiety disorder secondary to another medical condition, Unspecified anxiety disorder and other specified anxiety disorders were found in only 1%, 2%, 2%, 4.1% and 4.1% of the cases respectively. There were no cases of Selective Mutism and Substance/Medication induced anxiety disorder found in the study. (See Figure 2)



**Figure 2. Proportion of cases with specific diagnosis of Anxiety Disorders**

High Psychiatric comorbidity was found in 57 (62.6%) of the study cases who were assessed for comorbidity (n=91). From those who have psychiatric comorbidities, the highest comorbidity was observed with Major Depressive disorder (33.3 %) followed by other anxiety disorders (28.3%). From other comorbid anxiety disorders, the highest rate was found with panic disorder and Generalized anxiety disorder. Somatic symptom and related disorders accounted for 21.7% of the comorbidities. (See Figure 3)



**Figure 3- Proportion of Psychiatric comorbidities among patients with anxiety disorders (n=57)**

The presence of Medical comorbidities was also assessed and was found in 32.7% of the cases. Of these, the majority 65.6% only had one comorbid illness while 25% and 12.5% had 2 and 3 medical comorbidities respectively.

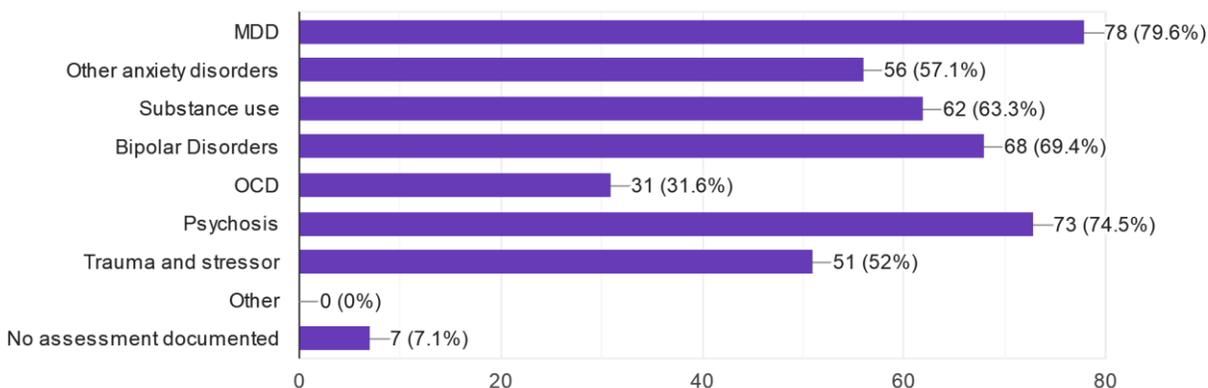
### Clinical assessment of patients with anxiety disorders

The majority (85%) of the patients were assessed and treated by psychiatric residents and involvement of psychiatrists was documented in 11.3%. Treatment by clinical psychology students was documented in 6.2% while 1% was documented by clinical psychologists. In 12.4% of the cases, the treating professional was not documented.

Suicide risk assessment was properly documented in around 85% of the cases and in 15.3%, there was no documentation of the assessment. Assessment of psychiatric comorbidity was documented in 93% of the cases and most were assessed for one or more psychiatric illnesses. Nearly 80% of the cases were assessed for depression and around 70% of the cases were assessed for Bipolar illness and Psychosis (See Figure 4). No assessment of psychiatric comorbidities was documented in approximately 7% of the cases.

### Assessment of psychiatric Comorbidity

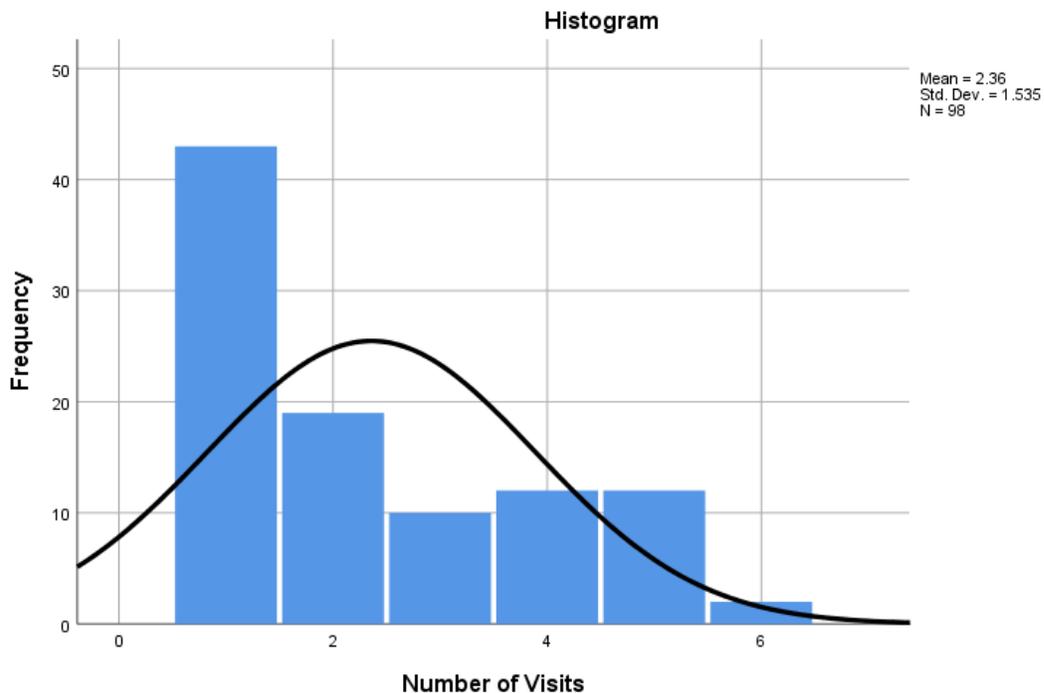
98 responses



**Figure 4 - Assessment of Psychiatric comorbidities among patients with anxiety disorders (n=98)**

During visits, vital signs were not recorded in almost all (99%) of the cases. Medical comorbidities were assessed and looked for in 79.6% of the study cases. However, in 20.4% of the cases, there was no documentation regarding assessment or presence of any comorbid medical illness. Baseline investigations were not done in the vast majority (69.8%) of the cases; among those investigated, organ function test (Liver function test and Renal Function test) accounting for 22.9% and complete blood count in 22.9% were the commonest. Thyroid function was investigated in 13.5% of the cases and blood sugar level was done in 11.5% of the cases. Other laboratory and imaging investigations account for less than 10% altogether. Assessment of medications being taken was not documented 55.1%.

With regards to the number of visits during a 3-month period from their first visit, the vast majority of the cases (43.9%) only had one visit while 19.4% of the cases had 2 visits. The mean number of visits was 2.3 visits and only 10 patients had 3 visits while only a quarter of the cases had 4 or more visits during a 3-month period. (See Figure 5)



**Figure 5- Number of visits in the first 3 months after the initial visit to Psychiatric care**

### Treatment provided for patients with anxiety disorders

Referral to psychotherapy as means of treatment was documented in 44.9% of the cases and of these; the commonest psychotherapy offered was CBT (53.5%). IPT was offered in 9.3% and other types of psychotherapy were offered in 18.6% of the cases. In 20.9% of these referrals, the type of psychotherapy offered was not documented. In addition, 11.4% had 3-4 psychotherapy sessions while only a minority 2.3% had more than 4 sessions; the number of psychotherapy visits/sessions was not documented in 84.1% of the referrals.

Psychoeducation was documented to have been given to 71.1% of the cases.

In 39.8% of the cases, no medication was prescribed; however, in 52% antidepressants such as fluoxetine, sertraline, imipramine and clomipramine were prescribed as a treatment modality. 28.3% of the drugs prescribed is fluoxetine and 24.5% took 20mg dose while only 4.1% took 40mg dose per day. Sertraline was also prescribed to 12 cases and 10.2% of these was given at a

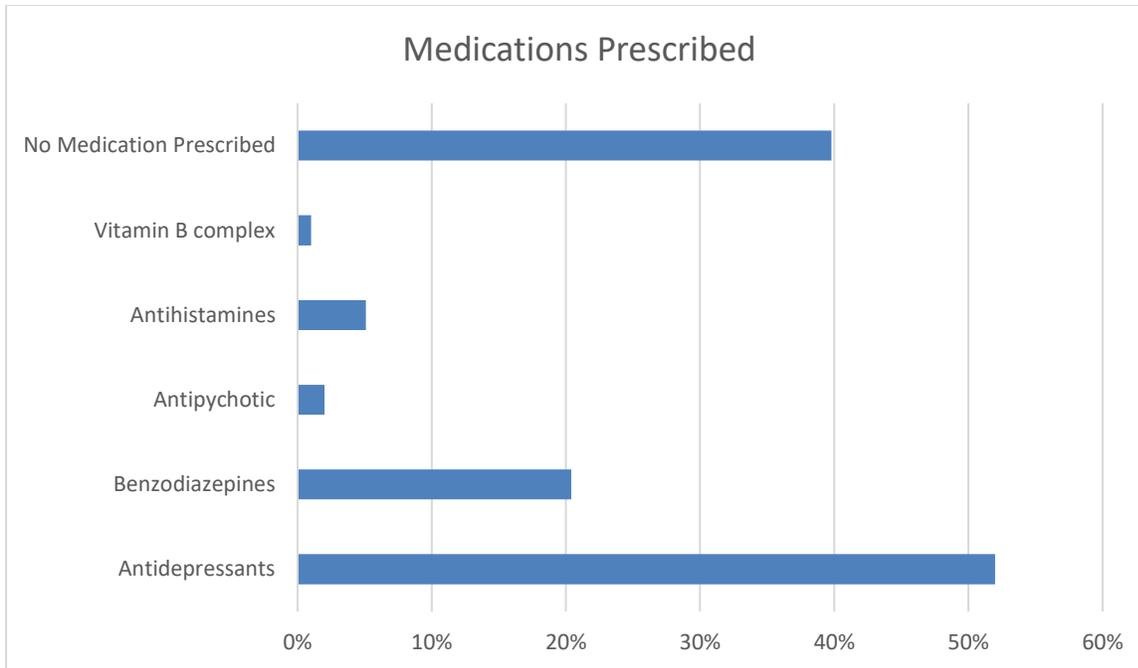
dose of 50mg per day while a dose of 25mg and 100mg per day accounted for 1% each. Only 2 patients were prescribed Imipramine and both were prescribed at a dose of 25mg per day. Ten of the cases (10.2 %) were prescribed Amitriptyline; 5.1% took 25mg, 1% took 37.5mg, 3.1% took 50mg while 1% took 75mg of daily dose. (See Table 3)

**Table 3. Dose of Antidepressant medications prescribed.**

Drugs	Dose	Proportion of patients in % (N=98)
Fluoxetine	20mg	24.5%
	40mg	4.1%
Sertraline	25mg	1%
	50mg	10.2%
	100mg	1%
Imipramine	25mg	2%
Amitriptylline	25mg	5.1%
	37.5mg	1%
	50mg	3.1%
	75mg	1%

Benzodiazepines were prescribed in 20.4% and antihistamines accounted for 5.1%.

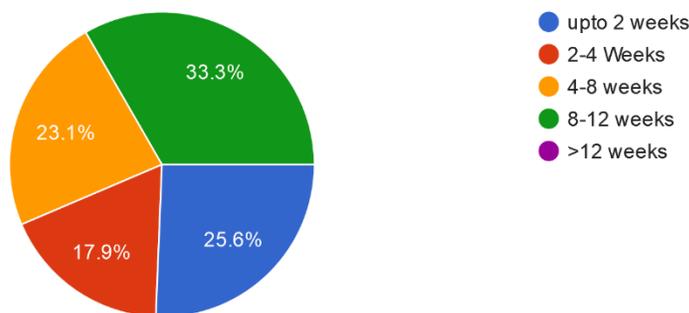
Antipsychotics and vitamin B complex were prescribed in 2 and 1% of cases respectively. (See Figure 6)



**Figure 6- Medications prescribed for patients with anxiety disorder**

Of these only 39 cases were prescribed adequate doses according to the NICE guidelines (2). Duration of treatment at an adequate dose for 8-12 weeks was only documented in 33.3%. In 25.6% of the cases, the treatment at adequate dose was only documented for up to 2 weeks, and in 17.9% the duration was 2-4 weeks while in 23.1% the duration was 4-8 weeks. (See Figure 7)

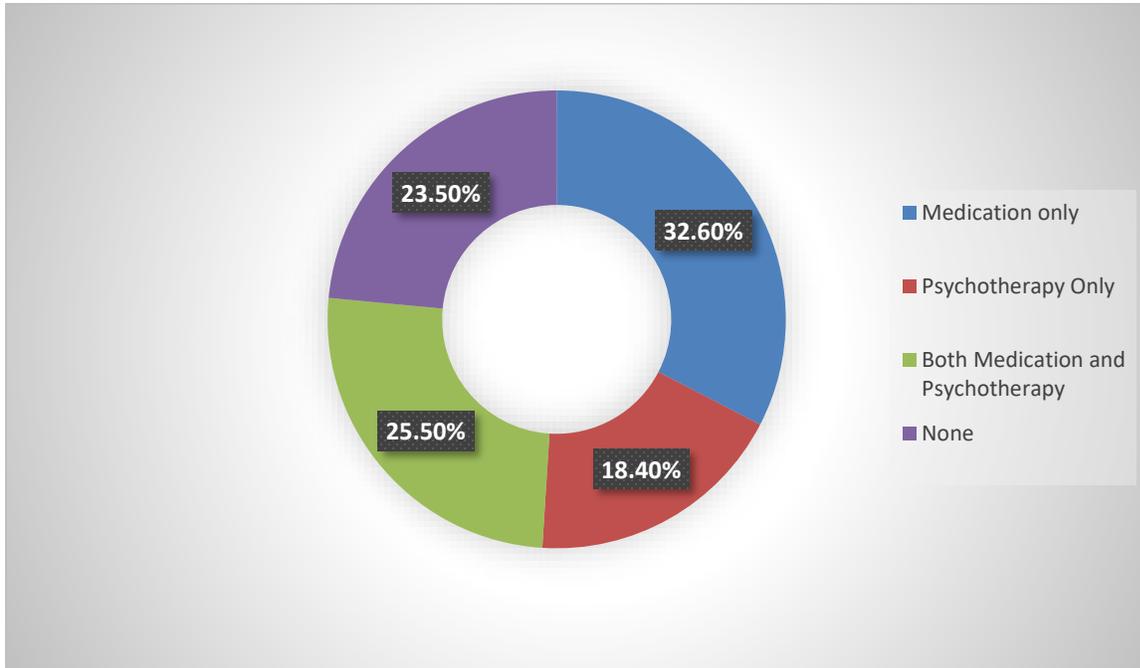
Duration of treatment at adequate Dose in weeks  
39 responses



**Figure 7. Duration of treatment at adequate dose in weeks (N=39)**

From the 98 cases that were in the study 32 (32.6%) were offered only medications while 18 (18.4%) of patients were offered only psychotherapy. Both of these modalities were offered in

combination in 25 (25.5%) of the cases. Neither medication nor psychotherapy was offered for 23(23.5%) of the cases in the study. (See Figure 8)



**Figure 8. Proportion of patients on the different treatment Modalities**

### Factors associated with treatment engagement

The research found a significant correlation between psychoeducation and treatment engagement with a P-value of 0.005 using chi-square. There was a linear relationship as seen in the table below, of the 69 cases that were psychoeducated 65.2% remained engaged to the treatment while 34.7% dropped out. On the contrary, from 29 of the cases that had no properly documented psychoeducation, 65.5% dropped out of the treatment. In addition, from those engaged to the treatment, 81.8% were those that were psychoeducated. (See Table 4)

Another correlation was found between psychotherapy referral and treatment engagement. This correlation was also found to be significant with a P-value of 0.003. 58.2% of the cases that are engaged to their treatment were referred to psychotherapy, while 72.1% of the dropouts were not referred to psychotherapy.

Another correlation that was found significant was between prescription of medications and treatment engagement with a p-value of 0.001. Of those that were prescribed medications, 69.9%

remained engaged to the treatment in the three month period while those that were not prescribed medications there was a dropout rate of 64.1%.

Specific correlations between the type of drug prescribed and the rate of treatment engagement were found to be significant with SSRI prescriptions at a P-value of 0.022. However, TCA did not show any significant correlation with treatment engagement.

In the correlation done between SSRI and treatment engagement, 70% of the cases that were prescribed with SSRI remained engaged in the treatment care while only 46.5% of those that were not prescribed had good treatment engagement.

Table 4. Factors associated with treatment engagement

	Treatment Engagement					P-value
	Total	Yes		No		
	N=98		n (%)		n(%)	
<b>Psychoeducation</b>						
Yes	69	45	45.9%	24	24.5%	<b>0.005</b>
No	29	10	10.2%	19	19.4%	
<b>Psychotherapy Referral</b>						
Yes	44	32	32.7%	12	12.2%	<b>0.003</b>
No	54	23	23.5%	31	31.6%	
<b>Medications Prescribed</b>						
Yes	59	41	41.8%	18	18.4%	<b>0.001</b>
No	39	14	14.3%	25	25.5%	
<b>SSRI</b>						
Taking	40	28	28.6%	12	12.2%	<b>0.022</b>
Not taking	58	27	27.5%	31	31.6%	

Binary logistic regression was also used to assess the association between the variables that showed significant correlation on chi-square which are psychoeducation, psychotherapy referral, prescription of medication and SSRI use and the dependent variable being treatment engagement.

**Table 5. Associated factors for treatment engagement**

	B	S.E.	Wald	df	Sig.	Exp(B)
Psychoeducation(1)	1.228	.526	5.447	1	.020	3.414
Psychotherapy Referral(1)	1.484	.511	8.435	1	.004	4.412
Medication Prescription(1)	2.062	.699	8.691	1	.003	7.859
SSRI(1)	-.604	.686	.775	1	.379	.547
Constant	-2.202	.602	13.374	1	.000	.111

According to the logistic regression, significant association was found between psychoeducation, psychotherapy referral and medication prescription. Those that were provided psychoeducation were found to be 3.4 times more likely to stay engaged to their treatment while those that were referred to psychotherapy were 4.4 times more likely to stay engaged. The highest association was found between those taking medication and treatment engagement, where being prescribed medication puts patients 7.8 times at greater odds of being engaged to the treatment. However, though the chi-square showed significant correlation between SSRI and treatment engagement at a P-value of 0.02, the logistic regression did not show a significant association and a greater likelihood of treatment engagement.

## Discussion

In this study, 98 charts with anxiety disorders were reviewed age ranging from 16-72 who received treatment at TASH Psychiatry OPD. The objective of the study was to evaluate the psychiatric care provided to patients with Anxiety disorders, to determine the level of patient engagement/adherence to clinical care and to identify the factors associated with the types of care they received and their treatment engagement.

Accordingly, the study found the commonest diagnosis from the anxiety disorder to be GAD (58.5%) and the second commonest to be Panic Disorder (32.7%). The study found that there is a high psychiatric comorbidity of anxiety disorders with MDD and other anxiety disorders accounting for 33.3% and 28.3% respectively. Out of the other anxiety disorders, a higher co-occurrence between panic disorders and generalized anxiety disorders was seen. Other studies that compared comorbidities also show a high comorbidity between anxiety disorders and affective disorders and comorbidity of another anxiety disorder. Other studies also found that GAD and panic disorders to be the commonest comorbidity with anxiety disorders. (19) However, in National Comorbidity Survey Specific Phobia was known to be the commonest from the anxiety disorders whereas, Social anxiety disorder (Social phobia) to be the second commonest. This difference might lie in that our study was in a hospital setting whereas; the NCS was a population-based study. (12) Therefore, individuals with these disorders may not have an awareness that these symptoms are mental illnesses worthy of seeking psychiatric attention.

Regarding the assessment of physical health, it was largely a neglected area of assessment as it was seen 99% of the cases did not have documentation of their vital signs, 55.1% did not have evaluation of whether they are taking medications, and 69.8% were not investigated at all. Studies show that a lifetime anxiety disorder reported higher rates of several medical illness comorbidities. (30) A comorbid medical illness increases the morbidity and disability of patients with anxiety disorder. Therefore, not having a proper assessment of patient's physical health might be a missed opportunity in a resource-limited country like Ethiopia to diagnose a comorbid medical condition like hypertension or DM.

Another area of evaluation that was lacking was in regards to assessment for comorbid psychiatric illnesses. It is shown in other studies that the comorbidity rate for depression and anxiety disorders is high. (20) (21) But around 20.4% were not assessed for depressive symptoms. Similarly, even though the comorbidity between anxiety disorders is known to be high 43% of the cases were not assessed for other comorbid anxiety disorders. (19) Suicidal assessment which is thought to be one of the most important items in a psychiatric evaluation was not properly documented in 15.3% of cases. Some studies show that amongst individuals, reporting a lifetime history of suicide attempt, over 70% had an anxiety disorder. (31)

Even though psychotherapy, specifically CBT, is a first line treatment modality according to the NICE guideline, only 44.9% were referred to psychotherapy of which CBT was offered only to 25% of the cases in the study. Most psychotherapy sessions were not documented; this makes it difficult to comment how appropriate the number of sessions and how structured the sessions were. Our result is comparable to other studies which reported 31.3% receiving some form of counseling. (23). Another study that evaluated the quality of treatment in anxiety disorders also showed similar results with 43.6% of patients with anxiety disorders receiving some counseling and 21.2% receiving counselling with a CBT focus. (24)

Regarding pharmacotherapy, only 40% of the cases received an appropriate dose of pharmacotherapy for any duration of treatment. Nevertheless, around 25% of cases with Panic disorder received benzodiazepines of which 9.3% of the cases benzodiazepine was the only form of pharmacological intervention they received in the three months of their care. Therefore, only 12.9% of patients with various anxiety disorders were receiving an adequate dose of pharmacologic treatment for adequate duration. This is significantly lower compared with other similar researches that reported rates of pharmacologic treatment of 25-30% with adequate dose and duration. (24) (25) Other factors that may have been confounding factors include lack of proper documentation, and high treatment dropout rate that may skew the results to the duration of treatment being shorter.

In Panic disorders, Benzodiazepines are associated with a poor outcome in the long term and are best avoided. (2) Antihistamines and other sedating drugs should also not be used in the treatment of Panic disorders. (2) But in our study it was found that around 25% of patients with

Panic disorders were prescribed Benzodiazepines whereas, for 9.3% of the cases with panic disorders the sole pharmacological therapy offered was Benzodiazepines.

Another striking finding was that 43.9% did not return within three months after their first visit. There was a significant association found in the study between psychoeducation, psychotherapy referral and medication prescription and treatment engagement. Those patients who were psychoeducated were 3.5 times more likely to be engaged to their treatment while those that were referred to psychotherapy were 4.4 times more likely to stay engaged. A study that evaluated patient satisfaction also found quality of psychotherapy to be the sole positive predictor. (24) Therefore, we might infer that psychotherapy increased patient satisfaction in treatment increasing treatment engagement.

The highest association was found between those taking medication and treatment engagement, where prescription of medication puts patients 7.8 times at greater odds of being engaged to the treatment.

## Strength and Limitation of the study

This study was able to assess the psychiatric treatment given to patients with anxiety disorders in TASH. This study was done with very little time and resource yet has significant implications for future care. Since this is the first study, to evaluate the care given to patients with anxiety disorders, in TASH it will set a baseline for future quality improvement studies and will help in tracking any change in trends in future studies. It will also help in providing insight in what quality improvement strategies need to be introduced.

It would have been interesting to incorporate other hospitals like Zewditu Memorial hospital and Yekatit 12 Hospital in the study. This was not done due to time constraints and is one of the limitations of this study. Another limitation is that no association was done between the sets of diagnosis and the different factors due to technical difficulties related to how the data was retrieved from the google forms into SPSS.

## Recommendation

- Since nearly half of all patients in the study had only one visit we recommend taking full advantage of the first visit by taking the time for a full evaluation and providing appropriate interventions to address any distress.
- We also recommend giving proper psychoeducation and when appropriate psychotherapy referral since these were associated with treatment engagement.
- It was observed from this study that the lack of proper documentation was extensive; therefore, we recommend proper documentation as a vital part of the care we provide.
- Proper assessment of physical health seems to be one of the most neglected area of our care based on this study so we recommend including basic physical examination and baseline investigations for all patients with anxiety disorders.
- Due to the high comorbidity rate of anxiety disorders we recommend assessing for comorbidities particularly comorbid depression, other anxiety disorders and substance use for every patient with anxiety disorder
- We also recommend avoiding the use of Benzodiazepines in patients with panic disorders because evidence suggests poor long-term outcome.
- It was difficult to assess the quality and duration of psychotherapeutic interventions due to lack of proper documentation. Accordingly, we recommend proper documentation of psychotherapy sessions.
- Finally, we recommend the development of a national guideline for the treatment of anxiety disorders since there is no national guideline to set any standard.

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## ANNEX I

### Data Extraction Tool

#### Demographics

1. MRN
2. Age
3. Sex (M/F)
4. Address
  - a. Afar
  - b. Amhara
  - c. Oromia
  - d. Benishangul Gumuz
  - e. Gambela
  - f. Addis Ababa
  - g. Tigray
  - h. Harrari
  - i. Southern Ethiopia
  - j. Somalia
  - k. Not Documented
5. Marital Status
  - a. Single
  - b. Divorced
  - c. Married
  - d. Widowed
  - e. Separated
  - f. In a relationship
  - g. Not Documented
6. Educational Status
  - a. No formal Education
  - b. 1<sup>st</sup> to 8<sup>th</sup> Grade
  - c. 8<sup>th</sup> to 12<sup>th</sup> grade
  - d. Diploma
  - e. College/ University Student
  - f. First Degree
  - g. Above First Degree
  - h. Not Documented
7. Religion
  - a. Othodox
  - b. Muslim
  - c. Protestant
  - d. Waqe Feta

- e. Jehovah Witness
  - f. Other
  - g. Not Documented
8. Diagnosis
- a. GAD
  - b. Panic Disorder
  - c. Social Anxiety Disorder
  - d. Selective Mutism
  - e. Specific Phobia
  - f. Agoraphobia
  - g. Substance medication induced disorder
  - h. Anxiety Disorder due to another medical condition
  - i. Unspecified anxiety disorder
  - j. Other Specified anxiety disorder
9. Medical Comorbidity (Yes/No)
10. Number of Medical comorbidity
- a. 1
  - b. 2
  - c. 3
  - d. 4 or more
11. Diagnosis of medical comorbidity
12. Psychiatric comorbidity (Yes/No)
13. Diagnosis of psychiatric comorbidity
14. Number of visits in the first 3 months
- a. 1
  - b. 2
  - c. 3
  - d. 4
  - e. 5
  - f. 5-10
  - g. More than 10
15. Professionals involved in the first 3 months
- a. Psychiatrists
  - b. Psychiatry residents
  - c. Clinical psychologist
  - d. Clinical psychology students
  - e. Not Documented
  - f. Other
16. Assessment of medical comorbidity (Yes/No)
17. Assessment of Psychiatric Comorbidity

- a. MDD
  - b. Other anxiety disorders
  - c. Substance Use
  - d. Bipolar Disorders
  - e. OCD
  - f. Psychosis
  - g. Trauma and Stressor
  - h. Other
  - i. No assessment documented
18. Suicide Assessment(Yes/No)
19. Vital sign record (Yes/No)
20. Assessment of medications being taken (Yes/No)
21. Baseline Investigations Done
22. Psychotherapy Referral (Yes/No)
23. Type of psychotherapy offered
- a. CBT
  - b. IPT
  - c. Other
  - d. Type not documented
24. Number of sessions
25. Medications Prescribed
- a. No medications prescribed
  - b. Benzodiazepines
  - c. Antidepressant
  - d. Antipsychotic
  - e. Antihistamine
  - f. Other
26. Fluoxetine/Day
27. Sertraline/Day
28. Clomipramine/Day
29. Imipramine/Day
30. Amitriptyllin/Day
31. Duration of treatment at adequate dose in weeks
- a. Upto 2 weeks
  - b. 2-4 weeks
  - c. 4-8 weeks
  - d. 8-12 weeks
  - e. >12 weeks
32. Psychoeducation
- a. Yes

b. No

33. Referral

a. Yes

b. No

34. Reason for referral