



ADDIS ABABA UNIVERSITY COLLEGE OF HEALTH SCIENCE, DEPARTMENT OF PSYCHIATRY

Inpatient Forensic psychiatry Service and Assessment outcome at Amanuel Specialized Mental Hospital.

A Partial Fulfillment of the Postgraduate Program in Psychiatry

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Title of the Study

Inpatient forensic psychiatric service and assessment outcome at Amanuel Specialized Mental Hospital: a retrospective study.

Keywords: Forensic psychiatry, mental health legislation, Penal law, Civil law, Criminal responsibility, mental health services, ethical controversies, legal insanity, custodial care, Medico-legal, detention.

Abbreviation

FDRE: federal democratic republic of Ethiopia

ASMH: Amanuel specialized mental hospital

NCRMD: not criminally responsible on account of mental disorder

MDD: Major depressive disorder

Table of Contents

Acknowledgment	2
Title	3
Keywords	3
Abbreviations	3
List of tables	6
Executive summary.....	7
CHAPTER ONE	8
1.1. Introduction.....	8
1.2.Statement of the problem	10
1.3.Objectives	10
1.31- General objective	10
1. 32- Specific objectives	10
CHAPTER TWO	13
2.1. Literature review	13.
CHAPTER THREE.....	15
3.1. Methods	15
3.11-Design.....	15
3.12-The Setting.....	15
3.13-Data Collection	15
3.14-Data analysis.....	16
3.15-Inclusion and exclusion criteria	16
3.151-Inclusion Criteria:	16

3.152-Exclusion Criteria:	16
3.16-Ethical considerations.....	16
CHAPTER FOUR.....	17
4.1Results.....	17
4.11-Socio demographic characteristics of cases.....	17
4.12-Types of alleged crime of the study cases	19
4.13-Neuropsychiatric diagnosis of accused	19
4.14-Socio demographic Determinants of insanity.....	20
4.15-Socio demographic Determinants of Murder	22
4.2.Discussion.....	24
4.3.Strength and limitation.....	25
4.4.Conclusion	25
4.5.Recommendation	26
References.....	27
Data Extraction Sheet	30

List of Tables

Table 1: Socio-demographic characteristics of Accused.....	18
Table 2: Types of alleged crime of the study cases in the inpatient forensic psychiatry.....	19
Table 3: Neuropsychiatric diagnosis of accused coming for inpatient forensic psychiatry.....	20
Table 4: Sociodemographic factors associated with insanity among inpatient forensic Psychiatry cases at amanuel hospital.....	21
Table 5: Sociodemographic factors associated with murder among inpatient forensic Psychiatry cases at amanuel hospital.	23

Executive summary

Background: -Offenders who have mental illness present complex challenges for public policy and the criminal justice system. The identification, assessment, processing and treatment of these mentally ill offenders are the responsibility of forensic psychiatric services in collaboration with the justice system and other legal agencies. Forensic psychiatric services in Ethiopia has been provided by Amanuel Hospital for the entire country for many years, but there has not been a systematic study conducted to see how the service is going and to understand the challenges and the progress of the service.

Objective: - To assess the Forensic psychiatry Service and assessment outcome of the alleged offenders who had been admitted to Forensic unit at Amanuel Specialized Mental Hospital.

Methods: - A retrospective study was conducted involving those who were assessed in the inpatient forensic psychiatry unit at ASMH between January 01/2015 and June 30/2017. Data extraction sheet were used to collect information for the study. All cases assessed by the forensic case team during the study period were included in the study. The data sheets were coded and data entry, cleaning and analysis were done using the Statistical Package for the Social Sciences (SPSS) version 20. Bivariate and Multivariate logistic regression was done to see sociodemographic determinants of insanity and murder.

Results: - One hundred and twelve cases were included in the study. Of these, 79.5% were males. The mean age of the cases was 33 years and Most of the accused (52.7%) were single. In terms of region, 36 (32.1%) were from Oromia, 29 (25.9%) from Amhara, 30 (26.8%) from Addis Ababa and from Tigray 8 (7.1%). Around 60% were charged with murder, followed by attempted murder (13.4%), and sexual violence (6.3%). Only (60.7%) of cases got a neuropsychiatric diagnosis. Of these, Diagnosed with schizophrenia were in (17.6%) and the same number of cases got a diagnosis of by bipolar I disorder (17.6%) and comorbid substance use problem (17.6%). Twenty percent of cases were found not criminally responsible (because of insanity). The majority of cases (90.2%) were found fit to stand trial and from all cases only (4.5 %) of cases are unfit to stand trial and not criminally responsible.

Conclusion: - There is a huge gap between the service at Amanuel and the forensic psychiatric service in another setup with regard to the following factors; the amount of information available to help the expert's decision, the delay to get assessment report, number staff working in the forensic case team and the collaboration between the forensic psychiatry case team and the legal system.

Recommendation: - Early diagnosis, treatment and follow up is very important for those having mental illness so as to prevent criminal activities associated with severe mental illness. Decentralize the service with the training of mental health professionals in the area of forensic psychiatry will solve some problems associated with the service.

CHAPTER ONE

1.1. Introduction

"Forensic psychiatry is the branch of psychiatry that deals with issues arising at the interface between psychiatry and the law, and with the flow of mentally disordered offenders along with a continuum of social systems"[1]. It deals with penal, criminal, civil law issues and the development and application of mental health legislation [1].Forensic psychiatry on the current state has benefited from the evolution in the medico-legal understanding and appreciation of the relationship between mental illness and criminality, evolution of the legal tests to define legal insanity and the new methodologies for the treatment of mental conditions which is an alternative to custodial care [2]. Right now in view of more extensive comprehension of the connection between mental states and wrongdoing in various parts of the world, there is an expanded use of forensic experts in official courtrooms at various levels of lawful activity. In the legitimate framework, there are three noteworthy ranges that need assessment. These are wellness to stand trial, insanity issues and hazard applications [1]. Forensic psychiatrists serve as a bridge between two different professional roles that is medical issues and legal operations.in general Forensic practice deals with the interrelationship of medical, legal, and ethical issues with social-political and legal framework perspective which requires an interdisciplinary approach. Forensic experts should be well informed about current technology and various psychological tests which are very important for evaluations [3, 4]. Forensic psychiatrists must know the legal definitions, the legal policies, and procedures, the legal precedents relating to the question or case at hand while they are providing their expert witnesses in the different legal system. The practice of forensic psychiatry is fraught with ethical dilemmas worldwide, as it deals with a dual role in medicine and law [1]. Due to the double part, they have there may be a contention that forensic psychiatrists rupture restorative medical ethics by supporting the court so that they might do hurt to one party or the other. This argument comes from the idea that physicians should not do harm to their patient, which is the core ethical principle of the medical field [5].

Offenders who have mental illness present complex challenges for public policy and the criminal justice system. The identification, assessment, processing, and treatment of these mentally ill offenders are the responsibility of forensic psychiatric services in collaboration with the justice system and other legal agencies [6]. Forensic psychiatric care differs from other psychiatric specialties in many ways. Firstly, Detention in a secure psychiatric setting can be both restrictive for the individual and expensive for society [7-10]. What's more with that, confinement is very nearly involuntary, which raises extra moral questions, especially concerning the length of stay as it may be high and often lifelong [7, 11]. There are two problems facing a patient admitted to

a secure forensic hospital. The first is detention at an inappropriately high level of therapeutic security, with restrictions and intrusions on freedom, privacy, and choice which is out of proportion to what is needed for safe treatment. The second is an inappropriately long length of hospital stay [12]. "Forensic psychiatric inpatients were operationally defined as patients admitted to the forensic psychiatric ward of the institution for treatment, observation, certification to stand for trial and insanity defense" [13].

Velinov and Marinov on their description of the similarities and differences in the different practices of forensic psychiatry in the world found the following common conditions: there are ethical and professional difficulties especially with regard to conflicts of interest between the individual and the society. The other challenge is that forensic psychiatrists have the pressure of working in institutions of social control and having to solve all the problems of violent behavior of the patients [14, 15]. There are two great challenges to the acquisition of knowledge and the raising of awareness regarding the forensic psychiatry situation worldwide. The first has to do with its heterogeneity, due to various factors like cultural, political, juridical, religious, etc.. This heterogeneity, sometimes within the same country, makes it difficult to describe it clearly. The second challenge is the lack of knowledge regarding many culturally different situations [14]. In many countries, there are few coordinated initiatives to involve all stakeholders, such as the police, departments of justice, prisons and hospitals, for the development of forensic mental health services [16]. Common law is a legal tradition which is characterized by the fact that it is based on previous rulings and not on a set of prior principles. Because of this, a previous ruling can be considered a legal precedent to be used as a defense argument, a legal principle in a new trial. This legal tradition was originated in the United Kingdom and is applied in various countries, which were English colonies, such as the United States, Canada, India, and Pakistan. It has evolved into different legal groups in the countries in which it was adopted [14, 17]. As described by Njenga [18], the majority of African countries do not have mental health legislation and those having mental health legislation they have outdated version which is taken from colonial countries. The mental health legislation of most African nations doesn't go with the current condition and not free from Western influence meanwhile, most of them have no mental health policies and hardly any have specific budgets for mental health. Most African psychiatric hospitals are located in economically deprived parts of the cities, and on top of that forensic facilities are located in maximum security areas within these hospitals. The forensic units are almost an extension of the prisons where there is a restriction of freedom and low chance of getting appropriate care. These units don't have appropriate facilities and besides to that, most countries have one psychiatrist per one million inhabitants which makes the quality of service poor.

1.2. Statement of the problem

There are many accused cases waiting for assessment in the country and this problem has been going on for many years. The available forensic service seems to have so many challenges, including lack of adequate facilities, human resource, and many systemic issues that need to be addressed. To our knowledge, there has not been any systematic scientific study that addressed forensic psychiatry to this date.

Although forensic service has been provided by Amanuel Hospital for the entire country for many years there has not been a systematic study conducted to generate scientific data to identify the gaps and guide stakeholders to devise strategies to bring about the required changes to improve the service.

1.3. Objectives

1.31-General objective

- To describe the inpatient forensic service provided at Amanuel Specialized Psychiatric Hospital over 2.5 years (between January 01/2015 and June 30/ 2017).
- To determine the proportion of the forensic population where an insanity defence was supported by the forensic evaluator.

1.32-Specific objectives

- To describe socio-demographic characteristics of the accused assessed at the Hospital and see if there is correlation between socio demographic characteristics and insanity.
- To describe the types of alleged crime and see if there is correlation between socio demographic characteristics and offenses
- To determine prevalence of mental disorders in the assessed cases.
- To determine the time lapse between the alleged crime and production of assessment report.

CHAPTER TWO

2.1. Literature review

Several studies have been conducted in different parts of the world to describe the inpatient forensic psychiatry service as well as expert evaluation results. These studies are mostly retrospective, descriptive studies.

A statistical survey of 25 Canadian forensic mental health inpatient programs by Livingston [19] in 2006 on 1,010 patients shows that 88.7% were male. Most (83.3%) of the forensic inpatients were hospitalized for treatment purposes and 16.7% were detained for court-ordered assessments. The treatment group comprised 67.4% NCR accused persons; 9.9% unfit-to-stand-trial persons; 5.5% civil (non-Criminal Code) patients; 5.1% sex offenders. The assessment group comprised 18.9% NCR-MD assessments; 33.7% fitness assessments; 38.5% both NCRMD and fitness assessments; and 8.9% of persons with other legal statuses. In Canada during this period there are 1,523 hospital beds designated for forensic mental health programs which mean for every 100 mentally disordered accused persons, 56.14 designated forensic beds are available.

A retrospective study was done in 2006 by Simpson et al. [20] on Outcomes of a New Zealand forensic psychiatry service From 105 cases which comprised of 92 men (88%) and 13 women (12%). Their mean age at discharge was 37.5 years. 80% were single; with (4%) being married and 17 (16%) separated or divorced. 89% had a primary psychotic diagnosis, with predominantly schizophrenia and schizoaffective disorder. Co-morbid substance use disorders occurred in 78%. Twenty-two percent of the cohort was diagnosed with personality disorder. Two-thirds had prior compulsory treatment; meanwhile, 33 (31%) the forensic admission was their first psychiatric presentation. Violence was the predominant index behavior. 51 (48.6%) of the cohort had offending prior to the onset of first psychiatric symptoms. The mean inpatient stay was 55.1 months. Half of them were discharged from forensic care and transferred to general mental health services, meanwhile, 20 (19%) were readmitted to the forensic service for a further period of inpatient care.

The study was done in 2010 at the Al-Amal Complex for Mental Health, which is located in, Saudi Arabia by Elsayed et al. [6]. From 100 psychiatric court reports Men constituted 93% of cases and the mean age of the cases was 31.33 years. From these reports, 51% of cases had a low education level and only 11% of them had a higher education level. Unemployment was found in 34% of cases. A total of 64% of the subjects were single. In 10% of cases, the referral was requested by the offenders themselves, and in 8% of cases, the referral was requested by a family member or a lawyer, meanwhile, 82% of cases were referred after an observation of the legal system. The final decision of the forensic committee showed that 46% of cases were fully responsible, 11% of cases were partial responsibility and with 33% considered non-responsible.

The most common diagnosis was substance abuse or dependence (56% of the sample), schizophrenia (13%), antisocial personality disorder (10%), adjustment disorder (9%), mental retardation (9%), delusional disorder (8%) bipolar disorder (8%) and 10% of the sample had no mental disorders. A total of 58% of cases had had contact with psychiatric Healthcare prior to the offense. A history of similar offenses was found in 32% of cases. With regard to index crime, 14% of the offenses were murders, 12% financial offenses, 19% cases of physical fights, 3% of disobedience of parents, 3% cases of intruding onto others' property and 6% were minor traffic accidents. 8% were sexual crimes, 5% of dealing in illegal Narcotics, 5% were accused of arson and 4% were accused of various security issues.

Forensic psychiatry service is similar in the different North African countries because the forensic psychiatry service is not undertaken in an organized way in these parts of African countries [21]. In a report assessing the mental health system in 2008 [21, 22], the Tunisian ministry of health reported that 77% of forensic patients spent less than 1 year at the psychiatric institution, 17% 1–4 years, 4% 5–10 years and 2% more than 10 years. The majority of these patients had mental retardation, dementia or schizophrenia.

An Analysis of the archives of Berrechid, the largest mental hospital in Morocco by Hamaoui et al. [21], screening for all forensic psychiatric patients admitted between 2001 and 2007, from 219 admitted participants, 74 for expert psychiatric evaluations and the others judged and committed in the mental hospital by the judicial authority. Only 1 female participant was admitted after an infanticide. The mean age of the sample was 44 years and the mean duration of hospitalization was 363 days; 69.4% were single and 59.4% were jobless. Homicide represented 25.8% all cases and homicide attempt 8.6%. Assault represented 10% and pyromania 9.4%. The diagnosis of schizophrenia was made in 70% of the sample.

Strydom et al. [23] examined Profile of forensic psychiatric inpatients referred to the Free State Psychiatric Complex in South Africa in 2011. A descriptive, retrospective study was conducted For 120 participants; the majority of the offenders were male (95.8%), unmarried (83.8%) and unemployed (81.5%). The median age was 32.5 years. Most of the offense against persons was of a sexual nature (45.8%). The main offense against property was vandalism (40.6%). Most of the patients in the study had a history of abusing substances such as alcohol (74%), cannabis (66.7%), tobacco (29.6%) and glue (6.2%). 55.5% of the forensic inpatients were diagnosed with schizophrenia, followed by mental retardation (10%) and bipolar mood disorder (9.2%). Fifty-eight percent of the participants had received treatment for a mental illness prior to the crime, and 63% were also known to have poor compliance and to have defaulted from treatment in the past. The majority (80%) of participants not able to stand trial and not criminally responsible. Only 1.8% were found competent to stand trial and not criminally responsible and 0.9% were found criminally responsible and not competent to stand trial.

A descriptive, retrospective study was done on their profile and 3-year follow-up of Forensic state patients at the Sterkfontein Hospital in 2015 by Marais et al. [24]. From 114 included state patients, the major proportions were; male (87%), single (80%), unemployed (78%), and had not completed matric (83%). The mean age was 32. More than half of the state patients had a known past psychiatric history (59%) and the majority had a history of substance abuse (71%). Alcohol was the most frequently abused substance (57%), followed closely by cannabis (47%) and poly-substance abuse (37%). 14% of state patients had a history of previous criminal convictions and 25% did not. 61% of reports regarding previous convictions were not provided. According to the history of the state patients themselves, 54% denied a past criminal history, 34% reported a positive past criminal history, and in 11% a past criminal history could not be obtained. Of those who reported a past criminal history, 15% had previously undergone forensic psychiatric observation. With regard to the alleged offenses (75%) were charged with a single offense, followed by rape (18%), and then murder (13%). Psychotic disorders represented the most common diagnostic category (69%), with schizophrenia being the most common diagnosis (44%). Bipolar disorder diagnosed in 4% of the state patients, and major depressive disorder (MDD) with psychotic features in 1%. Other psychiatric diagnoses included mental retardation (16%), 'organic brain syndrome' (5%), dementia (4%), and epilepsy (4%). 89% of the state patients were found not criminally responsible, 11% were declared criminally responsible. 96% were found unfit to stand trial and The remaining 4% were found fit to stand trial, but not criminally responsible.

Hayward et al. [25] on his retrospective case-note study to review the forensic psychiatric services at the Zomba Mental hospital, in Malawi, from 283 patients admitted between May 1997 and February 2007, found out that the average age of the patients was 30.4 years. 91.5% were men and only 22.6% had been educated beyond primary school Level. With regard to index offense, Murder (28.6%), Assault including sexual (18.4%), Damage to property, including arson (17.7%), other including breach of the peace was in (35.3 %). in terms of clinical diagnosis, Schizophrenia (35.5%) Depression (3 %), Substance misuse (32.5%), Epilepsy (8.1 %), Stress disorder (1.8 %) and in 8.5% of cases there was no neuropsychiatric illness identified. Duration of their hospital stay was 1.4% less than 1 day, 12.7% Up to 1 week, 40.3% Up to 1 month, 35% Up to 6 months, and 10.6% More than 6 months. 36.4% of the patients had been detained before.

A thesis done by Lemeneh A. [26] in Ethiopia analyzed 140 retrospective cases assessed in an inpatient forensic psychiatric unit at ASMH. The study population was selected from all court-ordered referrals for forensic assessment to the hospital over a ten-year period (1997-2007). Male sex & the age group 26-40 overly represented in the group. Larger proportions were single & had some kind of income. A waiting period (average 36.6 months), Hospital Stay (average 122.8 days). In 114 (81.4%), evaluation was requested by the courts' interest, 116 (82.9%) were for homicide. Most crimes directed at someone they knew before (94, 67.1%), 35% of the homicides were committed either on first-degree relatives or on a spouse. Substance use history not commented in 105 (75%) of the files. The legal committee found 12.9% mentally ill

&treatment was recommended, but none of the defendants got psychiatric treatment during the assessment period in the forensic unit. And all of them, except the females, were chained throughout their hospital stay. No statistically significant association between the different demographic & clinical variables with the main outcome measure (board's decision), except marital status. Those married at any time in their life were more likely to be identified as mentally sound.

When it comes to Ethiopia, Alem A. [27] described the Forensic services at ASMH in 2000 that alleged offenders claiming insanity, or who are judged inadequate to stand trial by the court get referred to Amanuel Hospital from all courts in the country and they will be kept in the central prison in Addis Ababa Until hospital beds are made available for forensic evaluation. Mentally ill prisoners may stay in the prison for up to one year without treatment, rather being maltreated from prison guards and inmates. When they come to the hospital, they are admitted in chains and they are closely watched by armed prison guards, who also stay in the wards.

In those days forensic assessment used to be done by a team comprising a psychiatrist, a social worker, and a psychologist. Observations are also made by psychiatric nurses. The police investigation report about the crime is brought to the hospital together with the alleged offender, but it gives hardly any data about the person's background or the circumstances around committing of the crime. As a result, the decision by the team was entirely dependent on the information obtained from the alleged offenders themselves and observational findings. Those prisoners who were found to be mentally ill would be put under treatment and sent back to prison to face the court's decision. Once the person is found not guilty because of insanity, he/she used to be released into the community irrespective of the danger he or she is likely to pose.

Under Article 48 sub-article two and three of FDRE criminal code “a person is not responsible for his acts under the law when, owing to age, illness, abnormal delay in his development, deterioration of his mental faculties, a derangement or an abnormal or deficient condition or any other similar biological cause, he was incapable at the time of his act, of understanding the nature or consequences of his act, or of regulating his conduct according to such understanding. The Court may order in respect of an irresponsible person such suitable measures of treatment or protection as are provided by law”[28].

Forensic service has been provided by Amanuel Hospital for the entire country for many years, but there has not been a systematic study conducted to see how the service is going and to understand challenges and gaps of the service.

CHAPTER THREE

3.1. Methods

3.11-Design

The study was a retrospective hospital-based method to describe Service delivery and assessment outcome of those who had an inpatient Forensic Psychiatry assessment at ASMH over 2.5 years (between January 01/2015 and June 30/2017).

3.12-The Setting

The study was conducted at Amanuel Specialized Mental Hospital. Amanuel specialized mental hospital is the only psychiatric hospital in Ethiopia with a capacity of 261 beds. Services are given in different case teams each led by a Psychiatrist. One of such case teams is the forensic case team, which is led by a psychiatrist and staffed by a forensic psychiatrist, rotating residents, three nurses and one clinical psychologist. The forensic inpatient has 13 beds (11 for male and 2 for females). Alleged offenders who claim insanity, or who are judged inadequate to stand trial by the court are referred to ASMH from all courts in the different parts of Ethiopia. Until hospital beds are made available for close observation and careful examination, they are kept in prisons in their respective administrative locality. The waiting list at Amanuel Specialized Hospital indicates that at any given time there are over a thousand prospective forensic referrals awaiting psychiatric assessment. While waiting for an inpatient assessment most offenders with mental illness remain untreated. After admission assessment is made by direct and indirect observation by the forensic psychiatry case team and thorough evaluation by the forensic psychiatry expert. There are two patterns of assessment: some of the accused are evaluated and assessment report is done by the board, whereas the other cases are assessed and a report is done by the expert. In those cases evaluated by the board, only the presence and absence of mental illness is reported.

3.13-Data Collection

The registry found in the forensic data base of ASMH was used to identify cases to be included in the study. Over this study period, 133 cases were seen, from these in 21 of the cases (cases evaluated and report prepared by the Board), the sociodemographic, legal and clinical information was not complete so we excluded 21 cases. Data for each case was extracted from the copy of a forensic report submitted to the court and from forensic database. The forensic report provides information regarding the profile of the alleged offender, such as

sociodemographics, past criminal, psychiatric and substance abuse histories, the nature of the offense and the findings from the forensic observation, specifically the psychiatric diagnosis, fitness to stand trial and criminal responsibility. Given the absence of a standardized tool for extraction of the necessary details from the case files, data extraction tool was developed on the basis of a review of relevant literature and suggestions obtained from a forensic psychiatrist. This Data extraction tool was used to extract the necessary information from the recorded files and the Register.

3.14-Data analysis

The data sheets were coded and data entry, cleaning, and analysis were done using the Statistical Package for the Social Sciences (SPSS) version 20. Data were organized with variables including age, gender, educational status, employment, marital status, religion, types of index crime, outcomes of evaluation and e t c.bivariate and Multivariate logistic regression was done to see sociodemographic determinants of insanity and murder.

3.15-Inclusion and exclusion criteria

3.151-Inclusion Criteria:

Those accused who were recorded at the inpatient forensic psychiatryRegistry, between January 01/2015 and June 30/ 2017 and have some basic information.

3.152-Exclusion Criteria:

Records of cases that started before January 01/ 2015 and after June 30/ 2017 and those cases with incompletesociodemographic, legal and clinical information were excluded from the study.

3.16-Ethical consideration

Ethical permission was granted from the Department of Psychiatry, College of Health Sciences, Addis Ababa University, and ethics committee at Amanuel Specialized Mental Hospital.

The names of the accused were not mentioned in the study to keep the confidentiality of the accused.

CHAPTER FOUR

4.1. Results

4.11-Socio demographic characteristics of Accused

One hundred and twelve cases were included in the study. Of these, 79.5% were males. The mean age of cases at evaluation was 33 years (SD 10.7; range 17–60 years) and Most accused (52.7%) were single. In terms of region, 36 (32.1%) were from Oromia, 29 (25.9%) from Amhara, 30 (26.8%) from Addis Ababa and from Tigray 8 (7.1%). The socio-demographic details of the study cases is summarized in (Table 1),

The decision of the forensic psychiatry evaluator is based on the available information available and in the majority of cases (53.6%) there was no collateral history other than the police investigation report. So the report depends on direct and indirect observation of the forensic case team, and a thorough assessment interview by the forensic psychiatrist.

The mean time spent for forensic evaluation as an inpatient is 65.76 days (SD=36.67; range 5-180days).with regard to time lapsed prior to forensic psychiatry assessment, the mean time elapsed between court referral and admission for assessment is 11.27months (SD=10.57; range 0.03-43.00 months) and between the time of alleged crime and admission for assessment is 27.70 months (SD=11.80; range 1-65 months).As there may be more than one referral of accused by the court differenttimes, the time between the alleged crime and admission for assessment describe the time delay better than the time between referral and admission for the assessment.

Table1. Socio demographic characteristics of Accused

characteristics	Number(N)	Percent (%)
Sex		
Male	89	79.5
Female	23	20.5
Age		
<30year	62	55.4
31-40	27	24.1
41-50	13	11.6
51-60	10	8.9
Religion		
Orthodox	59	52.7
Muslim	41	36.6
Protestant	6	5.4
Others ¹	6	5.4
Marital status		
Single	59	52.7
Married	36	32.1
Others ²	17	15.2
Education level		
Not literate	48	42.9
Primary	32	28.6
Secondary	19	17.0
Higher education	13	11.6
Employment		
Employed	85	75.9
Unemployed	27	24.1
Region		
Oromia	36	32.1
Addisababa	30	26.8
Amhara	29	25.9
Tigray	8	7.1
Others ³	9	8

Note: others¹ (Catholics, Jehovah witness, unknown)

Others² (divorced, separated and widowed)

Others³ (Afar, Beneshanguelgumez, Harrer, and Diredwa)

4.12-Types of alleged crime

With regard to the alleged offense committed by the refereed cases, the majority (59.8%) were charged with murder, Followed by attempted murder (13.4%), and sexual violence (6.3%) as shown in (Table 2). Previous criminal involvement is found in (25.9%) of cases. (36.6%) of cases denied the alleged crime to the forensic psychiatry evaluator whereas, 27.7% of the cases denied the alleged crime to the police as it is stated in the police investigation report. In the majority of the cases (92%), there was no attempt to characterize the accused behavior and gross mental condition (before, during and after the alleged crime) by the police.

Regarding criminal responsibility and fitness to stand trial, in (20.5 %) of cases, criminal responsibility (because of insanity) was supported by forensic psychiatry evaluation and the majority of cases (90.2%) were found fit to stand trial. From all cases only (4.5 %) of cases are unfit to stand trial and not criminally responsible. The distribution of insanity among the alleged crime is shown in (table 2).

Table 2: types of alleged crime, and proportion of insanity of the study cases in each type of alleged crime in the inpatient forensic psychiatry

Alleged crime	Number (N)	Percent (%)	Number of insane among the alleged crime (N)	Percentage of insanity among the alleged crime (%)
Murder	67	59.8	12	17.9
Attempted murder	15	13.4	2	13.3
Sexual violence	7	6.3	2	33.3
Causing body injury	6	5.4	1	14.3
Robbery	6	5.4	2	33.3
Others*	11	9.8	4	36.4
Total	112	100.0	23	20.5

Note: Others* (financial crimes, bribes and verbal threatening)

4.13-Neuropsychiatric diagnosis of the accused

The neuropsychiatric diagnosis of the accused is shown in (Table 3). Only (60.7%) of cases got a neuropsychiatric diagnosis. Of these, Diagnosed with schizophrenia were in (17.6%) of cases, and the same number of cases got a diagnosis of bipolar I disorder (17.6%) and comorbid substance use problem (17.6%). Treatment as per the diagnosis was initiated in those cases having neuropsychiatric diagnosis. Twenty six percent of cases have confirmed past psychiatric treatment, and in 6.5% of cases there was psychoactive substance use around the time of alleged crime.

Table 3. Neuropsychiatric diagnosis of the accused coming for inpatient forensic psychiatry

Diagnosis	Number(N) from total cases	Percent (%)of total cases	Percent (%)from those diagnosed
Schizophrenia	12	10.7	17.6
Other psychotic disorder	3	2.7	4.4
Bipolar I disorder	12	10.7	17.6
MDD with psychotic feature	1	0.9	1.5
MDD	2	1.8	2.9
Substance use disorder	7	6.3	10.3
Personality disorder	2	1.8	2.9
Epilepsy	9	8.0	13.2
Co morbid substance use disorder	12	10.7	17.6
More than one diagnosis (excluding substance)	6	5.4	8.8
Others*	2	1.8	2.9
With no diagnosis	44	39.3	-
Total	112	100.0	100.0

Note: others* (Anxiety disorder, bipolar II disorder)

4.14-Sociodemographic Determinants of insanity (criminal irresponsibility)

The sociodemographic characteristics that were associated with the finding of criminal irresponsibility were being aged (41-50 years) and attaining a higher education level (Table 4). Those whose age (41-50) had odds of 8.69 of insanity (odds ratio [OR] = 8.69, 95%CI=1.29-58.53, P=0.026). And those who attained a higher education level had odds of 8.95 of insanity (OR=8.95, 95% CI= 1.15-69.58, P=0.036) (Table 4).

Table4. Sociodemographic factors associated with insanity among inpatient forensic psychiatry cases at amanuel hospital

characteristics	Crude odds ratio (95% Confidence Interval)	Adjusted odds ratio (95% Confidence Interval)	P value
Sex			
Male	Ref		
Female	2.63(0.95-7.31)	3.56(.77-16.58)	.105
Age			
<30year	Ref		
31-40	2.06(.68-6.28)	4.84(.92-25.30)	.062
41-50	3.68(.98-13.81)	8.69(1.29-58.53)	.026**
51-60	1.47 (.27-8.08)	7.05(.66-75.80)	.107
Religion			
Muslim	Ref		
Christian	2.45(.83-7.18)	2.31(.57-9.44)	.243
Marital status			
Married	Ref		
Single	.60(.22-1.59)	1.25(.28-5.55)	.767
Others*	.35(.07-1.80)	.15(.01-1.43)	0.099
Education level			
Not literate	Ref		
Primary	2.87(.84-9.75)	2.43(.49-12.07)	.278
Secondary	1.61(.34-7.53)	1.12(.16-7.89)	.909
Higher education	10.03(2.40-41.95)	8.95(1.15-69.58)	.036**
Employment			
Employed	Ref		
Unemployed	1.14(.40-3.27)	.82(.19-3.57)	.789
Region			
Amhara	Ref		
Oromia	1.73(.39-7.63)	1.60(.29-8.83)	.588
Tigray	1.24(.11-13.81)	.41(.03-6.53)	.528
Addisababa	6.63(1.64-26.78)	3.10(.43-22.10)	.259

Note: Others* (divorced, separated and widowed)

** P<0.05 significant.

4.15-Sociodemographic Determinants of Murder (alleged crime)

The sociodemographic characteristics that were associated with Murder were being aged (31-40, 51-60 year), being a follower of the orthodox Christian religion and living in Addis Ababa region (Table 5). Those whose age (31-40) had odds of .20 of murder (odds ratio [OR] =.20, 95% CI=.06-.73, P=0.015). Those whose age (51-60) had odds of .11 of murder (odds ratio [OR] =.11, 95% CI=.01-.83, P=0.033). Similarly, those who were orthodox Christian had odds of 4.50 of murder (odds ratio [OR]=4.50, 95% CI=1.44-14.00, P=0.009) and those who were living in Addis Ababa had odds of .14 of murder (odds ratio [OR] =. 14, CI=. 02-. 78, P=0.025) (Table 5).

Table 5. Sociodemographic factors associated with murder among inpatient forensic psychiatry cases at amanuel hospital

characteristics	Crude odds ratio (95% Confidence Interval)	Adjusted odds ratio (95% Confidence Interval)	P value
Sex			
Male	Ref		
Female	1.06(.41-2.70)	.96(.26-3.54)	0.951
Age			
<30year	Ref		
31-40	.48(.19-1.19)	.20(.06-.73)	0.015**
41-50	.82(.24-2.81)	.53(0.105-2.717)	0.450
51-60	.51(1.33-1.97)	.11(.01-.83)	0.033**
Religion			
Muslim	Ref		
Orthodox	3.16(1.37-7.28)	4.50(1.44-14.00)	0.009**
Protestant	2.56(.42-15.55)	4.55(.48-42.86)	0.186
Others ¹	1.28(.23-7.10)	6.10(.60-59.65)	0.126
Marital status			
Married	Ref		
Single	.91(.39-2.10)	.55(.16-1.87)	0.335
Others ²	2.32(.63-8.53)	2.45(.43-13.79)	0.310
Education level			
Not literate	Ref		
Primary	.45(.18-1.14)	.50(.14-1.80)	0.291
Secondary	.78(.26-2.37)	1.38(.30-6.31)	0.679
Higher education	.39(.11-1.36)	.39(.06-2.55)	0.324
Employment			
Employed	Ref		
Unemployed	.53(.22-1.28)	.97(.30-3.14)	0.954
Region			
Amhara	Ref		
Oromia	.46(.15-1.42)	.63(.16-2.52)	0.515
Tigray	.43(.08-2.36)	.25(.03-1.88)	0.180
Addis Ababa	.17(.05-.55)	.14(.02-0.78)	0.025**
Others ³	.21(.04-1.03)	.23(.03-1.58)	0.134

Note: others¹ (Catholics, Jehovah witness, unknown)

Others² (divorced, separated and widowed)

Others³ (Afar, Beneshanguelgumez, Harrer and Diredwa)

** p<0.05 significant

4.2. Discussion

The sociodemographic profile of the cases was generally similar with that found in the literature [6, 25]. The majorities of cases were males, did not attend secondary school and were single, which is in keeping with findings from local thesis and other international studies. [6, 25, 26]. The average age was 33 years, which is similar to most of the international studies and local thesis [6, 20, 23-25] and the majority of the cases are in their 20s and early 30 which can explain that most of them are single. The type of alleged crime with the most common charges being murder is supported by former local thesis and other international studies [6, 21, 25, 26]. This may be due to the seriousness of the crime judges maybe considering mental illness as a reason of committing this crime. But sexual violence is represented lower than other studies [23-25]. This may be due to a lower report of sexual violence to the police by the victims in this setup.

Only 60.7% of cases got a neuropsychiatric diagnosis which is against the finding of most international studies [6, 20, 21, 23-25], but compared to the previous local thesis there is more diagnosis [26] which was 12.9% (This figure represents the forensic recommendation for insanity as only insane individuals are considered mentally ill by the forensic psychiatry evaluator in the past). There is a more intensive assessment done by forensic psychiatry evaluator which could explain the presence of more neuropsychiatric diagnosis than before. There may be also a presentation of malingering through mental illness as the possible means of escaping the legal responsibility due to social perception "that all mentally ill individuals don't control their action". Psychosis is the most common psychiatric diagnosis (13.4% from the total cases) which is similar to most international study findings [21, 23-25]. Substance use disorder is found in 17 % of cases which is lower than other studies [6, 20, 23, 24]. This may be under-reporting of substance use and a complete denial as it also happens in the psychiatric treatment of this setup.

Twenty percent of cases were declared not to be criminally responsible by the forensic evaluator which is lower than other studies [6, 23, 24]. This can be explained that there is less neuropsychiatric diagnosis given to the accused included in this study as a neuropsychiatric diagnosis is highly associated with insanity. Meanwhile, there are more cases of insanity compared to the local thesis [26] which is explained by meticulous assessment by the forensic psychiatry evaluator in the recent years. There is a ten year gap between the two studies, so there could be a pattern of referral change and awareness of forensic psychiatry issues by the referring judges, potentially also the understanding of what 'Insanity' defense constitutes. The majority of cases (90.2%) were found fit to stand trial, which is much higher than other studies [19, 23, 24]. The possible explanation for that is there is a less psychiatric diagnosis, as a stable mental condition is mostly associated with fitness to stand trial and there is also a delay in evaluation as a result, some accused might have a better mental status than their condition around the time of alleged crime.

Compared to the previous local thesis [26], the duration of the assessment as an inpatient and the delay in time before the evaluation is markedly improved, this could be due to the improvement of the service over the last 10 years and regularly scheduled evaluation of cases by the forensic psychiatry expert. Treatment as per the diagnosis was initiated in those cases having neuropsychiatric diagnosis, which is not the case in the previous thesis (none of them treated) [26].

4.3. Strengths and limitations

This is the first comprehensive report on the profile of forensic psychiatric patients in an Ethiopian setting, covering cases which have enough information for the study, so some cases are excluded from the study. This creates some selection bias which is the limitation of the study. The other drawback of the study was that it is a retrospective report review, but all of the studied cases are evaluated by the forensic psychiatrist and there was a clear documentation with detail description of sociodemographic, clinical and legal histories. Some clients deny or potentially exaggerate their symptoms, sources of data are questionable and most cases usually present late after the alleged crime.

4.4. Conclusions

Proper forensic psychiatry reporting is crucial to know who is responsible and who is not responsible in the criminal justice system. It prevents escape from justice through psychiatric defenses, which in turn prevent further crimes if possible. Although there is marked progress on documentation and extent of reporting by the forensic psychiatry evaluator over the last few years, there is still a gap on documentation and depth of reporting in some of the cases.

There is a huge gap between the service at Amanuel and the forensic psychiatric service in another setup with regard to the following factors; The amount of information available to help the expert's decision, the delay to get assessment report, the number of staff working in the forensic case team and the collaboration between the forensic psychiatry case team and the legal system.

4.5. Recommendation

- ✓ Establishment of Mental health legislation in the country is important to define the responsibilities and the extent of the authority of professionals and institutions and to prevent the abuse of mentally ill patients by families, professionals, and the legal system.
- ✓ Documentation and extent of reporting need to be improved so as to give justifiable testimony as an expert.
- ✓ Standardization of the forensic psychiatry service and assessment is important to make it as objective as possible.
- ✓ Proper service and follow up of individuals with “Irresponsible” to the crime due to mental illness to minimize recidivism and impact to the society.
- ✓ Early diagnosis, treatment and follow up is very important for those having a mental illness so as to prevent criminal activities associated with severe mental illness.
- ✓ Because collateral history is not available to many of accused, the police investigation should include some aspects of accused’s behaviour and gross mental condition around the time of alleged criminal activity; this will potentially help the forensic psychiatry decision.
- ✓ Training for the judiciary staffs about mental illness in general and forensic psychiatry in particular.
- ✓ Decentralize the service with the training of mental health professionals in this key area of psychiatry will solve some problems associated with the service.

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Data extraction sheet

Demographic data

1. Code number
2. Age
3. Sex 1. Male 2. Female
4. Religion 1. Muslim 2. Orthodox 3. Protestant 4. Jehovah witness 5. Other specify _____
5. Marital status 1. Married 2. Single 3. Separated 4. Divorced 5. Widowed
6. Level of education 1. Not literate 2. Primary school 3. Secondary school 4. Higher education
7. Employment status 1. Employed 2. Unemployed
8. Region _____

Referral data

9. Level of court 1. First instant court 2. High court 3. Supreme court
10. Psycho legal question asked 1. Fitness to stand trial 2. Criminal responsibility 3. Fitness and criminal responsibility 4. General request for psychiatric evaluation 5. Unspecified
11. Time lapse between referral and admission for assessment (In months)
12. Time between alleged crime and admission for assessment (in month)

13. Assessment period in days

Source of data

14. Total no.

15. No. of collaterals contacted

16. Collateral sources 1. Victim (if alive) 2. Victim's family 3. Accused's family

4. Coworkers 5. witnesses 6. others _____.

17 Was the police investigation document enough in contributing for expert evaluation 1. Yes 2. no

18. Missing important collateral sources 1. Yes 2. No

Health data

19. Confirmed past psychiatric treatment 1. Yes 2. No

20. Psychiatric condition during the time of ass. 1. Healthy 2. Disordered
3. Malingering 4. Exaggerate existing psychopathology

21. Neuropsychiatric diagnosis given

a. None

b. Schizophrenia

c. Other psychotic disorders specify _____

d. Bipolar I disorder

e. Major depressive disorder with psychotic features

- f. Major depressive disorder
- g. Other mood disorder specify _____
- h. Substance related disorder Specify _____
- i. Personality disorder
- j. epilepsy
- k. Others specify _____

22. If diagnosed, was treatment initiated during assessment 1. Yes 2. No
 3. Continued with medication at admission

Legal history

From any source

23. History of arrest 1. Yes 2. No If yes specify no. of arrest _____
24. Charges faced 1. Yes 2. No
25. If yes, No. of charges _____
26. Any charge for a violent offence 1. Yes 2. No 3. Unspecified If yes list below
- a. _____
 - b. _____
 - c. _____
 - d. _____
 - e. _____
 - f. _____
27. History of conviction 1. Yes 2. No 3. Unspecified
28. Time served for any conviction for violent crime _____ (in months)

Index offense

29. Charge facing, 1. Murder 2. Manslaughter 3. Attempted murder
3. Causing bodily injury 4. Other violent crime 5. None violent crime

Specify

- a. _____
- b. _____
- c. _____
- d. _____

30. Alleged crime admitted by the accused when giving statement to police 1. Yes 2. No
3. Claimed amnesia

31. Any attempt to characterize the accused’s personality and behavior in police investigation report 1. Yes 2. No

32. During evaluation alleged crime by accused 1. Admitted 2. Denied
3. Claimed amnesia

33. Any use of substance of abuse just before the alleged crime 1. Yes 2. No

Psychiatric opinion

34. Fit to stand trial 1. Yes 2. No

35. Support the lack of criminal responsibility 1. Yes 2. No

36. If insanity is supported, accused judged to have risk for future violence 1. Yes 2. No

