Department of Psychiatry, College of Health Sciences, Addis Ababa University.

Final Year Resident Research Thesis

Prescription patterns of Psychotropic medications for treatment naive patients with mental disorder in Amanuel hospital - a record-based study.

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Title of the study

Prescription patterns of Psychotropic medications for treatment naive patients with mental disorder in Amanuel hospital - a record-based study.

Summary

Background

Psychotropic medications have been leading treatments for a broad range of mental disorders. But they have also a risk of adverse effects. These adverse effects can potentially decrease drug compliance, predispose to drug induced movement disorders and are associated with an increased risk for several physical diseases.

Guideline based prescribing may reduce the risk but there is a gap between guidelines and prescribing practices in commonly prescribed drugs such as antidepressants and antipsychotics. These discrepancies may be associated with lower efficacy (e.g. insufficient dosage or duration) or with increased risk of adverse effects (e.g. hazardous co-prescription).

This discrepancy may have the most impact among treatment naive patients. Psychotropic medication experiences for patients at the beginning of treatment may have a lasting impact on their attitudes toward medication and course of illness, this is a critical time to optimize prescribing. There is no adequate information on the patterns of drug prescribing among this population. A study on prescribing practices will help identify opportunities for corrective measures to enhance achievement of therapeutic goals and patients' quality of life.

Study objective

The study aimed to describe the patterns of Psychotropic medications prescription among treatment naive patients with mental illness. The secondary aim was to evaluate concordance with treatment guidelines.

Method

A retrospective record review was conducted on 384 treatment naive patients with mental disorder in Amanuel hospital out-patient department (between March 10/2019 and March 29/2019). All records during the study period were evaluated**.**

Results

Records of 384 treatment naive patient's prescribed with psychotropic medications were evaluated. The overall age of the sample ranged from 15 to 95 years, the mean age was 34.2 years with standard deviation of 16. The prescriptions were ordered to 224 (58.3%) males and 160 (41.7%) females.

From these 384 cases patients were prescribed a mean of 2 psychotropic medications. The most common combination psychotropic medications are Antipsychotic with antidepressant, Antipsychotic with benzodiazepine and Two Antipsychotics with Benzodiazepine which are seen in (n=70; (28.6%), (n=51; (20.8%), and, (n=41; (16.7%) respectively.

Among the different classes of drugs prescribed, nearly half of psychotropic medication were Antipsychotics (n=317; (49.3%), followed by Antidepressant (n=147; 22.86% (96 TCA, 51 SSRI)), Benzodiazepine (n=118; (18.35%), Anticholinergic agent (n=37; (5.6%), and Anticonvulsant Mood stabilizer (n=24; (3.7%). And of the

antipsychotic medications, Risperidone (n=190; (29.5%) (1 mg - 4 mg, mean 2.2 mg) was the most frequent drug under use followed by Haloperidol (n=65; (10.1%) (1.5 mg - 6 mg, mean 2.3 mg). Chlorpromazine, Trifluoperaziane, Olanzapine and Thioridazine were the rest of prescribed antipsychotic drugs. Amitriptyline and imipramine were among tricyclic antidepressants frequently prescribed (n=80; (12.5%) (25 mg - 75 mg, mean 30.6 mg) and (n=16; (2.5%) (25 mg - 50 mg, mean 26.6 mg) times respectively. From SSRI's Fluoxetine (n=33; (5.1%) (20 mg - 40 mg, mean 21.2 mg) and Sertraline (n=18; (2.8%) (25 mg - 50 mg, mean 48.6 mg) are prescribed. In the present study from Benzodiazepine class Diazepam (n=77; (12%) (5 mg - 20 mg, mean 5.8 mg), Clonazepam (n=29; (4.5%) (0.5 mg - 4 mg, mean 1.5 mg), Lorazepam (n=7; (1.1%) (1 mg - 3 mg, mean 1.9 mg), and Bromazepam (n=5; (0.8%) (Mean 1.5 mg) were the most frequently prescribed medications. From Anticonvulsant Mood stabilizer class Carbamazepine (n=22; (3.4%) (200 mg - 600 mg, mean 363.6 mg) and valproate (n=2; (0.3%) (500 mg - 800 mg, mean 650 mg) were prescribed. Trihexyphenidyl is the only medication from anticholinergics class (n=37; (5.8%) (2 mg - 5 mg, mean 2.9 mg).

Out of 140 prescribed parenteral medications assessed Diazepam and Haloperidol were near equally prescribed. The remaining prescribed medication was Fluphenazine Decanoate. Among 270 patients who were seen in 24 hrs or come back for first follow up only (n=5; (0.02%) psychotropic medication associated side effects were recorded.

Majority of patients were diagnosed with Schizophrenia Spectrum and Other Psychotic Disorders and was prescribed with (n=122; (62.9%) SGA and (n=63; (32.5%) FGA. Depressive Disorders were the second common diagnosis and was given SGA, TCA, FGA, and SSRIs in (n=40; (47.8%), (n=19; (23.2%), (n=12; (14.6%), (n=10; (1.5%) patients respectively. Bipolar and Related Disorders were prescribed with SGA (n=20; (80%), FGA (n=4; (16%) and Mood stabilizers (n=1; (4%).

Conclusion

This is the first study examining psychotropic prescribing patterns in treatment naive mental illness patients in ASMH. In the present study, antipsychotic drugs were the most prescribed psychotropic drug, followed by antidepressant drugs. There is also moderate use of benzodiazepines, mood stabilizers and anticholinergic drugs. Risperidone was the most frequently prescribed drugs from second generation antipsychotics and tricyclic antidepressants (mainly amitriptyline) remain the most frequently prescribed class of antidepressants. The current study showed a significant psychotropic medication combination is prescribed to treatment naive patients. This study also showed off-label prescription of (n=11; (17.5%) intravenous administration of haloperidol for treatment naive patients and (n=15; (10.7%)patients were prescribed with long acting antipsychotic Fluphenazine Decanoate. Avery low side effects associated with psychotropic medications were recorded among patients who were seen in 24 hrs or come back for first follow up.

Acknowledgment

I would like to express my gratitude to my principal advisor Dr. Abebaw Fekadu and co advisor Dr. Ribka Birhanu for their contributions to the conduct of this research proposal, their intellectual guidance and support.

Acronyms

ASMH = Amanuel Specialized Mental Hospital

D/Os = Disorders

DSM 5 = Diagnostic and statistical manual of mental disorders fifth edition

FGA = First Generation Antipsychotics

GAD = Generalized anxiety Disorder

Hrs = Hours

IM = Intramuscular

IV = Intravenous

OPD = Out Patient Department

Mg = Milligram

MSc = Masters of Science

PTSD = Post traumatic stress disorder

SGA = Second Generation Antipsychotics

SSRI = Selective serotonin reuptake inhibitors (SSRIs)

TCA =Tricyclic antidepressants

WHO = World Health Organization

1. Introduction

Mental disorders are commonly occurring health problem in many countries throughout the world (1). According to the World Health Organization (WHO), over one third of people in most countries report problems at some time in their life, which fulfill criteria for diagnosis of one or more of the common types of mental disorder (2).

While many treatment modalities exist, biomedical treatments are heavily reliant on psychotherapy and psychotropic medications(3; 4). Psychotropic medications have been in use since the early 1950sfor treatment of many mental disorders(5; 6).

A psychotropic medication is a psychoactive drug licensed to exert an effect on the chemical makeup of the nervous system and brain. These medications are usually given in psychiatric settings, and are typically made of synthetic chemical compounds. Such medications have been leading treatments for a broad range of mental disorders because they decrease the need for long-term hospitalization, reduce morbidity, mortality and disability therefore minimizing the cost of mental health care (5; 4; 3; 7).But these drugs have also a risk of adverse effects. Adverse effects on physical health are greatest with antipsychotics, succeeded by mood stabilizers, tricyclic antidepressants and newer antidepressants (8). These adverse effects can potentially decrease drug compliance, predispose to drug induced movement disorders and associated with an increased risk for several physical diseases(9; 8).

Psychotropic medication experiences for patients at the beginning of treatment may have a lasting impact on their attitudes toward medication and Course of illness, this is a critical time to optimize prescribing(10). There are studies on these subject. For instance patients with first-episode schizophrenia are more sensitive than chronic patients to a given dose of antipsychotics(11).Antidepressant medications also are usually started at a low dose, to minimize side-effects(12; 13).It is advocated to start with a low dose of SSRIs, when it is used to treat generalized anxiety disorder (GAD), panic disorder and PTSD .This is because it might initially exacerbate symptoms of these disorders (14).

There is no adequate information on the patterns of drug use in different part of the world including Ethiopia. The shortage of data on prescription patterns and medication use indicates the medication utilization is generally not rational (10). Actual clinical prescriptions often is different from the laid down clinical guidelines for psychiatric drugs (11). Researches showed that there is a gap between guidelines and prescription for psychotropic medications commonly prescribed drugs such as antidepressants (12). This gap is also noticeable for drugs such as antipsychotics (13).Although the usage of high-dose prescription and polypharmacy has been studied in chronic patients with schizophrenia, relatively few studies have been done on these treatment strategies in the early stages of the disease (14).

Discrepancies between clinical trials and prescriptions in naturalistic conditions need to be identified because of their potential clinical and economic impact. These discrepancies may associate with lower efficacy (e.g. insufficient dosage or duration) or with increased risk of adverse effects (e.g. hazardous co-prescription). Prescription studies became essential for assessing drug use patterns in health facilities. It also identify

opportunities for corrective measures to enhance achievement of therapeutic goals and patients' quality of life (15).

For developing countries where resources are more limited, the costs of inappropriate drug prescription can be enormous in addition to the risk of clinical consequences. It becomes necessary that studies on prescription be carried out to ensure rational and cost-effective use of drugs to increase efficacy, reduce side effects (15).

1.1. Research question

What are the prescription patterns of Psychotropic medications for treatment naive patients with mental disorder in Amanuel hospital?

1.2. Literature review

Different researches were done on prescription patterns of psychotropic medications in different countries. A relatively older retrospective survey was done in 1989 on drug prescription over a one- year period taking 1083 hospitalized patients as a sample in Switzerland. The objective of the study was to establish a basis for a monitoring of prescription uses and for pharmacoeconomic considerations. In this study, male patients were 48.3%. Only eleven out of the 1083 patients (1%) were not using psychotropic medication. Antipsychotics (67.5% of the patients) were the most often prescribed psychotropic medications, followed by anxiolytics (42.2%), antidepressants (28.3%), hypnotics (31.4%) and mood stabilizers (7.1%). Antiparkinsonian medications were found in 4.6% of all prescriptions. Levomepromazine, haloperidol (30.9% of all patients) and clotiapine were the most often prescribed neuroleptics, and clozapine was administered to only 6.4% of all patients. Among the antidepressants, maprotiline (11.9% of all patients) was more often prescribed than the classical tricyclic antidepressant amitriptyline, while the only available SSRI fluvoxamine and MAO inhibitors were rarely ordered. The most often prescribed anxiolytics were clorazepate (28.2% of all patients), lorazepam, bromazepam, and prazepam(11).

Another cross-sectional study was done from November 1998 to February 1999 on psychotropic medication prescription on 132 new psychiatric patients by psychiatrists. These patients were treated at the outpatient clinics in island of Trinidad. The result showed that psychiatrists' preference is more for traditional psychotropic drugs, moderate use of anticholinergic medications, and polypharmacy in some patients, with a probable susceptibility to adverse drug reactions. Antidepressants were the most frequently prescribed class of psychotropic medications (59.8%), followed by antipsychotic medications (50.8%). TCAs were the most ordered drug (58 out of the 79 patients), mainly amitriptyline (53 out of the 58). The only selective serotonin reuptake inhibitor (SSRI) prescribed (21 out of the 79 patients ordered antidepressants) was Fluoxetine. From 67 patients who was taking antipsychotic medications, phenothiazines accounted for 41 of those 67, which include trifluoperazine (14 out of 41) and thioridazine (13 out of 41). 20 out of the 132 patients (15.1%) were prescribed Anticholinergic drugs. A total of 83patients were prescribed two or more than two drugs at the same time (either more than one psychotropic medication or a combination of psychotropic and non-psychotropic medication(16).

A naturalistic longitudinal observational research was done on prescriptions of psychotropic medications among adolescents in Northern Ireland. The research was done on patients presenting with new onset

psychotic symptoms between 2001 and 2006. 113 cases were enrolled and they found a total of 100 patients (88.5%) were prescribed some form of psychotropic medication. Over 75% of patients prescribed an antipsychotic as their first medication. Risperidone (45.8%), olanzapine (24.0%) and chlorpromazine (12.5%) were the most commonly ordered first-line antipsychotic medications. Of a total of 160 antipsychotic medication prescriptions, 81 (50.6%) were off-label. Prescriptions were most likely to have been viewed as off-label owing to medications not being licensed in under-18s (71.6% of off-label prescriptions) but other reasons were medications being used outside licensed age ranges (23.5%) and outside licensed indications (4.9%)(17).

A study from Korea did a comparison of five-year data on antipsychotic prescribing patterns in first-episode schizophrenia patients. This study surveyed the medical records of newly treated patients with schizophrenia from a university psychiatric hospital in 2005 (n=47) and 2010 (n=52). They found that rates of high-dose antipsychotic prescription were 53.8% and 61.7% in 2010 and 2005, respectively. The rates of antipsychotic polypharmacy were found to be 34.6% in 2005 and 34.0% in 2010. The most common first-prescribed antipsychotics in descending order were olanzapine, risperidone, aripiprazole, and haloperidol in 2005 and risperidone, quetiapine, paliperidone, and olanzapine in 2010. High-dose antipsychotics were significantly linked with antipsychotic polypharmacy (odds ratio=23.97; $p < 0.01$). More individuals were prescribed with mood stabilizers in 2010 than in 2005 (p=0.003) (14).

A retrospective study was done in 2008, on the Utilization pattern and Costs Analysis of Psychotropic Drugs at a Neuropsychiatric Hospital in Nigeria. The research analyzed 1,756 prescriptions. In this study Antipsychotics were the highest number of prescribed drugs in 82% (1441/1756) of prescriptions, followed by antidepressants, 13%. Atypical antipsychotics were the most expensive psychotropics at an average cost per Dose is about 35 times the average cost of traditional psychotropics, which were the cheapest, accounting for over 90% of total prescriptions. The result showed that high use frequency of antipsychotics and cost appears to be the major consideration of the selection of prescribers, limiting the (19) use of newer and better tolerated psychotropics(18).

A retrospective audit was done on prescribing pattern of psychotropic medications in child psychiatric practice within Botswana mental referral hospital. The audit was done on children ≤ 17 years and seen from January 1, 2012-July 31, 2016. The Result found from 238 files were a mean age (SD) of 12.41 (4.1) years. Of the 120 (50.4%) patients who was treated by psychotropic medications, only 85(70.8%) had monotherapy. The most commonly prescribed psychotropic medications were antipsychotics (40%). It is also observed that of antipsychotics polypharmacy and Off-label use were 29.2% and 31.2% respectively (19).

A cross-sectional study carried out over a 2-year period in Nigeria on psychotropic prescriptions for the treatment of schizophrenia. The study was carried in the psychiatric outpatient clinic of the hospital. Haloperidol (mean dose 14.77±6.28mg and 11.44±5.55mg for initial and current) and other first generation antipsychotics were the most commonly prescribed for new cases (98%). Mean duration of psychotropic medication use was 7.78±5.6 years. All the patients were prescribed trihexyphenidyl, and 56.3% of the patients medications were changed as a result of side effects (20).

There are also studies done in Ethiopia on Prescription pattern of psychotropic drugs. The first one is in Gondar University Hospital a retrospective prescription paper review from September 1, 2011 to February 30, 2012. Out of the total 1880 prescribed psychotropic and narcotic drugs reviewed in this study: 21.5% of them were injectable medications, 76.5% were oral medications and the remaining 2% were prescribed in both dosage forms. Among the different classes of drugs, anticonvulsants (86.3%) were the most prescribed medications, followed by antianxiety (9.68%) and antipsychotic (2.67%). And of the narcotics, pethidine was the most often drug prescribed followed by morphine (6).

The second one is a retrospective cross-sectional study which is done on Prescription pattern of psychotropic drugs in Shambu general hospital. It was conducted from January 28 to February 08/2018 on prescription papers containing psychotropic medications. From a total of 384 prescription papers containing psychotropic medications majority of the patients attending the psychotropic medication were the age of between 20-49 years. The most commonly prescribed categories of medications were: antipsychotic, tricyclic antidepressants (TCAs), antiepilepticus, anxiolytics/sedatives, anticholinergics and selective serotonin reuptake inhibitors (SSRIs) which is ordered in descending fashion. Among the individual drugs the most commonly prescribed anti-psychotic, was chlorpromazine 126 drugs (20.66%). From antidepressant categories tricyclic antidepressants (Amitriptyline 73 drugs (11.97%)) was the frequently ordered and followed by the Selective Serotonin Reuptake Inhibitors fluoxetine 16 drugs. Phenobarbitone 54 drugs (8.85%) and phenytoin 32 drugs (5.25%) were the most often prescribed psychotropic drugs from antiepilepticus drugs categories. Diazepam 38 medications and trihexyphenidyl 30 drugs were the least prescribed medications from anxiolytics and anticholinergics class of drugs respectively (21).

1.3. Significance of the study

The study will analyze the prescription pattern of Psychotropic medication in treatment naive patients and investigate what medication at what dose was prescribed for these patients in Amanuel hospital. This study is also essential for evaluating patient care to improve service delivery through awareness creation for appropriate choice of drugs and dosage of the medication.

2. Objective

2.1. General objective

- To study the patterns of Psychotropic medication prescription patterns for treatment naive mental illness patients in Amanuel hospital.

2.2. Specific objectives

- To describe socio-demographic characteristics of the treatment naive mental illness patients.
- To describe the distribution of treatment naive patient diagnosis.
- To describe the Evaluation note completeness associated with psychotropic prescription.

3. Methodology

-This study was conducted in two phases. The first (pilot) phase was done on charts from March 6 – March 7, 2019. The second (the main data collection) phase was done on charts from March 10 – March 29, 2019.

3.1. The Pilot Phase

- The pilot phase of the study was conducted in Amanuel Specialized Mental Hospital.
- The data was collected from new charts on March 06/2019 and March 07/2019.
- The sample size of the pilot phase was 10% of the main data collection Phase (I.e. – 38 charts).
- The inclusion and exclusion criteria was similar to main data collection Phase.
- Data was collected from new charts that fulfill the inclusion criteria by using the prepared data extraction sheet.

3.1.1. Objective

- The objective of the pilot phase was testing the feasibility of the data extraction tool.
- The Data extraction sheet was edited based on the results from the pilot study.

3.2. Data collection Phase

3.2.1 Study design

- A retrospective chart review was conducted on 384 treatment naive patients with mental disorder in Amanuel hospital out-patient department (between March 10/2019 and March 29/2019).
- March 10/2019 to March 29/2019 (Megabit 1- Megabit 20, 2011) was selected because, it is near to the study data collection time. The nearness of the sample date makes the data collection easer.

3.2.2. Study setting

- The study was conducted at Amanuel Specialized Mental Hospital. Amanuel specialized mental hospital is one of psychiatric hospital in Ethiopia with a capacity of 261 beds. Services are given in different case teams each led by a Psychiatrist.

- There are 15 OPDs in this hospital. There are a total of 81 medical professionals working in the OPDs. 12 Psychiatrists, 01 neurologist, 17 General practitioners, 32 MSc psychiatry professionals, 12 Degree in psychiatry, 07 health officers are within this team.

3.2.3. Study population

- In AMSH on a rough registry review of psychiatry patients, there were 840 to 1000 clients per month who got new card in 2018/2019. Patents were given a new card if they are new clients for the hospital.
- The study population was all new psychiatric patients in ASMH.

3.3. Eligibility Criteria

3.3.1. Inclusion criteria

- Treatment naive Psychiatry patients (Cases that have no history of Psychotropic medication treatment), who were treated by Psychotropic medication between March 10/2019 and April 08/2019.

3.3.2 Exclusion criteria

- Medical records before March 10/2019 and after April 08/2019.
- Cases that have no Psychiatric diagnosis,
- Cases that were managed only by non-pharmacological interventions,
- Cases that have history of Psychotropic medication treatment and,
- Charts that doesn't clearly put if the patient took psychotropic medication before the first visit to ASMH.

3.4. Sample size and Sampling technique

3.4.1. Sample size

- The sample size is determined using single population proportion as described below.

  $n= z^2 (p (1-p)/d^2$

  Where: n= is the minimum sample size required

  p= is an estimate of the prevalence rate for the population (50%).

  Thus, $n= z^2 (p (1-p)/d^2 \ (1.96)^2 (0.5) (0.5) / (0.05)^2 = 384$

- Data was collected on 100% sample size.

3.4.2. Sampling technique

- The required numbers of records are selected by purposive sampling technique within the study time.

3.5. Operational Definition

- Appointment: -The time duration for the next visit.
- Dose: - The amount of drug to be taken at a time.
- Duration of Chief compliant: - The length of time that the current symptoms have been present.
- Complete evaluation note: - Is a note which has full identifying information, chief compliant with duration, history of present illness, history of past psychiatric illness, past medical and surgical history, family history, personal history, legal history, mental state examination, final diagnosis, management and prescriber's information.

- First follow up visit: - It is the second visit to the hospital after the patient start taking the psychotropic medication for the first time.
- New cases: -Patents were given a new card if they are new clients for the hospital.
- Prescribers: - Any medical practitioner who is licensed or authorized to write prescription.
- Presenting compliant / Chief Complaint: - The main reasons of the patient for coming to the clinic.
- Psychiatric assessment / Diagnosis: - Diagnostic classification is made according to DSM 5.
- Psychiatry Patient: - A Patient that is diagnosed by one or more DSM 5 mental illness.
- Psychotropic medication: - Is a psychoactive drug licensed to exert an effect on the chemical makeup of the nervous system and brain.
- Side effects: - Any adverse and unwanted secondary effect of psychotropic medications.
- Treatment naive patients: - Cases that have no history of Psychotropic medication treatment.

3.6. Instruments used for data collection and data collection procedures

3.6.1. Data collection

The registry found in the triage data base of ASMH was used to identify chart number of new cases who came in the selected study period. Charts were taken from medical records chart room for data collection. The total number of new patients in the study time (March 10/2019 and April 08/2019) was 1031.Data collection was started from new charts on March 10 and I reviewed 693 charts.384 charts fulfilled the inclusion criteria.309 charts were excluded using the exclusion criteria.

Data collection was completed on March 29, 2019, because the expected sample size was fulfilled (384 charts). Data for each case was extracted from the individual medical report card. The data was collected only from the first and next recorded evaluation of the patient.

The medical report card provides information regarding the profile of the patient socio demographic, chief compliant, history of present illness, past psychiatric, both psychiatric and medical diagnosis, and management. Data extraction tool was used to extract the necessary information from the recorded files of medical report card. Data was collected from August 26 - September 8, 2019.

3.6.2. Data collection tool

- The following instruments were used - these were adapted or developed pragmatically.
    - Socio-demographic profile form: Specially developed for this study and used to record the relevant socio demographic data on age, gender, education, marital status, and residence.
    - A checklist specifically, developed for this study based on DSM 5 to extract Psychiatric diagnosis from the records.
    - A checklist developed for prescribed psychotropic medications with dose of the drug in 24 hrs.
    - A check list for Co morbid Medical Illness, decision of the prescriber, follow up visit plan and recorded side effects.

3.6.3. Data analysis

The collected data were rechecked for accuracy, consistency, omission and irregularities. It was coded and entered to the Statistical Packages for the Social Sciences (SPSS), version 24, software. The

data were cleaned again after the entry by doing frequencies and observing inconsistencies. Descriptive statistical analyses (frequency and cross tabulation) were done.

4. Ethical consideration

Ethical clearance was obtained from the Department of Psychiatry, College of Health Sciences, Addis Ababa University. An official letter from the department of psychiatry was submitted to Amanuel Specialized Mental Hospital administration and a permission letter from the administration was submitted to the medical records chart room. The Name of patients and the prescribers was not mentioned in the study to keep the confidentiality.

6. RESULTS

6.1. Description of Socio-demographic features

Records of a total of 384 treatment naive patient's chart prescribed with psychotropic medications were evaluated. Key information was missing on marital status85 (22.1%), occupation 175(45.6%), religion 141(36.7%) and educational level 181(47.1%). The overall age of the sample ranged from 15 to 95 years, with more than sixty-five percent (67.18%) being between 15-35 years. The mean age was 34.2 years with standard deviation of 16 years. The age and sex distribution of the patients who received psychotropic drug is shown in Table 1. The prescriptions were ordered to 224 (58.3%) males and 160 (41.7%) females [Table 1].

More than half of the participants 208 (54.2%) are from Oromia. Other participants came from Addis Ababa 87(22.7%), SNNPR 46(12%) and Amhara 34 (8.9%) [Figure 1]. The overall chief compliant duration of sample ranged from 1 day to 7300 days. The mean duration of presenting compliant was 430.2 days with standard deviation of 854.2 (mode -365, Median- 90).

Table 1: Age and Gender distribution of studied subjects in AMSH, 2019.

Classification of Patient by years	No.	Male	Female	%
15 – 24	114	63	51	29.7
25 –34	122	77	45	31.8
35 –44	61	37	24	15.9
45 – 54	32	17	15	8.3
55 – 64	24	15	9	6.3
65 – 95	31	15	16	8.1
Total	384	224	160	100.0

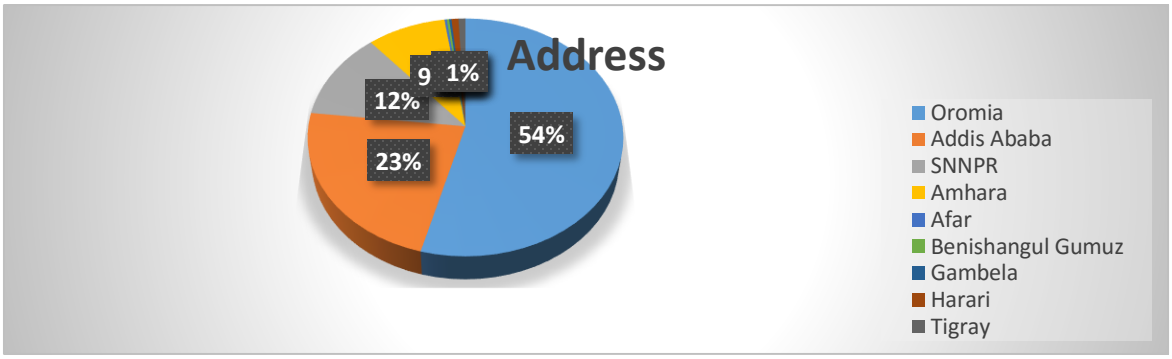


Figure 1: Address of studied subjects in AMSH, 2019.

6.1.1. Presenting compliant with duration of compliant

In this study Aggressiveness74 (19%), Urge to be on the move 47 (12%),Taking alone 40 (10%) and difficulty to sleep 39 (10%) were the most frequent chief complaints [Figure 2].

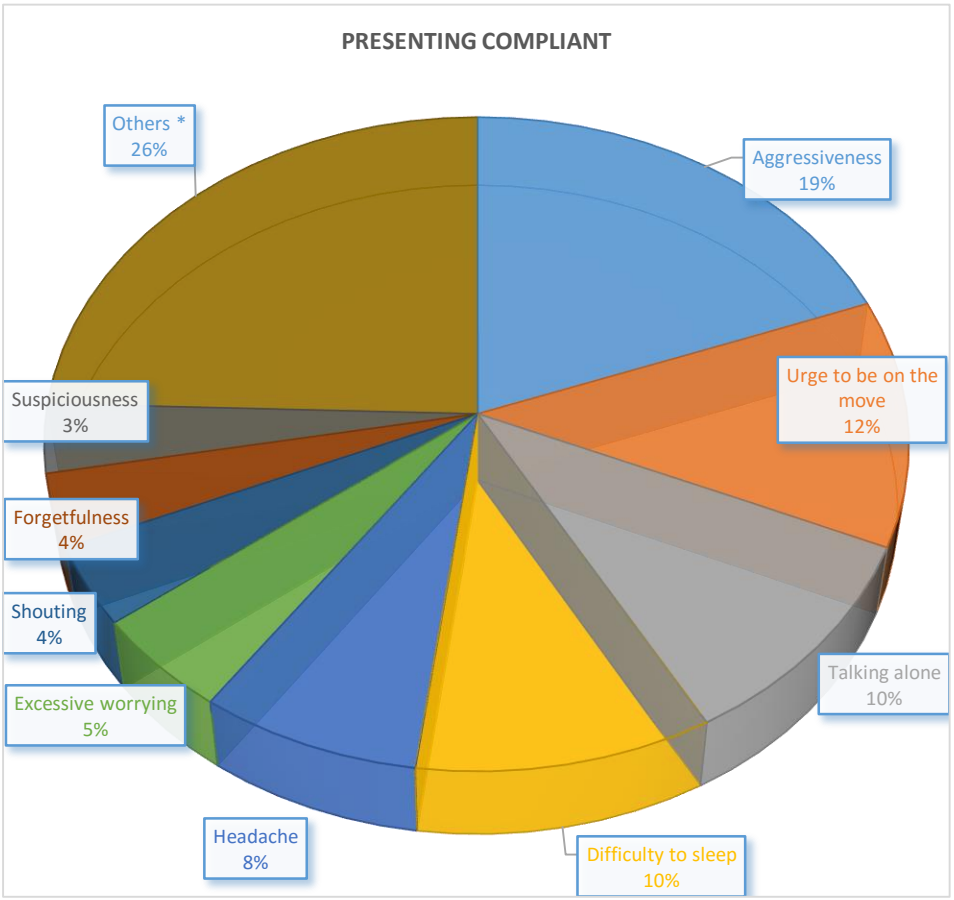


Figure 2: Chief compliant of studied subjects in AMSH, 2019.

Note: Others*- (Hearing a voice 10 (2.6%),Disorganized thought 8 (2.1%),Self-harming 8 (2.1%),Changed behavior 7 (1.8%),Self-isolation 6 (1.6%),Talkativeness 6 (1.6%),Hopelessness 5 (1.3%),Abnormal body movement 5 (1.3%),Muteness 5 (1.3%), Burning sensation of body 4 (1%),Refusal to eat 3 (0.8%),Falling down 3 (0.8%),Feeling depressed 3 (0.8%),Fearing of things 2 (0.5%), Stress 2 (0.5%),Fear to be with others 2 (0.5%),Collecting dirt material 2 (0.5%),I have no problem 2 (0.5%),I am ill 1(0.3%), Sexual Dysfunction 1(0.3%)Beating Sensation 1(0.3%),Loss of interest 1(0.3%),Low mood 1(0.3%), Difficulty to stop using substance 1(0.3%),Irritability 1(0.3%),Mood swing 1(0.3%), Tearfulness 1(0.3%),Lost from home 1(0.3%)and Increased libido 1(0.3%).)

6.1.2. Diagnosis

210 (51%) participants are diagnosed to have Schizophrenia Spectrum and 90 (22.4%) of the studied subjects are diagnosed with Depressive Disorders. Bipolar and Related Disorders and Neurocognitive Disorders equally found in 26 (6.5%) patients. Similarly, Anxiety Disorders and Substance- Related and Addictive Disorders were the diagnosis evenly in 19(4.7%)patients [Table 2].

Table 2: Diagnosis of studied subjects in AMSH, 2019.

Diagnosis	No.	%
Schizophrenia Spectrum and Other Psychotic Disorders	210	51
Depressive Disorders	90	22.4
Bipolar and Related Disorders	26	6.5
Neurocognitive Disorders	26	6.5
Anxiety Disorders	19	4.7
Substance- Related and Addictive Disorders	19	4.7
Neurodevelopmental Disorders	5	1.2
Trauma and Stressor-Related Disorders	2	0.5
Somatic Symptom and Related Disorders	1	0.2
Sleep-Wake Disorders	1	0.2
Sexual Disorders	1	0.2
Medication-induced Movement Disorders and Other Adverse Effects of Medication	1	0.2
Personality Disorders	1	0.2
Total	402	100

6.2. Prescription Pattern

6.2.1. Oral medications

Among the different classes of drugs prescribed, Antipsychotic 317 (49.3%) was the most frequently prescribed one, followed by Antidepressant 147 (22.86%), Benzodiazepine 118(18.35%), Anticholinergic agent 37 (5.6%) and Anticonvulsant Mood stabilizer 24 (3.7%) [Table 4]. From antidepressant categories tricyclic antidepressants 96 (14.9%) were the frequently prescribed drugs followed by the SSRI 51 (7.9%) [Table 3].

And of the antipsychotic medications, Risperidone 190 (29.5 %) (1 mg - 4 mg, mean 2.2 mg) was the most frequent drug under use followed by Haloperidol 65 (10.1%) (1.5 mg - 6 mg, mean 2.3 mg), Chlorpromazine 28 (4.4 %) (25 mg - 300 mg, mean 141.1 mg), Trifluoperaziane18 (2.3%) (1 mg - 5 mg, mean 1.4 mg) and Olanzapine 14 (2.1%) (2.5 mg - 10 mg, mean 5.5 mg). Thioridazine was the least prescribed antipsychotic drug that accounted for 2 (0.3%) (25 mg - 200 mg, mean 112.5 mg) prescriptions.

Amitriptyline and imipramine were among tricyclic antidepressants which prescribed80 (12.5%) (25 mg - 75 mg, mean 30.6 mg) and 16 (2.5%) (25 mg - 50 mg, mean 26.6 mg) times respectively. From SSRI's Fluoxetine 33 (5.1%) (20 mg - 40 mg, mean 21.2 mg) and Sertraline 18 (2.8%) (25 mg - 50 mg, mean 48.6 mg) are prescribed. In the present study from Benzodiazepine class Diazepam 77 (12%) (5 mg - 20 mg, mean 5.8 mg), Clonazepam 29 (4.5%) (0.5 mg - 4 mg, mean 1.5 mg), Lorazepam7 (1.1%) (1 mg - 3 mg, mean 1.9 mg), and Bromazepam5 (0.8%) (Mean 1.5 mg) were the most frequently prescribed medications.

From Anticonvulsant Mood stabilizer class Carbamazepine 22 (3.4%) (200 mg - 600 mg, mean 363.6 mg) times and valproate 2(0.3%) (500 mg - 800 mg, mean 650 mg) times were prescribed. Trihexyphenidyl is the only medication from anticholinergics class and it is prescribed 37 (5.8%) (2 mg - 5 mg, mean 2.9 mg) times [Table 3].

Table 3: Oral prescription Patterns (medication with dose) of studied subjects in AMSH, 2019.

Psychotropic medication class		Frequency No. (%)	Medications	No.	%	Minimum dose / day	Maximum dose / day	Mean dose / day	Std. Deviation
Antipsychotic – 317 (49.3%)	SGA	204(31.7%)	Risperidone	190	29.5	1 mg	4 mg	2.2 mg	.75445
			Olanzapine	14	2.1	2.5 mg	10 mg	5.5 mg	2.00446
	FGA	113(17.6%)	Haloperidol	65	10.1	1.5 mg	6 mg	2.3 mg	1.08048
			Chlorpromazine	28	4.4	25 mg	300 mg	141.1 mg	64.9837
			Trifluoperazine	18	2.8	1 mg	5 mg	1.4 mg	1.29352
			Thioridazine	2	0.3	25 mg	200 mg	112.5 mg	123.743
Antidepressant – 147 (22.9%)	TCA	96(14.9%)	Amitriptyline	80	12.5	25 mg	75 mg	30.6 mg	13.1778
			Imipramine	16	2.5	25 mg	50 mg	26.6 mg	6.25000
	SSRI	51(7.9%)	Fluoxetine	33	5.1	20 mg	40 mg	21.2 mg	4.84612
			Sertraline	18	2.8	25 mg	50 mg	48.6 mg	5.89256
Benzodiazepine		118(18.4%)	Diazepam	77	12	5 mg	20 mg	5.8 mg	2.30582
			Clonazepam	29	4.5	0.5 mg	4 mg	1.5 mg	.73779
			Lorazepam	7	1.1	1 mg	3 mg	1.9 mg	.89974
			Bromazepam	5	0.8	1.5 mg	1.5 mg	1.5 mg	.00000
Anticholinergic agent		37(5.6%)	Trihexyphenidyl	37	5.8	2 mg	5 mg	2.9 mg	1.38362
Anticonvulsant Moodstabilizer		24(3.7%)	Carbamazepine	22	3.4	200	600 mg	363.6 mg	146.532
			Valproate	2	0.3	500	800 mg	650 mg	212.132
Total		643 (100%)		643	100				

Majority of patients were diagnosed with Schizophrenia Spectrum and Other Psychotic Disorders and was prescribed with 122(62.9%) SGA and 63(32.5%) FGA. Depressive Disorders were the second common diagnosis and was given SGA, TCA, FGA, and SSRIs in 40(47.8%), 19(23.2%), 12(14.6%), 10 (1.5%) patients respectively. Bipolar and Related Disorders were prescribed with SGA 20(80%), FGA 4(16%) and Mood stabilizers 1(4%).

Patents diagnosed with Neurocognitive Disorders were prescribed with FGA 11(50%), TCA 8(36.4%) and SGA 2(9.1%). Anxiety Disorders were managed by TCA 10(62.5%) and SSRI 6(37.5%). [Table 4]

Table 4: Frequency of Oral Psychotropic medication class prescription for specific diagnosis of studied subjects in AMSH, 2019.

DSM 5 Diagnosis	FGA	SGA	SSRI	TCA	Benzodiazepine	Mood stabilizers	Anticholinergic agent	Total
Schizophrenia Spectrum D/Os	63(32.5%)	122(62.9%)	1	1	5	1	1	194
Depressive D/Os	12(14.6%)	40(47.8%)	10(1.5%)	19(23.2%)	0	1	0	82
Bipolar and Related D/Os	4(16%)	20(80%)	0	0	0	1(4%)	0	25
Neurocognitive D/Os	8(36.4%)	2(9.1%)	1(4.5%)	11(50%)	0	0	0	22
Anxiety D/Os	0	0	6(37.5%)	10(62.5%)	0	0	0	16
Substance- Related & Addictive D/Os	5(31.3%)	8(50%)	0	1(6.3%)	2	0	0	16
Neurodevelopmental D/Os	2(50%)	2(50%)	0	0	0	0	0	4
Schizophrenia Spectrum + Depressive D/Os	1(33%)	2(67%)	0	0	0	0	0	3
Trauma and Stressor-Related D/Os	0	0	0	2(100%)	0	0	0	2
Neurocognitive + Schizophrenia Spectrum D/Os	1(50%)	0	0	1(50%)	0	0	0	2
Somatic Symptom and Related D/Os	0	0	0	1(100%)	0	0	0	1
Sleep-Wake D/Os	0	0	0	0	1	0	0	1
Schizophrenia Spectrum + Neurocognitive D/Os	1(100%)	0	0	0	0	0	0	1
Schizophrenia Spectrum + Medication-induced Movement D/Os	0	1(100%)	0	0	0	0	0	
Anxiety + Depressive D/Os	0	0	1(100%)	0	0	0	0	1
Depressive + Neurocognitive D/Os	0	1(100%)	0	0	0	0	0	1
Schizophrenia Spectrum + Anxiety D/Os	0	1(100%)	0	0	0	0	0	1
Depressive + Schizophrenia Spectrum +Personality D/Os	0	1(100%)	0	0	0	0	0	1
Depressive + Substance- Related and Addictive D/Os	0	1(100%)	0	0	0	0	0	1
Substance- Related and Addictive + Schizophrenia Spectrum D/Os	1(100%)	0	0	0	0	0	0	1
Depressive Disorders + Anxiety Disorders	0	0	0	1(100%)	0	0	0	1
Neurodevelopmental + Schizophrenia	1(100%)	0	0	0	0	0	0	1

Spectrum D/Os								
Schizophrenia Spectrum + Bipolar and Related Disorders	0	1(100%)	0	0	0	0	0	1
Sexual Disorders + Substance- Related and Addictive Disorders	1(100%)	0	0	0	0	0	0	
Total	100	202	19	47	8	3	1	384

This study showed the average dose of Risperidone in Schizophrenia Spectrum and Other Psychotic Disorders and Bipolar and Related Disorders is 2.3mg and 2.2 mg respectively. In Depressive Disorders, Neurocognitive Disorders and Substance- Related and Addictive Disorders the average dose was 2 mg /d.

Amitriptyline was given for patients with Anxiety Disorders and Depressive Disorders with average dose of 27.8mg and 32.2mg respectively. In Schizophrenia Spectrum and Other Psychotic Disorders, Neurocognitive Disorders and Substance- Related and Addictive Disorders the average dose was 25 mg /d.

Five mg of Diazepam was prescribed for Bipolar and Related Disorders and Neurocognitive Disorders. Patients diagnosed with Schizophrenia Spectrum and Other Psychotic Disorders, Substance-Related and Addictive Disorders and Depressive Disorders was given an average dose of 10.2 mg /d, 6 mg/d and 5 .9mg /d respectively [Table 5].

Table 5: Frequency of Oral Psychotropic medication prescription with average dose for specific diagnosis of studied subjects in AMSH, 2019.

Diagnosis	No.	%	Frequency of specific medication (mean dose mg/d)															
			Risperidone	Amitriptyline	Diazepam	Haloperidol	Trihexyphenidyl	Fluoxetine	Clonazepam	Chlorpromazine	Carbamazepine	Trifluoperaziane	Sertraline	Imipramine	Olanzapine	Lorazepam	Bromazepam	Valproate	Thioridazine
Schizophrenia Spectrum and Other Psychotic Disorders	198	51.6	115(2.3)	5(25)	46(10.2)	41(2.6)	27(1.3)	6(23.3)	21(3.10)	20	3(33.33.3)	2(1)	2(50)	2(25)	7(5.8)	6(2)	5(1.5)	1(800)	1(200)
Depressive Disorders	82	21.4	40(2)	45(32.2)	12(5.9)	9(3.2)	2(2)	23(20.9)	3(108.3)	3	3(400)	2(1)	8(50)	3(18.3)	2(5)	-	-	-	-
Bipolar and Related Disorders	25	6.5	17(2.2)	-	5(5)	3(2)	2(2)	-	4(200)	1	15(400)	-	-	-	3(5)	1(1)	-	-	-
Neurocognitive Disorders	22	5.7	1(2)	-	1(5)	4(1.9)	2(2)	-	-	-	-	13(1.7)	1(50)	8(25)	1(2.5)	-	-	-	-
Substance- Related and Addictive Disorders	16	4.2	(2)	-	5(6)	3(2)	-	-	1(25)	2	1(200)	-	2(37.5)	-	1(10)	-	-	-	-
Anxiety Disorders	16	4.2	-	9(27.8)	-	-	-	3(20)	-	-	-	-	3(50)	1(25)	-	-	-	-	-
Neurodevelopmental Disorders	4	1.0	2(1.5)	2(37.5)	1(5)	2(2.5)	1(2)	-	-	-	-	-	-	-	-	-	-	1(500)	-
Schizophrenia Spectrum + Depressive Disorders	3	0.8	2(2)	1(25)	2(7.5)	1(3)	-	1(20)	-	-	-	-	-	-	-	-	-	-	-
Trauma and Stressor-Related Disorders	2	0.5	-	1(25)	(7)	-	-	-	-	-	-	-	-	1(925)	-	-	-	-	-
Neurocognitive Disorders + Schizophrenia Spectrum	2	0.5	-	7(25)	-	-	1(2)	-	-	-	-	1(1)		1(25)	-	-	-	-	1(25)
Somatic Symptom and Related Disorders	1	0.3	-	1(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Sleep-Wake Disorders	1	0.3	-	-	1(5)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Schizophrenia Spectrum + Neurocognitive Disorders	1x	0.3	-	-	1(5)	1(1.5)	1(2.5)	-	-	-	-	-	-	-	-	-	-	-	-
Schizophrenia Spectrum + Medication-induced Movement Disorders	1	0.3	1(1)	-	-	-	1(2)	-	-	-	-	-	-	-	-	-	-	-	-
Anxiety Disorders + Depressive Disorders	1	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Depressive Disorders + Neurocognitive Disorders	1	0.3	1(1)	1(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Schizophrenia Spectrum + Anxiety Disorders	1	0.3	1(2)	1(50)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Depressive Disorders + Schizophrenia Spectrum +Personality Disorders	1	0.3	1(2)	1(75)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Depressive Disorders + Substance- Related and Addictive Disorders	1	0.3	1(3)	1(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Substance- Related and Addictive Disorders + Schizophrenia Spectrum	1	0.3	-	1(25)	-	-	-	-	1(100)	-	-	-	-	-	-	-	-	-	-
Depressive Disorders + Anxiety Disorders	1	0.3	-	1(25)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Neurodevelopmental Disorders + Schizophrenia Spectrum	1	0.3	-	-	-	1(4.5)	-	-	-	-	-	-	-	-	-	-	-	-	-
Schizophrenia Spectrum + Bipolar and Related Disorders	1	0.3	1(2)		1(5)		-	-	-	-	-	-	-	-	-	-	-	-	-
Sexual Disorders + Substance- Related and Addictive D	1	0.3	-	-	-	-	-	-	(100)	-	-	-	-	-	-	-	-	-	-
Total	384	100.0																	

6.2.2. Parenteral medications

Out of 140 prescribed parenteral medications assessed 62 (44.3%) were Diazepam, 63 (45%)were Haloperidol, and the remaining 15 (10.7%)were Fluphenazine Decanoate. Diazepam was given intravenously 40 (64.5%), intramuscularly22 (35.5%)and 9.4 mg was the average dose. Haloperidol was given intramuscularly52 (82.5%), intravenously 11 (17.5%) and it is given in a mean dose of 5 mg. Fluphenazine Decanoate was given intramuscularly in a mean dose of 12.5 mg [Table 6].

Table 6: Parenteral medications prescription Patterns (medication with dose) of studied subjects in AMSH, 2019.

Parenteral Medications	No.	%	IV No. (%)	IMNo. (%)	Minimum dose (mg/d)	Maximum dose (mg/d)	Mean dose (mg/d)	Std. Deviation
Diazepam	62	44.3	40(64.5)	22(35.5)	5	10	9.4	1.59529
Haloperidol	63	45	11(17.5)	52(82.5)	2.5	10	5	1.05227
Fluphenazine Decanoate	15	10.7	-	15(100)	12.5	12.5	12.5	.00000
Total	140	100	51	89				

6.2.3. Combination of Psychotropic medications

From these 384 cases patients were prescribed a mean of 2 psychotropic medications. 139 (36.2 %) cases were prescribed with One Psychotropic medication only. In the rest of the cases 245 (63.8 %) were prescribed more than one medication. From 245 combined psychotropic medications 151 (61.6%),46 (18.8%), 39 (15.9%), 8 (3.3%), 1(1.4%)were prescribed with Two, Three, Four, Five, and Seven combined medications respectively [Figure 3].

The most common combined psychotropic medications are Antipsychotic with antidepressant, Antipsychotic with benzodiazepine, Two Antipsychotics with Benzodiazepine and, Antipsychotic with Mood stabilizer which are seen in 70 cases (28.6%), 51 cases (20.8%), 41 cases (20.8%), 13 cases (16.7%) respectively [Figure 4].

Figure 3: Prescribed combination of Psychotropic medications of studied subjects in AMSH, 2019.

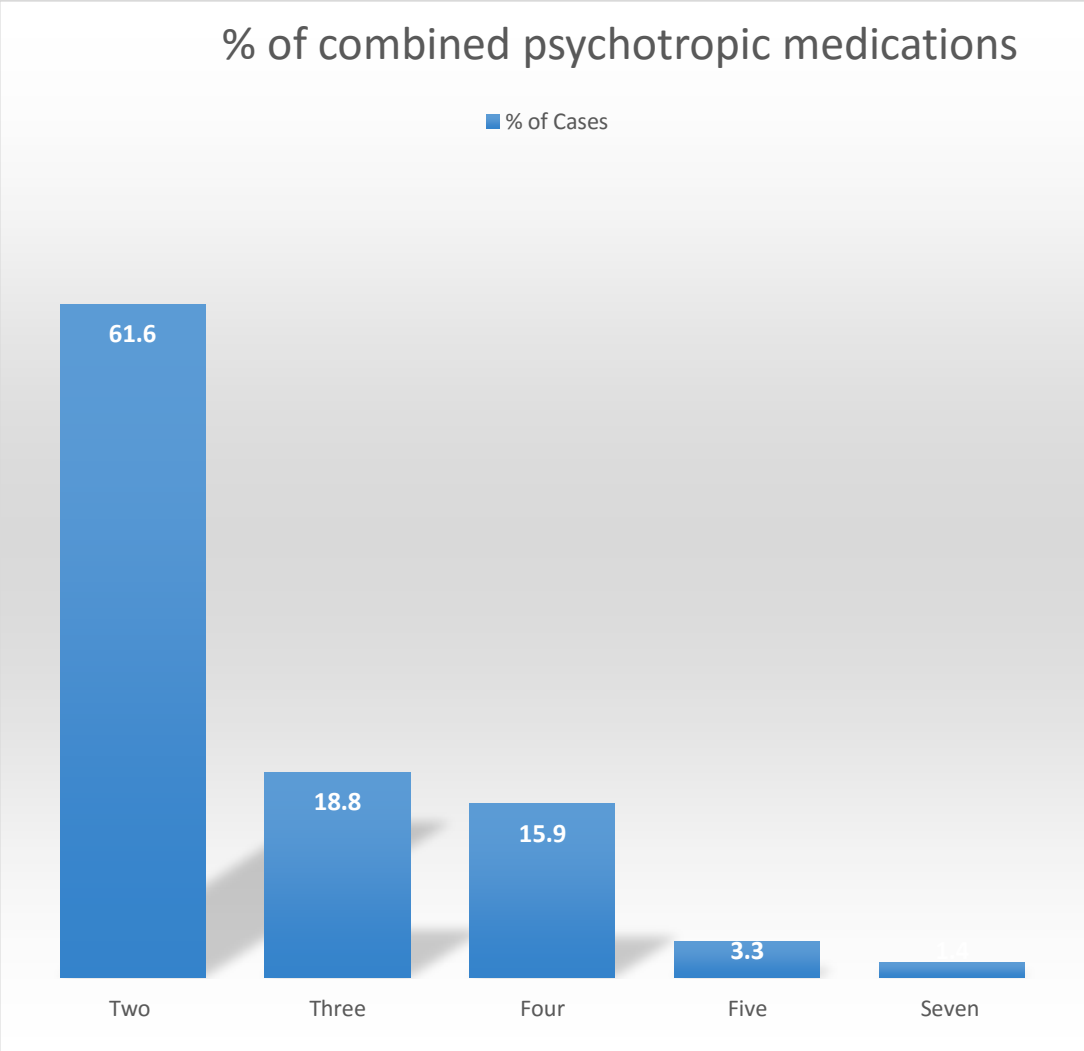
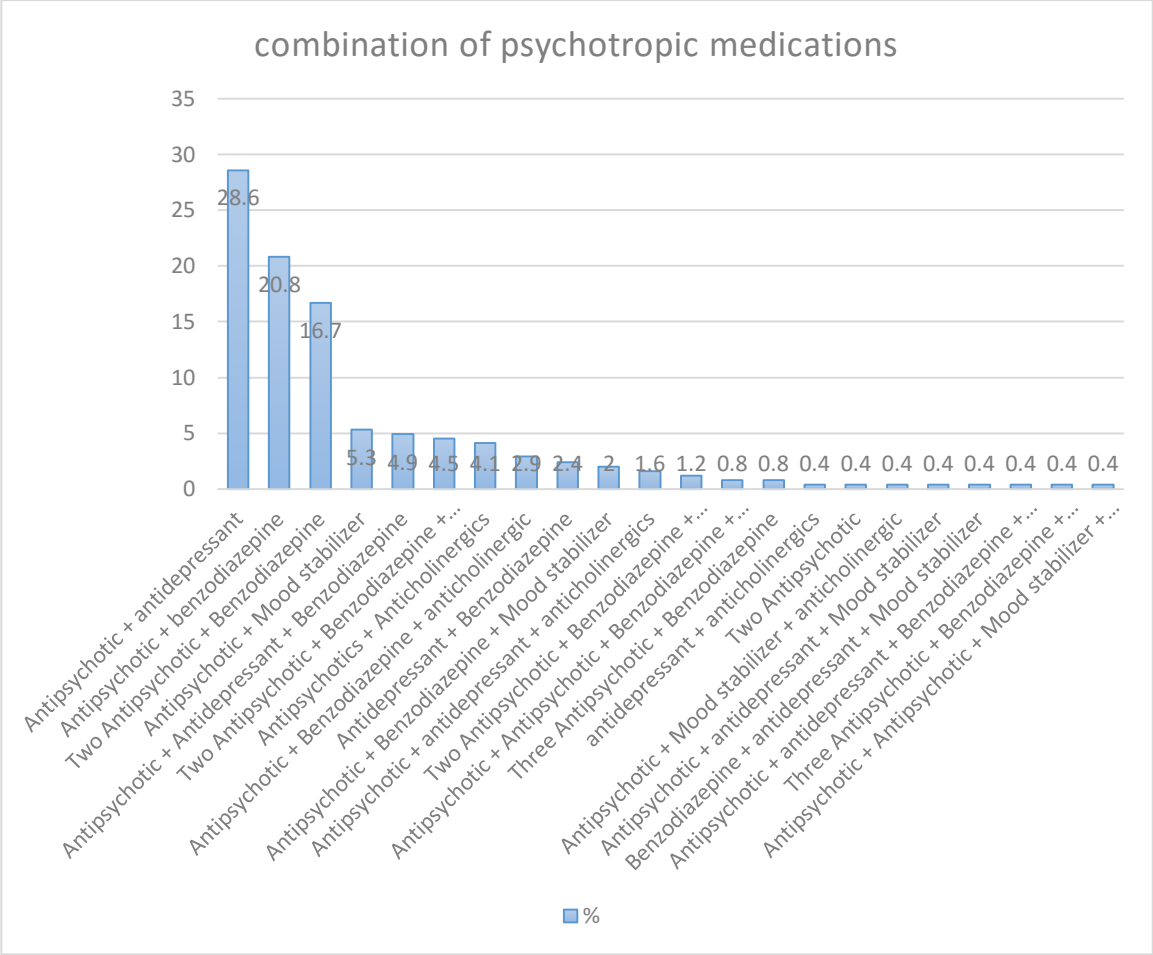


Figure 4: Type of prescribed psychotropic medication combinations of studied subjects in AMSH, 2019.



Patients who were prescribed with one or more Antipsychotics were converted to equivalent Chlorpromazine dose and treatment naive patients were given an average dose of 135.1 mg/d of Chlorpromazine. The range was from 20 mg/d to 667mg/d.

6.3. Side effects

In this study medication side effect in the first 24 hours only recorded 2 times. These are abnormal body posturing, numbness and paresthesia (Table 10). In the first follow up record there were 3 written side effects. These are orthostatic hypotension (1) and Dystonia (2) [Table 7].

Among 270 patients who were seen in 24 hrs or come back for first follow up only 5 (0.02%) psychotropic medication associated side effects were recorded.

Table 7: Recorded 24 hrs and first follow up side effect of studied subjects in AMSH, 2019.

Characteristics	Side effect	No.	No.
Recorded 24 hrs side effect	Abnormal body posturing	2	1
	Numbness and paresthesia		1
Recorded first follow up side effect	Orthostatic hypotension	3	1
	Dystonia		2
Total		5	5

6.5. Medical record keeping

Out of 384 evaluation notes238 (62%)did not have signature or name of the professional. Only 146 (38%) of charts had name or signature of the professional [Table 8].

Similarly, out of 384 charts about 85 (22.1%), 175(45.6%), 141(36.7%) and 181(47.1%) didn't contain the important information like marital status, occupation, religion and educational level of the patients, respectively [Table 8].

From 384 first evaluation notes of prescribers only 36 (9.4%) had Complete evaluation note. The rest 348 (90.6%) were Incomplete [Table 9].

Table 8: MissingInformation'sof studied subjects in AMSH, 2019.

Characteristics	Valid	Missing	Total
Marital status	299(77.9%)	85(22.1%)	384
Occupation	209(54.4%)	175(45.6%)	384
Religion	243(63.3%)	141(36.7%)	384
Educational Level	203(52.9%)	181(47.1%)	384
Number of days for first follow up visit	346(90.1%)	38(9.9%)	384
Prescribers Information	146(38%)	238(62%)	384

Table 9: Completeness of evaluation notes in the first visit of treatment naive patients in AMSH, 2019.

Characteristics	No.	%
Incomplete evaluation note	348	90.6
Complete evaluation note	36	9.4
Total	384	100.0

7. DISCUSSION

A study on psychotropic drug prescription in treatment naive psychiatric patients is essential since the initial treatment selected is important for therapeutic success and patient compliance. Therefore, treatment should be carefully chosen by weighing the relative risks and benefits of psychotropic medication based on the condition of the patient. A Chart review offers an insight into the nature of the health care delivery system (21). There is no similar study done on the patterns of treatment naive patient's drug use in different part of the world including Ethiopia.

In the present study, Antipsychotic drugs were the most prescribed psychotropic drug and the most commonly ordered medication is risperidone. This result is similar with the study done on prescriptions of psychotropic medications among patients with new onset psychotic symptoms in Northern Ireland (17)and Korea (14). Another similar result to this study was the study done on Prescription pattern of psychotropic drugs in Shambu general hospital. It showed that, the most commonly prescribed categories of medications were antipsychotic and tricyclic antidepressants (TCAs). Among the individual drugs the most commonly prescribed antidepressant was tricyclic antidepressants (Amitriptyline was the frequently ordered and followed by the Selective Serotonin Reuptake Inhibitors fluoxetine (21).And unsimilar to this study the most commonly prescribed anti-psychotic, was chlorpromazine (21).

In this study patients were prescribed a mean of 2 medications in a range of 2 -7 combined medication. Patients (n=245; (63.8%) were prescribed more than one medication. A relatively lower prevalence of polypharmacy is seen in other survey carried out in Canary Islands Health Service on patients with mental disorders receiving psychotropic medication. The mean number of psychoactive drugs prescribed was 1.63 ± 0.93 (range 1–7). The rate of polypharmacy was 41.9% (22).

In present study (n=11; (17.5%)patients were prescribed IV Haloperidol injection. Some researches also showed that the intravenous administration of haloperidol is a relatively common off-label clinical practice (24). The FDA said injectable haloperidol is only approved for intramuscular injections. Drug-maker Johnson and Johnson and the FDA said there have been at least 28 case reports of QT prolongation and Torsades de Pointes "some with fatal outcome" when intravenous haloperidol was used off-label (24). In our set up where there is inadequate cardiac monitoring and investigation. In this setup giving IV Haloperidol might cause serious side effects.

Long acting antipsychotic Fluphenazine Decanoate was prescribed in 15(10.7%) treatment naive patients. Guidelines recommend long-acting injectable antipsychotic treatment should not be used in treatment-naive or in acutely disturbed patients without prior stabilization on oral treatment (25). This is also another off label prescription that is found in this study.

Among 270 patients who were seen in 24 hrs or come back for first follow up only (n=5; (0.02%) psychotropic medication associated side effects were recorded. Which is very low prevalence of side effects associated with psychotropic medications. This might be because of unrecorded side effects on the medical records or low identification of side effects of psychotropic medications.

Out of the total 384 first evaluation notes 348 (90.6%) were Incomplete. These evaluation notes didn't include important information like no signature or name of the professional, marital status, occupation, religion and educational level of the patients in 238 (62%), 85 (22.1%), 175(45.6%), 141(36.7%) and 181(47.1%), respectively. This study found a high proportion of incomplete evaluation notes. As reviewed in different papers the incompleteness of medical records compromises the quality of care of patient's and results in different medical errors and patient dissatisfaction (23).

8. CONCLUSIONS AND RECOMMENDATIONS

8.1 Conclusions

This is the first study examining psychotropic prescribing patterns in treatment naive mental illness patients in ASMH. In the present study, antipsychotic drugs were the most prescribed psychotropic drug, followed by antidepressant drugs. There is also moderate use of benzodiazepines, mood stabilizers and anticholinergic drugs. Risperidone was the most frequently prescribed drugs from second generation antipsychotics and tricyclic antidepressants (specifically Amitriptyline) remain the most frequently prescribed class of antidepressants. The current study showed a significant psychotropic medication combination is prescribed to treatment naive patients. This study also showed off-label prescription of (n=11; (17.5%) intravenous administration of haloperidol for treatment naive patients and (n=15; (10.7%) patients were prescribed with long acting antipsychotic Fluphenazine Decanoate. Avery low (n=5; (0.02%) side effects associated with psychotropic medications were recorded among patients who were seen in 24 hrs or come back for first follow up.

8.2 Recommendations

The current study showed prescriptions of long acting antipsychotic Fluphenazine Decanoate and IV haloperidol for treatment naive patients. These off-label prescriptions are associated with severe adverse side effects. So the management of the Hospital should train the health professionals specifically on these medications.

Improving medical record completeness services is an important step towards improving the quality of healthcare. This study also showed different information are missing from the charts. Every information on the medical record is very important to follow up the patient status and the drug events. So, the prescribers should clearly complete all patients, drug and their own information.

Overall, it is important for physicians or prescribers to understand how to prescribe psychotropic medications for treatment naive patients, as they can cause different side effects significantly at this stage.

Future studies need to evaluate the factors associated with the incompleteness of evaluation note, very low recorded side-effects and the reasons for prescriptions of long acting antipsychotics. There is also a need for guideline dissemination and more published research concerning the prescription for treatment naive patients indifferent psychiatric illnesses.

9. Limitations

- Lack of published literature review in Ethiopia on pattern of psychotropic medication for treatment naive patients.
- This study was a retrospective chart review. And it has a lot of missing data. A Prospective study design would be preferable to minimize the missing data.

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11. Annex

Data extraction sheet

11.1. Part 1

Including and Excluding Criteria's

1. Is there any recorded past psychiatry treatment history? YES ☐ NO ☐

2. Is there any recorded past psychotropic treatment history? YES ☐ NO ☐

3. Is the patient diagnosed with psychiatry illness? YES ☐ NO ☐

4. Is the patient PrescribedPsychotropic medication with in the first 24 hours? YES ☐ NO ☐

Medical Card no	Recorded past psychiatry treatment history (Y/N)	Recorded past psychotropic treatment history (Y/N)	Psychiatric diagnosis (Y/N)	PrescribedPsychotropic medication with in the first 24 hours (Y/N)

11.2. Part 2

1. Date of the first prescription day – ____/07/2011E.C

2. Identification data –

2.1. Medical Card No -_____

2.2. Age -_____ Years

2.3. Gender - Male ☐ Female ☐

2.4. Address/ region_____

2.5. Marital status - Single ☐

Married ☐

Divorced ☐

Widowed ☐

2.6. Occupation -_____

2.7. Religion – Christian ☐

Muslim ☐

Atheist ☐

Other _____

2.8. Educational level - Illiterate ☐

Early childhood education ☐

Primary education ☐

Secondary education ☐

Tertiary (higher) education ☐

3. Presenting compliant: -

_____

_____ _____days

4. Psychiatric assessment / Diagnosis: - (If there is more than one diagnosis indicate the primary diagnosis by writing 'PD' in front of the diagnosis)

4.1. Neurodevelopmental Disorders☐ specify _____

4.2. Schizophrenia Spectrum and Other Psychotic Disorders☐ specify _____

4.3. Bipolar and Related Disorders ☐ specify _____

4.4. Depressive Disorders ☐ specify _____

4.5. Anxiety Disorders ☐ specify _____

4.6. Obsessive-Compulsive and Related Disorders ☐ specify _____

4.7. Trauma- and Stressor-Related Disorders ☐ specify _____

4.8. Dissociative Disorders ☐ specify _____

4.9. Somatic Symptom and Related Disorders ☐ specify _____

4.10. Feeding and Eating Disorders ☐ specify _____

4.11. Elimination Disorders ☐ specify _____

4.12. Sleep-Wake Disorders ☐ specify _____

4.13. Sexual Dysfunctions ☐ specify _____

4.14. Gender Dysphoria ☐ specify _____

4.15. Disruptive, Impulse-Control, and Conduct Disorders ☐ specify _____

4.16. Substance-Related and Addictive Disorders ☐ specify _____

4.17. Neurocognitive Disorders ☐ specify _____

4.18. Personality Disorders ☐ specify _____

4.19. Paraphilic Disorders ☐ specify _____

4.20. Medication-Induced Movement Disorders and Other Adverse Effects of Medication ☐ specify _____

4.21. Other Mental Disorders ☐ specify _____

5. Co morbid Medical Illness –

YES ☐ _____

NO ☐

6.Prescribed Psychotropic medication with in the first 24 hours:-

6. A. Oralmedication: -

6. A.1. Haloperidol☐_____mg /day
6. A.2. Chlorpromazine☐_____mg /day
6. A.3. Thioridazine☐_____ mg /day
6. A.4. Risperidone ☐_____mg /day
6. A.5. Olanzapine☐_____mg /day
6. A.6. Clozapine☐_____mg /day
6. A.7. Fluoxetine☐_____mg /day

6. A.8. Sertraline☐_____mg /day
6. A.9. Amitriptyline☐_____mg /day
6. A.10. Imipramine☐_____mg /day
6. A.11. Clomipramine☐_____mg /day
6. A.12. Clonazepam☐_____mg /day
6. A.13. Diazepam☐_____mg /day
6. A.14. Lorazepam☐_____mg /day
6. A.15. Lithium☐_____mg /day
6. A.16. Carbamazepine☐ _____mg /day
6. A.17. Valproic acid☐_____mg /day
6. A.18 .Lamotrigine☐_____mg /day
6. A.19. Trifluoperazine☐ _____ mg /day
6. A.20. Trihexyphenidyl☐ _____ mg /day
6. A.21. Bromazepam☐ _____ mg /day
6. A.22. Other _____

6. B. Intravenous / Intramuscular medication: -

6. B.1. Diazepam☐ IV☐/IM☐ _____mg /day

6. B.2. Lorazepam☐ IV☐/IM ☐ _____mg/day

6. B.3. Haloperidol☐ IV☐/IM ☐_____mg /day

6. B.4. Fluphenazine Decanoate ☐ IV ☐/ IM ☐ _____mg/day

6. B.5. Haloperidol Decanoate ☐ IV☐/ IM ☐_____mg /day

6. B.6. Other _____

7. Other prescribed non-psychotropic medication –

YES ☐ _____

NO ☐

8. Decision –

Admit ☐

Outpatient ☐ Appointed next follow-up _____ days

9. Prescriber –

No sign or name ☐

Name ☐

Sign ☐

9.1. B. Psychiatrist ☐
9.2. B. Psychiatry resident ☐

9.3. B. Neurologist ☐
9.4. B. General practitioner ☐
9.5. B. MSc psychiatry professional ☐
9.6. B. Degree in psychiatry ☐
9.7. B. Health officer☐

10. Recorded side effects with in the first 24 hrs after psychotropic medication administration:-

Yes ☐ What _____

No ☐

11. Recorded first follow up visit: -

Yes ☐ What:-

Assessment: - Improving ☐

Same ☐

Change diagnosis☐_____

Plan: - Change medication ☐ _____

Decrease dose ☐ _____

Increase dose ☐_____

Admit☐

Appoint ☐ _____ days

No ☐

12. Recorded first follow up visit side effects: -

Yes ☐ what_____

No ☐