Addis Ababa University College of Health Science

Department of Psychiatry

Factors Associated with Successful 'Insanity ' Defense And Characteristics Of

Defendants Pleading ‘insanity’ In Ethiopia: Facility-Based Retrospective Report Review.

A Research Thesis Submitted to Addis Ababa University College of Health Science, Department of Psychiatry for Partial Fulfillment of the Requirements for The Specialty Certificate In Psychiatry

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Acronyms

AAU ----------Addis Ababa University

AMSH----------Amanuel Mental Specialized Hospital

FMHA----------Forensic Mental Health Assessment

ICD10----------International classification of Diseases

NGRI----------Not guilty by reason of insanity

OR----------Odds Ratio

AOR ---------- Adjusted odds ratio

CI---------- Confidence interval

COR ---------- Crude odds ratio

SPSS---------- Statistical Product and service solution

Keywords: Insane defendants, Forensic psychiatry, Criminal responsibility, Forensic mental health assessment, Amanuel mental specialized hospital.

Abstract

Introduction: Forensic psychiatry operates at the interface of two disparate disciplines: Law and psychiatry. Forensic psychiatry is a subspecialty of psychiatry in which scientific and clinical expertise are applied to legal issues legal contexts Amanuel Mental Specialized Hospital is one of the largest and oldest psychiatric hospital in Ethiopia; it is also the only hospital that gives inpatient forensic psychiatry service at this time. To our knowledge, the clinical & criminal justice characteristics of the 'insane' have never been a subject of study in Ethiopia. We are very hopeful that this study will be beneficial for the improvement of the forensic service training of mental health professionals and ultimately benefit those affected by the limitations of information and scarcity of research to pinpoint issues we can work on to better the care provided to forensic psychiatry patients.

Objective: To describe cases and explain the reason for their acquittal due to being "criminally irresponsible" in the forensic inpatient service at Amanuel Mental Specialized Hospital in a span of 6.5 years (between 01/01/2015 and 08/01/ 2021 GC).

Methods: A retrospective facility-based study was conducted in Amanuel mental specialized hospital for a study period of 6.5 years from January 2015-August 2021. Forensic reports were used as a source of data, a data extraction sheet was used to collect data, and SPSS version 24 was used to analyze the data. Descriptive statistics are displayed in text, tables, and figures. Variables that showed association with the outcome variable using binary logistic regression were subjected to multivariate logistic regression. Statistical significance was declared at p-value < 0.05.

Result: A total of 205 forensic reports of defendants were identified in the study period. Of this, 15 (7.3 %) cases did not have a conclusive forensic opinion regarding criminal responsibility; these cases were excluded from the analysis. The mean age of the defendants was 33.13 years with a standard deviation of 10.6 years. This study also showed that the magnitude of insane defendants among patients who had forensic mental health assessment at Amanuel mental health specialized hospital was found to be 39.5 %. The study revealed from the cases who have neuropsychiatric diagnoses 62.2 % were found to be "criminally irresponsible."

Conclusion & recommendation: The number of insane defendants among patients who had forensic mental health assessment at Amanuel mental health specialized hospital was relatively high.

Factors that had an association with insane defendants include psychiatric diagnosis of schizophrenia spectrum disorder, bipolar I disorder, and disordered psychiatric condition during the time of assessment. Creating awareness about severe mental illness and early detection and initiation of treatment may contribute to the prevention of the offenses as a society and improve the quality of life for the clients.

Contents

1. Introduction

1.1 Background

Forensic psychiatry operates at the interface of two disparate disciplines: Law and psychiatry. Forensic psychiatry is a subspecialty of psychiatry in which scientific and clinical expertise are applied to legal issues in legal contexts embracing civil, criminal, correctional, or legislative matters; forensic psychiatry should be practiced in accordance with guidelines and ethical principles enunciated by the profession of psychiatry. [3]

Forensic psychiatrists cover a broad range of topics that involve psychiatrists' professional, ethical, and legal duties to provide competent care to patients; the patients' rights of self-determination to receive or refuse treatment; court decisions, legislative directives, governmental regulatory agencies, and licensure boards; and the evaluation of those charged with crimes to determine their culpability and ability to stand trial. [2]

Commentary on Hebrew Scriptures as early as sixth century BCE distinguished between offenses where the fault could be imposed and those that occur without fault, e.g., children, who were seen as incapable of weighing the moral implications of personal behavior even when willful and by retarded and insane persons who were likened to children. In12th century landlords in English started to grant "pardons "for the "mad "the pardons usually ordered the accused to commitment and treatment in a mental institution instead of prison. In the thirteenth century, the moral wrongfulness requirement of Christian Law merged in English common Law to require both the presence of a criminal act (actus resus) and the presence of a guilty mind (mens rea).

The first guidelines for a test of insanity in American and English courts were based on the 1843 trial of Daniel M'Naghten in England. The M'Naghten was a Scottish woodturner who believed that tory party of England was persecuting him. He worried that Sir Robert peel, a leader in the tory party, was part of this torment. He thought to have been stalking peel, but killed peels secretary, Edward Drmmond. The press followed the case closely because of the controversial nature of the defense: not guilty by reason of insanity. Despite all of the psychiatric witnesses agreeing he was not of sound mind, and Justice Tyndall's agreeing that M'Naghten was legally insane, the public was outraged at the jury's verdict supporting the plea; Queen Victoria, who was concerned about the verdict, summoned the 15 Law lords and asked them questions concerning insanity defense. The answers to the two of the questions compose what is now known as the M'Naghten rules. To establish a defense on the grounds of insanity, it must be proved that, at the time of the committing of the act, the party accused was laboring under such a defect of reason, from a disease of mind, as not to know the nature and quality of the act he was doing; or if he did know it, that he did not know he was doing what was wrong. This rule became the Law of the land in England and was imported by several American states. [1]

Not guilty by reason of insanity is a court verdict, meaning the defendant is not responsible for the crime because of his or her mental illness. *[1]*

The legal standard for Insanity definition varies from jurisdiction to jurisdiction. There are two distinct approaches to considering the process of forensic mental health assessment. The great

majority of psycho-legal scholars have identified a distinct form of FMHA, as defined by the legal question, and elaborated on the relevant Law, ethical contours, supporting data, practice literature, and specialized tools. There is a different perspective that begins with the assumption that all forms of FMHA share some common foundation. This approach looks for the common elements of FMHA that occur across different kinds of forensic evaluations. [14] In many cases, the symptoms of mental disorder present at the time of an offense are often the direct consequences of the offender's failure to take medication; it may be argued that, the failure to take medication or to have treatment is part and parcel of a pathological process. [3]

The Ethiopian criminal code article 48, sub-article two states, "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". Article 49 of the code deals with partial irresponsibility based on the same legal standard but when the defendant is said to have a partial capacity to understand the nature & consequence of the alleged act or had a partial capacity to regulate once act at the said time. The criminal code articles 129 to 131 address what happens to the 'criminally insane'/"criminally irresponsible" person. [20]

1.2 Statement of the problem

This study reports the frequency and patterns of psychiatric illness treatment history and provides meaningful socio-demographic data among cases at the forensic inpatient assessment service who are not guilty of the reason of insanity at AMSH between January 01/2015G.C and august 01/2021G.C.

AMSH is the only hospital that gives inpatient forensic psychiatry service in Ethiopia. There are many accused cases waiting for assessment in the country, and this problem has been going on for many years. [22] Mentally ill prisoners may stay in prison for up to one year without treatment, rather than being maltreated by prison guards and inmates. [21] To our knowledge, the clinical & criminal justice characteristics of the 'insane' in Ethiopia have never been a subject of study.

There are a total of 1410 accused cases waiting for forensic mental health assessment in the country. Of this 1276 are males and 134 are female clients, 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 resources, and many systemic issues that need to be addressed. [22]

1.3 Significance of the study

This study reports associated factors with criminal irresponsibility and on the comparison with cases where insanity defense was not supported. This report will serve as a baseline to do other follow-up studies, and this knowledge will be valuable for the improvement of the forensic service training of mental health professionals to design interventions on factors associated with criminal irresponsibility.

1.4. Research question

What are the socio-demographic, clinical & criminological characteristics of those determined 'insane' based on the forensic evaluation? In what ways do they differ from those determined 'sane'?

1.5. Scope of the study

The study was limited in terms of time, place, and population. In terms of the lookback, this study covers 6.5 years. The study subjects are limited to cases that are assessed in AMSH inpatient assessment. And in terms of setting, it was limited to AMSH. The cases seen at the forensic unit of the hospital come from all parts of the country, and all are Court referred.

1.6. Literature Review

Several studies have been conducted in different parts of the world to describe the characteristics of cases that were not guilty for reason of insanity. These studies are mostly retrospective, descriptive studies.

A study done in America by Callahan LA, et al. in 1991 on the Volume and Characteristics of Insanity Defense Pleas: An Eight-State Study Each state on 8062 cases pleading insane only (26%) of those raising the insanity defense were actually acquitted NGRI. The mean age was 30.3 years for insanity pleas and 32.1 years for those acquitted. The Insanity acquittals were also more likely to have had a prior hospitalization. From the insanity acquittals that is (86.5%) were males and (13.5%)females, In terms of diagnosis (67.9%) schizophrenia other major MI (10%), mental retardation (4.8%), personality disorder (3.5%), substance use (2.7%), other mental illness (4.5%), not mentally ill (0.4%). Regarding index offense homicide (14.8%), physical assault (38.2%), other violent (11.7%) robbery (7.4%), property (18%) other minor (9.9%). On prior history, no hospitalization (18%), one or more hospitalization (82%), no arrest (29.8%), one or more arrest-(70.2%). The total number of insanity pleas were 8979 from this (89.8%) & were male and (10.2 %) females, the commonest diagnosis being Schizophrenia (43%) followed by personality disorder (15.2%) and other major mental illnesses (12%), regarding the index offense physical assault (29%) followed by property (25.8%), homicide (13.6 %), robbery (11.2%). [4]

In a study conducted in Norway in 2015, most of the charges referred to serious crimes. Diagnosis under ICD-10 category codes F20-29(Schizophrenia, schizotypal & delusional disorder) was the most frequently occurring type in 17 of the 75 rulings (23%). It was judged that no causal relationship between the illness and the act existed. In 25 of 26 cases that involved homicide, a causal relationship between the illness and the act was judged to be evident. [15]

A study conducted in Saudi Arabia in 1997 that had twenty-eight adult patients who had committed homicide has been examined. In comparison with convicted homicide, NGRI acquitted were more likely to be seen as psychotic at the time of index offense and more likely to have killed blood relatives, especially a parent. By contrast, convicted homicides were more likely to have killed a significant 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 (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 I 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. In regards to index offense (14%) of the offenses were homicides, (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. [12]

Defendants charged with homicide in US urban country between 2001 and 2005 received an evaluation (58%) of the sample has at least axis one or two diagnosis, most often substance use disorder (47%). Axis one and two diagnosis were more common (78%) among defendants over the age of 40. (37%) had prior psychiatric treatment, only (8%) of the defendants were diagnosed axis one diagnosis had outpatient treatment during the three months preceding the homicide, psychiatric factors did not predict multiple victims, firearm use in the crime. [13]

The cohort study conducted in New Zealand between 1988and 2000 G.C, the study included 386 cases of homicide charges which were divided into three perpetrators without severe mental illness sentenced to life imprisonment, with severe mental illness but sentenced to life imprisonment, and those with severe mental illness and not guilty by reason of insanity who revived forensic hospital order. Time to release, reoffending, and recall to prison or hospital were examined. As a result, being in prison but having severe mental illness delayed release on parole but did not increase the risk of criminal recidivism or recall to prison Hospital order patients they were released to the community earlier and had a lower rate of criminal recidivism.[18]

As per a study done in Oklahoma in 1991, information was obtained on the demographic, legal, psychiatric hospitalization, and post-hospitalization characteristics of 61 defendants acquitted not guilty by reason of insanity and treated of the state forensic unit during a five-year period. Insanity acquitted cases had few resources, significant psychopathology, and extensive involvement with the legal and mental health systems prior to the NGRI offense. And the follow-up showed those who escaped from the unit had significantly more arrests and subsequent legal charges than regularly discharged patients. [17]

The meta-analysis and study space analysis was done in 2017, including 15 studies, including 19500 cases. Summary effects of psycho-legal cases indicated that older age, female sex, educational attainment, and unemployment were associated with insanity. Those classified as "insane" more often had psychiatric histories and psychotic disorders, less likely to have criminal histories but more likely opined incompetent to stand trial in the past. [19]

The study done in 1995 across the seven states using 8138 people indicted for a felony and who raised an insanity plea the characteristics of insanity defendants their cases differed by state, and a number of these characteristics, particularly diagnoses and type of crime, were related to the likelihood of an insanity acquittal. (5)

On a retrospective study done in South Africa on records of 91 patients, a total of 71(78.2%) were found not fit to stand trial, (10.99%) were not criminally responsible, and (9.89%) were fit to stand tail and criminally responsible. [24]

When it comes to Ethiopia, Alem A. 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 prison for up to one year without treatment and follow-up; this increase the likelihood of them being maltreated by 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, a 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 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. [21]

In a retrospective study done in Ethiopia in 2017, one hundred and twelve cases were included. The mean age was 33 years, and most of the accused (52.7) were single. Around 60 (60%) were charged with homicide, followed by attempted homicide (13.4) and sexual violence (6.3%). Only (60.7) of cases got a neuropsychiatric diagnosis of these, Diagnosed with Schizophrenia (17.6), Bipolar I disorder (17.6%), and comorbid substance use disorder (17.6%) in the study 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 the cases, only (4.5 %) of cases are unfit to stand trial and not criminally responsible. The socio-demographic characteristics that were associated with the finding of criminal irresponsibility were being aged (41-50 years) and attaining a higher education level. (Sewbesew 2017, unpublished thesis). [22]

In a retrospective, descriptive study conducted in Ethiopia Mental Health Court in 2018, 65cases were included of these, (80%) were males. The mean age of the case was 32.3years, most of the offenders were single (56.9%). Regarding employment majority of the defendants were unemployed (56.9%). Out of the total cases (23%) got a psychiatric diagnosis. Of these diagnosed with Schizophrenia were (10.8%), diagnosis of bipolar I disorder (7.7%), and epilepsy (12.3%). Regarding criminal responsibility and fitness to stand trial, (90.8%) were found to be fit to stand trial, and of the cases (76.9%) were found to be criminally responsible. Of all the cases, only (9.2%) were unfit to stand trial and not criminally responsible. (Helina 2018 unpublished thesis). [23]

2. Objectives

2.1General objective

- To describe cases who were not guilty for the reason of insanity at the forensic inpatient service at Amanuel Specialized Psychiatric Hospital over 6.5years (between January 01/2015 and August 1/ 2021)

2.2 Specific objective

- To describe the socio-demographic characteristics, diagnosis, and frequency of psychiatric illness, treatment history, index offense of the defendants who were assessed from January 1/2015-August 1/2021
- To compare socio-demographic characters, prior psychiatric treatment, and type of index of those with successful insanity defense and those who didn't
- To identify factors that have an association with insanity

3. Research Methodology

3.1. Study design

A retrospective forensic report review was conducted

3.2. Study population

Cases that were assessed at the forensic inpatient unit at AMSH between January 01/2015 and August 01/ 2021

3.3. Study setting

The study was conducted at AMSH in Addis Ababa

Amanuel Mental Specialized Hospital is among. The best psychiatric hospital in Ethiopia, it was established in 1930 E.C. The hospital has over 270 beds for both female and male patients. It is known to give inpatient and outpatient services. The forensic inpatient assessment unit has a total of 13 beds; of this, eleven beds are assigned for male patients and two beds for female patients.

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 resources, and many systemic issues that need to be addressed in a timely manner.

3.4. Inclusion and exclusion criteria

3.4.1 Inclusion Criteria

Those who were assessed at the inpatient forensic psychiatry unit, between January 01/2015 and August 01/ 2021 GC with some health information that pertains to forensic psychiatry, The study period was chosen because in the forensic reports that was done before January 2015, no detail information that can be used for this study was available and the study concludes in August 2021 because that was the last date of the available data that was accessible for this study.

3.4.2 Exclusion criteria

Records of cases that started before January 01/ 2015and after August 01/ 2021 GC and those cases with incomplete socio-demographic, legal and clinical information will be excluded from the study

3.5. Data collection procedures

Data were collected using a data extraction sheet. Data for each case was extracted from the copy of a forensic report submitted to the Court from an archive of forensic reports. The forensic report provides information regarding the profile of the alleged offender, such as socio-demographics, 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, criminal responsibility and previous treatment history. The data extraction tool was developed on the basis of a review of relevant literature and suggestions obtained from a forensic psychiatrist.

The data collection form was included age, sex, educational level, religion, occupation, and marital status. It was also included psychiatric diagnosis, treatment history, Index offense, prior legal history, the diagnosis, and outcome of the evaluation.

3.6 Variables

Dependent variable – "insane defendants."

Independent variables-age, sex, educational level, occupation, and marital status, diagnosis, prior treatment, previous offenses, adherence to treatment, index offense

3.7 Operational definition

Not responsible by reasons of insanity ("criminally irresponsible") are the cases that were determined "insane" by the health professional's opinion according to the Ethiopian criminal code at the time of the offense.

Criminally responsible - those who were found "sane" by the health professional's opinion at the time of the offense.

Diagnosis stands for psychiatric disorders and neurological disorders such as epilepsy

Prior treatment - Any treatment history before the index offense for neuropsychiatric conditions

Adherence - compliance to treatment two months preceding the offense

Fitness to stand trial - the fitness of the client during the time of assessment will be used

Healthy - the cases who do not have a neuropsychiatric condition at the time of forensic mental health evaluation

3. 8. Data entry and clearance

The data extraction sheets were coded, and data entry cleaning was done using the Statistical package for social science (SPSS) version24.

3.9. Data analysis

The data sheets were coded, and data entry, cleaning, and analysis were done using the Statistical package for social science (SPSS) version 24. Data was organized with variables including age, gender, educational status, employment, marital status, religion, types of index offense, and outcomes of evaluation, treatment history, adherence and previous offense.

The association of independent variables with the dependent variable was investigated using logistic regression analysis. The variables that showed an association with the outcome variable at the bivariate analysis with P-value <0.05 was entered into the final multivariable logistic regression to control for potential confounders. Adjusted odds ratio (AOR) along with 95 % confidence interval was estimated to assess the strength of association, and a P-value <0.05 was considered to declare the statistical significance in the multivariable analysis.

For analysis purposes, the psychiatric condition was categorized as

1. No diagnosis given (None)

2. Schizophrenia spectrum disorder (it included Schizophrenia, schizoaffective, delusional disorder, brief psychotic disorder)

3. MDD (major depressive disorder, MDD with psychotic features)

4. Bipolar I disorder

5. Others (that included epilepsy, substance-related disorders, personality disorders, ID, and other diagnoses)

4. Ethical consideration

Ethical permission was given from the Department of Psychiatry, College of Health Sciences, Addis Ababa University, and ethical clearance was also sought from Amanuel Specialized Mental Hospital. No identifying information of cases analyzed was collected.

5. Result

5.1 Socio-demographic characteristics

A total of 205 forensic reports of defendants were identified in the study period. Of this, 15 (7.3 %) cases did not have a conclusive forensic opinion regarding criminal responsibility; these cases were excluded from the analysis.

A total number of 190 defendants were included in the analysis. The mean age of the defendants was 33.13 years with a standard deviation of 10.6 years.

Most of the defendants, 148 (77.9%), were male. The majority of the defendants, 97 (51.1 %), were single, followed by married, divorced, and widowed, 54 (28.4%), 27 (14.2%), and 12 (6.3%), respectively. 71 (37.4%) of the defendants attended primary education, and 32 (16.8%) attended secondary education, whereas 60 (31.6%) were illiterate. The majority, 65 (34.2%), of the clients living conditions were with their family, 61 (32.1%), 52 (27.4%) were living alone, and the rest 12 (6.3%) were on the street (Table-1).

Table-1- Socio-demographic characteristics of defendants who had forensic mental health assessment at Amanuel mental specialized hospital (n=190).

Variables	Frequency (%)
Age in years	
< 30 Years	97 (51.1)
31-40 Years	56 (29.5)
41-50 Years	23 (12.1)
51-60 Years	10 (5.3)
> 61 Years	4 (2.1)
Sex	
Male	148 (77.9)
Female	42 (22.1)
Marital status	
Single	97 (51.1)
Married	54 (28.4)
Divorced	27 (14.2)
Widowed	12 (6.3)
Religion	
Muslim	44 (23.2)
Orthodox	94 (49.5)
Protestant	21 (11.1)
Catholic	5 (2.6)
Unspecified	26 (13.1)
Educational status	
Illiterate	60 (31.6)
Primary education	71 (37.4)
Secondary education	32 (16.8)
Higher education and above	27 (14.2)

Occupational status	
Government employee	28 (14.7)
Private job	18 (9.5)
Farmer &daily laborer	83 (43.7)
unemployed	61 (32.1)
Living condition	
Alone	52 (27.4)
With family	65 (34.2)
With parents or care givers	61 (32.1)
On street	12 (6.3)

5.2 Psychiatric condition

Fifty eight (30.5%) of the clients had past psychiatric treatments, while the rest 132 (69.5%) of them did not have past psychiatric treatment. Regarding the psychiatric condition of defendants at the time, the forensic assessment majority 136 (71.6%) of them were declared healthy, followed by disordered, malingering, 39 (20.5%), and 15 (7.9%), respectively. 76 (40.0%) of the defendants did not have any psychiatric diagnosis in their lifetime, while the rest (60%) had diagnosable condition 58 (30.5) schizophrenia spectrum disorder, 27 (14.2%) had bipolar I disorder). From a total of 114 clients who received a diagnosis, 71 (62.2%) of them were "criminally irresponsible ." 26 (13.7%) of the clients had a history of substance use and related disorder, whereas the rest 164 (86.3%) did not have any history of substance use (Table-2).

Table-2- the psychiatric condition of the defendants for insane defendants who had forensic mental health assessment at Amanuel mental specialized hospital (n=190).

Variables	Frequency (%)
Past psychiatric treatment	
Yes	58 (30.5)
No	132 (69.5)
Adherence for treatment	
Yes	25 (43.1)
No	33 (56.9)
A psychiatric condition during assessment	
Healthy	136 (71.6)
Disordered	39 (20.5)
Malingering	15 (7.9)
Neuropsychiatric diagnosis	
Schizophrenia spectrum disorder	58 (30.5)
MDD	11(5.7)
Bipolar I disorder	30 (15.7)
Other disorder	21(11.0)
None	70 (36.0)

Prior history of arrest	
Yes	51 (26.8)
No	126 (66.3)
Unspecified	13 (6.8)
Prior Charges faced	
Yes	29 (15.3)
No	161 (84.7)
History of conviction	
Yes	19 (10.0)
No	158 (83.2)
Unspecified	13 (6.8)
Charges for a violent offense	
Yes	32 (16.8)
No	158 (83.2)
Charges facing	
Homicide	117 (61.6)
Attempted homicide	35 (18.4)
Bodily injury	10 (5.3)
Sexual violence	15 (7.9)
Other charges	13 (6.8)
Amnesia claimed	
Yes	27 (14.2)\\z
No	
If yes, the type as judged by forensic unit	163 (85.8)
Genuine	
Malingered	4 (14.8)
Substance use	23 (85.1)
Yes	
No	26 (13.7)
Fit to stand trial	164 (86.3)
Yes	
No	168 (88.4)
Insanity defense	22 (11.6)
Yes	
No	75 (39.5)
	115 (60.5)

5.3 Characteristics of insane defendants

A total number of 75 (39.5%) of the defendants received a forensic opinion that supported the finding of" criminally irresponsible" according to the legal insanity standard, and in 115 (60.5%), the insanity defense was not supported. Out of the defendants who were "criminally irresponsible" 54 (72.0%) were male, and 21 (28.0%) were female. Out of 148 male defendants, 54 (36.5%) were "criminally irresponsible" and out of 42 female defendants, 21(50%) were

"criminally irresponsible ." Regarding educational status, 19 (25.3%) of them were illiterate, and 29 (38.7%), 9 (12.0%), 18 (24.0%) have attended primary education, secondary education, and higher education, respectively. Forty (53.3%) of insane defendants were single, followed by 23 (30.7%) married, 8 (10.7%) divorced, and 4 (5.3%) widowed. Regarding the index offense, 49(65.3%) were homicide followed by attempted homicide 14(18.7%), causing bodily injury 3(4%), sexual violence 3 (4%), and 6 (8%) other nonviolent crimes.

Regarding past psychiatric treatment. 32 (42.7%) of those declared "criminally irresponsible" have a history of treatment, whereas 43 (57.3%) of insane defendants did not have past psychiatric treatment.

Regarding neuropsychiatric diagnosis, the majority of defendants who were "criminally irresponsible" 39 (52.0%) had schizophrenia spectrum disorder followed by 22 (29.3%) bipolar I disorder, 5 (6.7%) MDD, and 5 (6.7 %) of them had another psychiatric diagnosis.

During the period of forensic assessment, 37 (49.3%) of insane defendants were found to be in a stable mental condition, followed by 35 (46.7%) disordered, 3 (4.0%) of them were malingered.

5.4 Associated factors

After adjustment for possible confounders on multivariate analysis, the presence of psychiatric diagnosis schizophrenia spectrum disorder and bipolar 1dosorder and psychiatric condition during the time of assessment that is being disordered showed significant association with the outcome variable of being found `"criminally irresponsible" (multivariate analysis at 95% CI with a $p < 0.05$). Defendants with schizophrenia spectrum disorder were 10.49 times more likely to be "criminally irresponsible" compared to those who had not had any psychiatric diagnosis [AOR= 10.49, 95% CI (3.45-31.83)]. Similarly, defendants diagnosed with bipolar I disorder were 14.75 times more likely to be "criminally irresponsible" compared to those who did not have any psychiatric diagnosis [AOR= 14.75, 95% CI (4.08-61.85)] (Table-3).

A psychiatric condition during the time of forensic mental health assessment was also another significant variable that showed an association with the outcome variable, stud defendants with disordered psychiatric conditions were 25.82 times more likely to be "criminally irresponsible" compared to those who were malingered during the time of assessment [AOR= 25.82, 95% CI (3.41-195.43)].

Table-3-Multi-variate analysis for insane defendants who had forensic mental health assessment at Amanuel mental specialized hospital (n=190)

Variables	**Insanity defense Frequency (%)**		**COR (95% CI)**	**AOR (95% CI)**
	Yes	**No**		
Educational status				
Illiterate	19 (25.3)	41 (35.3)	0.23 (0.08-0.61)	0.72 (0.18-2.84)
Primary education	29 (38.7)	42 (36.5)	0.34 (0.13-0.87)	0.62 (0.18-2.09)
Secondary education	9 (12.0)	23 (20.0)	0.19 (0.06-0.59)	0.34 (0.08-1.39)
Higher education	18 (24.0)	8 (7.8)	1	1

Living condition				
Alone	13 (17.3)	35 (30.4)	0.12 (0.02-0.52)	0.11 (0.01-1.10)
With family	25 (33.3)	42 (36.5)	0.19 (0.04-0.79)	0.15 (0.02-1.09)
With parent	28 (37.3)	35 (30.4)	0.28 (0.07-1.14)	0.21 (0.03-1.55)
On street	9 (12.0)	3 (2.6)	1	1
Past psychiatric Rx				
Yes	32 (42.7)	26 (22.6)	2.54 (1.35-4.79)	0.99 (0.38-2.52)
No	43 (57.3)	89 (77.4)	1	1
Psychiatric condition				
Healthy	37 (49.3)	99 (86.1)	1.49 (0.39-5.59)	2.24 (0.50-9.94)
Disordered	35 (46.7)	4 (3.5)	35.00 (6.82-179.39)	25.82 (3.41-195.43)*
Malingered	3 (1.3)	12 (7.8)	1	1
Psychiatric diagnosis				
Schizophrenia spectrum	39 (52.0)	19 (16.5)	33.86 (10.73-106.81)	10.49 (3.45-31.83)***
MDD	5 (6.7)	6 (5.2)	13.75 (2.89-65.29)	3.43 (0.54-21.60)
Bipolar I disorder	22 (29.3)	8 (7.0)	45.37 (12.44-165.43)	14.75 (4.08-61.85)**
Other disorder	5 (6.7)	16 (13.9)	5.15 (1.24-21.41)	2.41 (0.56-10.41)
None	4 (5.3)	66 (57.4)	1	1
Fit to stand trial				
Yes	56 (74.7)	112 (97.4)	0.14 (0.05-0.40)	0.68 (0.11-3.93)
No	19 (25.3)	3 (2.6)	1	1

{P<0.05 =*} {P<0.01 =**} {P<0.001 =***}

6. Discussion

This study assesses both the magnitude and factors associated with insane defendants in Amanuel mental specialized hospital, Addis Ababa, Ethiopia, which may contribute to the works of literature in providing recent estimates and factors associated with insane acquittal in Ethiopia.

In this study, the magnitude of "criminally irresponsible" defendants among clients who had forensic mental health assessment at Amanuel mental health specialized hospital was found to be 39.5 %. This finding is higher than the study conducted in seven states of America, from the total insanity pleas 8953, 2555(26.3%) were "criminally irresponsible" this difference may be due to the presence of early diagnosis and treatment in America and the presence of different standard of legal insanity among different countries, the current study used the health professional's opinion while the study done in America used the court's decision and the study was done more than twenty years ago.

A study conducted in India the high Court acquitted the accused in 18 cases (17.65%), thereby accepting the insanity plea raised by the accused. (25) this number is lower than the finding in

our setting; this variation may be due to the presence of early treatment, and the referral system in India may evaluate clients on time when compared to ours and may get a good mixture of cases, but in our case, it may incline to be a collection of severe mental illness which may make the insanity defense to be supported.

The finding was also higher than a study conducted in Western Nigeria, which showed that only a quarter of Nigeria defendants was insane acquittals (8), and A study done in South Africa, 10.99% of the cases were criminally irresponsible (24). This variation may be due to the difference in the setting; for example, maybe no delay in the getting assessed or too long a delay, type crime might have a big difference in referral system like homicide may wait for long in order to get the forensic evaluation in our set up and it could be the difference in the insanity standard.

This finding was consistent with a study conducted at seven states of America, which revealed that defendants diagnosed with severe mental illness were 51.7 times more likely to be "criminally irresponsible" compared to those who were diagnosed with no mental illness (4). The possible explanation for this might be because this severe mental illness affects the understanding of the clients about certain life events, and it also may affect their judgment which might be true across the globe.

The finding that most of the index offenses from the insanity pleas being homicide (61.6%), which is different from a study done in eight states where homicide accounted (14.8%) (4) and this may be due to the long waiting list in Ethiopia to get the forensic assessment service and the legal system may deal with most of the cases with relatively minor offenses and those with severe offenses like homicide might be waiting to get the assessment that might give a significantly higher figure. (4)

There are more cases of "criminally irresponsible" compared to the local thesis (22) done 4 years ago. This may be due to the pattern of referral change and awareness of forensic psychiatry issues by prosecutors, lawyers, and the referring judges. It could also be potentially related to a better understanding of what Insanity defense constitutes.

The study done in Saudi Arabia in 1997 (12) showed the most common diagnosis was substance abuse or dependence (56% of the sample), Schizophrenia (13%), antisocial personality disorder (10%), this has a different result from the current study this might be because of good awareness and attitude towards mental illness and getting early treatment and follow up the patients may not end up committing crime and substance use being mostly diagnosed may be associate with the life style differences. Study done in Norway in 2015, the vast majority of the charges referred to serious crimes. Diagnosis under ICD-10 category codes F20-29(schizophrenia, schizotypal & delusional disorder) is consistent with the current study. (15)

The presence of an association between criminal irresponsibility and the client being disordered during the time of assessment in the current study may be due to the lack of treatment of the offender.

In four cases, the insanity defense was supported without neuropsychiatric diagnosis; this was because of lacking information to settle diagnosis

6.1 Strength and limitation of the study

The main strength of the study is that it is the first study in the area to assess both magnitude and factors associated with insane defendants. In addition, the sample size used in this study is good.

The study also has some limitations. It uses secondary data, and since clients and the collaterals are asked about their previous information, recall bias may be a threat.

7. Conclusion and recommendation

7.1 Conclusion

This study revealed that the magnitude of insane defendants among patients who had forensic mental health assessment at Amanuel mental health specialized hospital was found to be relatively high. After adjustment for possible confounders on multivariate analysis, psychiatric diagnosis of schizophrenia spectrum disorder, bipolar I disorder, and psychiatric condition during the time of assessment has a significant association with the outcome variable in multivariate analysis at 95% CI ($p < 0.05$). The majority of the cases who have neuropsychiatric diagnosis were found to be 'criminally irresponsible".

7.2 Recommendation

The following recommendations were forwarded based on the findings

- Creating awareness about severe mental illness and early detection strategies and also the initiation of treatment may contribute to the prevention of the offenses as a society, and it may improve the quality of life for the clients.
- In some of the cases, there was no adequate collateral information to make an opinion, especially on criminal responsibility; 15 cases were removed from the analysis because of this reason. To solve such problems, the police investigation information needs to include some of the conditions of the defendants during the time of arrest, and if the service is decentralized, the cases will be evaluated timely so that the mental health professional would see some of the presentations.
- Most of the defendants who were "criminally irresponsible" have a severe mental illness when they are released, they will have a high risk of recidivism to prevent this to have proper follow up, and treatment with the Court following it may be important.
- There is a need to conduct further studies with different factors and with a larger sample size to explore the underlying determinants of insane defendants.

8. References

1. Giorgi Guarienevi,D.,Janofsky,J.,Kerman,E.,Lawsk,S.,Merdeth,p.,Mossman,D.,Schwartz-Watts,D.,Scott,C.&Thompson,J.(2002)Practice Guideline: Forensic psychiatric Evaluation Of Defendants Raising the Insanity defense , the journal of the American Academy of psychiatry and the Law .30(2).

2. Boland R.J, Verduin M.L & Ruiz P.(2022). Kaplan & Sadock's: Synopsis of Psychiatry.12th edition/philadelphia: Wolters Kluwer

3. Slovenko,R.(2009).psychiatryin law /law in psychiatry. Second edition/New York: Taylor&FrancisGrou

4. Callahan,L.A.,Steadman,H.J.,McGreevy,M.A.,&Robbins, PC (1991).The volume and characteristics of insanity defense pleas: an eight –state study. The bulletin of the American Academy of psychiatry and the Law,19(4),331-338.

5. Cirincione,C.,Steadman,H.J.,&McGreevy,M.A (1995).Rates of insanity acquittals and the factors associated with successful insanity pleas. The Bulletin of the American Academy of psychiatry and the Law,23(3),399-409.

6. Almeida,J.,Graca,O.,Vieira,F.,Almeida,N.,&Santos,J.C. (2010). Characteristics of offenders deemed not guilty by reason of insanity in Portugal. Medicine, science, and the Law,50(3),136-139.

7. Holoyda,B.J.,McDermott,B.E,&Newman,W.J. (2018).Insane sex offenders: psychiatry and legal characteristics of sexual offenders found not guilty by reason of insanity .journal of forensic psychiatry,63(4),1207-1212

8. Ogunwale,A.,& Oluwaranti,O. (2020)pattern of utilization of the insanity plea in Nigeria :An empirical analysis of reported cases, forensic science international.

9. Ferranti,J.,McDermott,B.E.,& Scott,C.L.(2013). Characteristics of female homicide offenders found not guilty by reason of insanity. The journal of the America Academy of Psychiatry and the Law,41(4),516.

10. Escobar-Echavarria,J.,Molina-Osorio,S.I.,&Restrepo-Bernal,D.P.(2017).Caracrerizacion sociodemografica,psiquiatricay legal de patients inimputables de Colombia ,2000-2013(socio-demographic ,psychiatric and legal

11. SeigA,BallE,MenningerJA.A comparison of female versus male insanity acquittees in Clorado.Bull Am Acid PsychiatryLaw.1995;23(4):523-32.

12. Elsayed YA, Al-Zahrani M, Rashad MM. Characteristics of mentally ill offenders from 100 psychiatric court reports. Annals of General Psychiatry. 2010;9:4.

13. Martone CA,MulveyEP,Yang S, NemoianuA, ShugarmanRsoliman L. Psychiatric characteristics of homicide defendants.Am J Psychiatry.2013 Sep;170(9):994-1002.

14. Heilbrun,K., Grisso,t.,&Goldstein,A.M.(2009)Foundation of Forensic MentalHealthassement.oxford university press.

15. Skele,C.A.,&Rasmussen,K.(2015).Assessment of causal associations between illness and criminal acts in those who are acquitted by reason of insanity. Tidsskrift for den norskelaeqeforening:tidsskrift for praktiskmedicin,ny raekke,135(4);327-330.

16. Nestor,P.G.,&Haycock,G.(1997).Not guility by reason of insanity of homicide:clinical and neuropsycologicalcharactertics.The journal of America Academy of Psychatry and the Law,25(2),161-171.

17. Nicholson,R.A., Norwood,S.,&Enyart,C.(1991). Characteristics and outcomes of insanity acquittees in Oklahoma.Behavioralsciences&the Law,9(4),487.

18. Skipworth,J., Bevan, W., McKenna,B., Simpson,A., Branded, P.,&Pearson,J.(2019). Comparative outcomes for a national cohort of persons convicted of homicide, with and with out serious mental illness ,and those found not guilty by reason of inasnityon a homicide charge: A 25-years follow up study. Criminal behavior and mental health:CBMH,29(5-6),276-285.

19. Kois,L,E., &Chauhan,P.(2018).criminal responsibility :Meta-analysis and study space.behavioral sciences & the law,36(3),276-302.

20. Criminal code of the Federal Democratic Republic of Ethiopia (2005).

21. Alem A (2000) .Human rights and psychiatric care in Africa with particular reference to the Ethiopian situation. Acta psychiatrica scandinavica. supplementum,399,93-96.

22. Sewbesew, Y(2017) Inpatient Forensic Psychiatry Service and Assessment outcome at Ammanuel Specialized Hospital .unpublished thesis

23. Helina, T. (2018) The Case of Mental Health Court In Ethiopia At Lideta Higher Court Addis Ababa. Unpublished thesis.

24.Houidi, A., Paruk. ,& Sartorius, B.(2018).Forensic psychiatric assessment process and outcome in state patients in kwazulu-Natal, south Africa. The *south African journal of psychiatry:SAJP: the journal of the society of psychiatrists of south Africa* ,24, 1142.

25.Ramamurthy, P., Chathoth, V., & Thilakan, P. (2019). How does India Decide Insanity Pleas? A Review of High Court Judgments in the Past Decade. Indian journal of psychological medicine, 41(2), 150–154. https://doi.org/10.4103/IJPSYM.IJPSYM_373_18

Annex

Data extraction sheet

Demographic data

1. Code number ☐

2. Insanity defense supported yes ☐ No ☐

3. Age ☐

4. Sex 1. Male ☐ 2. Female ☐

5. Religion 1. Muslim ☐ 2. Orthodox ☐ 3. Protestant ☐ 4Jehovah witness ☐ 5.

Other specify ☐

6. Marital status 1. Married ☐ 2. Single ☐ 3. Separated ☐ 4. Divorced ☐ 5. Widowed ☐

7. Level of education 1. Not literate ☐ 2. Primary school ☐ 3. Secondary school ☐ 4. Higher education ☐

8. Employment status 1. Employed ☐ 2. Private Job ☐ 3.other specify ☐ 4. Not working ☐

9. Living condition1.by himself ☐ 2.with own family ☐ 3.with parent /relatives ☐

4.on the street ☐

Health data

10. Any past psychiatric treatment reported before the index offense 1. Yes ☐ 2. No ☐

11. Was the offender on treatment during 2 months prior index offense 1.yes ☐ 2.No ☐

12. Psychiatric condition during the time of ass. 1. Healthy ☐ 2. Disordered ☐ 3.

Malingering ☐ 4. Exaggerate existing psychopathology ☐

13. 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 _____

14. History of arrest 1. Yes ☐ 2. No ☐ if yes specify no. of arrest _____

15. Charges faced 1. Yes ☐ 2. No ☐

16. History of conviction 1. Yes, ☐ 2. No ☐ 3. Unspecified ☐

17. Any charge for a violent offense 1. Yes, ☐ 2. No ☐ 3. Unspecified ☐ If yes list below

a._____
b._____
c._____
d._____
e._____
f._____

18. Charge facing, 1. Homicide ☐ 2. Attempted homicide ☐ 3. Causing bodily injury ☐ 4.sexual violence ☐ 5. Other violent crime ☐ 6. None violent crime Specify

a. _____

b. _____

c. _____

d. _____

19. Amnesia claimed during assessment 1. Yes ☐ 2. No ☐

IF YES 1.Geniune Amnesia ☐ 2.Malingered Amnesia ☐

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

If yes specify

a. _____

b. _____

c. _____

d. _____

e. _____

Psychiatric opinion

21. Fit to stand trial 1. Yes ☐ 2. No ☐