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Diagnostic concordance among Ecuadorians declared unfit to plead due to mental illness

Concordancia diagnóstica en ecuatorianos declarados inimputables por enfermedad mental

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Abstract:

Introduction: Ecuador's Comprehensive Organic Criminal Code (COIP) recognizes mental disorders as grounds for unfitness to plead. Despite the growing involvement of individuals with mental disorders in criminal activities, there is no specific catalog for the management of these conditions, which complicates the alignment between forensic and hospital diagnoses in hospitalized patients legally declared unfit to plead. **Objective:** To describe the proportion of agreement between forensic and hospital diagnoses in individuals processed with mental disorders and hospitalized at the Instituto de Neurociencias de Guayaquil between 2013 and 2022. **Methodology:** A descriptive, observational, cross-sectional, and retrospective study was conducted using clinical and legal records of 142 psychiatric cases processed by judicial mandate. The forensic, admission, and discharge diagnoses were analyzed along with the types of crimes and sociodemographic variables. **Results:** The findings indicated that most individuals declared unfit to plead were men between 18 and 34 years old, with crimes against life and personal integrity being the most frequent. Schizophrenia was the most common disorder cited as the cause of unfitness to plead. The proportion of agreement between forensic and hospital diagnoses was low, while the agreement between hospital admission and discharge diagnoses was good. **Conclusion:** These results suggest a low reliability of forensic diagnoses when declaring a person unfit to plead due to mental illness, while the good agreement between hospital admission and discharge diagnoses may reflect the effective use of assessment techniques, sufficient diagnostic periods, and careful observation of the patient.

Keywords: mentally ill, inmates, schizophrenia, unfit to plead.

Resumen:

Introducción: El Código Orgánico Integral Penal (COIP) del Ecuador reconoce a los trastornos mentales como causa de inimputabilidad. A pesar del creciente involucramiento de personas con trastornos mentales en actividades delictivas, no existe un catálogo específico para el manejo de estas

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condiciones, lo que dificulta la concordancia entre los diagnósticos periciales y hospitalarios en pacientes hospitalizados declarados inimputables. **Objetivo:** Describir la proporción de concordancia entre los diagnósticos forenses y hospitalarios en personas procesadas con trastornos mentales y hospitalizadas en el Instituto de Neurociencias de Guayaquil entre 2013 y 2022. **Metodología:** Se realizó un estudio descriptivo, observacional, transversal y retrospectivo, utilizando los registros clínicos y legales de 142 casos psiquiátricos procesados por mandato judicial. Se analizaron los diagnósticos forenses, de ingreso y de egreso, junto con los tipos de delitos y variables sociodemográficas. **Resultados:** Los hallazgos mostraron que la mayoría de personas declaradas inimputables fueron hombres entre 18 y 34 años, siendo los delitos contra la vida y la integridad personal los más frecuentes. La esquizofrenia fue el trastorno más común señalado como causa de inimputabilidad. La proporción de concordancia entre diagnósticos forenses y hospitalarios fue baja, mientras que la concordancia entre los diagnósticos de ingreso y egreso hospitalarios fue buena. **Conclusión:** Los resultados sugieren una baja confiabilidad de los diagnósticos forenses al declarar a una persona inimputable por enfermedad mental, mientras que la buena concordancia entre ingreso y egreso hospitalarios refleja el uso efectivo de técnicas de evaluación, periodos diagnósticos adecuados y observación clínica cuidadosa.

Palabras clave: enfermedad mental, personas privadas de libertad, esquizofrenia, inimputabilidad.

Introduction

In the field of criminal law and forensic psychiatry, unfitness to plead due to mental disorder presents a complex intersection between psychiatry and justice [1]. The figure of the mentally ill individual declared unfit to plead refers to someone who, at the time of committing a crime, presents a severe mental alteration that prevents them from understanding the unlawfulness of their conduct or acting according to that understanding [2]. In these cases, hospital and forensic diagnoses play a crucial role in determining the individual's criminal responsibility and the need for a security measure instead of a traditional penalty [3].

The hospital diagnosis is issued by mental health professionals treating the patient in a clinical context, generally within a psychiatric hospital or mental health services. This diagnosis has a therapeutic purpose and seeks to understand the patient's condition to guide their treatment [4]. On the other hand, the forensic diagnosis is carried out by forensic psychiatrists or psychologists, usually commissioned by a judicial authority. Its purpose is not therapeutic, but rather to evaluate the defendant's mental capacity at the time of the criminal act, determining criminal responsibility and whether the application of security measures instead of a penalty is justified, linking the crime with the mental functioning [5,6].

The agreement between clinical and forensic diagnoses can be low and may be influenced by several factors: differences in the temporal focus, since the hospital diagnosis tends to focus on the patient's current state, while the forensic diagnosis reconstructs retrospectively the mental state during the commission of the crime, complicating the assessment; differences in the context and purpose of the diagnosis, since in the hospital setting the emphasis is on patient care, which could generate broader or more sensitive diagnoses [7], while the forensic evaluation has a judicial focus, which may lead to a more restrictive analysis adjusted to specific legal criteria [8]; clinical variability of some mental disorders, such as acute psychotic episodes or personality disorders, which may present diverse and changing manifestations over time, making it difficult to maintain consistency between both evaluations [9]; and finally, the availability of information,

related to the forensic expert's access to previous clinical reports, judicial statements, and other sources, although they do not always have the longitudinal follow-up that treating clinicians have. Conversely, the clinical setting may lack awareness of the details of the criminal act [10].

Diagnostic discrepancies generate judicial uncertainty, especially if one of the reports considers the defendant unfit to plead and the other does not [11]. This has direct implications on sentencing decisions [12]. To improve agreement between both diagnoses, it is essential to promote greater communication between clinical and forensic teams, as well as the use of standardized diagnostic criteria. Evaluations should incorporate psychometric tests, structured clinical interviews, and analyses of the social and personal context of the evaluated individual, along with multidisciplinary team discussions that take into account the symptom profile, socio-familial history, temporal evolution, and personal background [13].

When an individual is considered legally not responsible, they are subjected to security measures to address their condition and facilitate successful social reintegration. Agreement between forensic and clinical diagnoses should occur whenever the forensic expert follows a precise and scientifically organized diagnostic methodology [13,14]. Several factors can affect the expert's judgment, such as personal attitudes and beliefs, professional and personal experiences, academic training, fear of making mistakes, and the influence of confirmation bias and illusory correlation [15].

The main problems identified in Ecuador within mental health forensic assessments include lack of experience in detecting deception or manipulated information, the presence of uncertified or unqualified experts in the judicial process, and conflicts of interest between parties [9]. Additionally, inefficiency in processes and limited knowledge of psychopathology among judges can negatively impact sentencing [15], along with a lack of transparency and corruption within the judicial system [16]. These conditions often occur simultaneously, complicating the development of accurate forensic diagnostic decisions.

Method

Design

An observational, cross-sectional, and retrospective study was conducted using primary sources of information (clinical records and data from the Ecuadorian Judicial Procedure Information System) to determine the relationship between sociodemographic variables and the proportion of agreement between forensic and hospital diagnoses at admission and discharge in individuals hospitalized for mental disorders at the Instituto de Neurociencias de Guayaquil (INC) between 2013 and 2022, and declared unfit to plead by judicial order (n = 215).

Setting

The Instituto de Neurociencias de Guayaquil (INC) is one of three specialized psychiatric hospitals in Ecuador and houses the largest number of individuals declared legally not responsible due to mental or behavioral disorders. With a capacity of 20 inpatient beds, it receives criminally charged suspects from all over the country. A multidisciplinary team of psychiatrists and psychologists evaluates each case to detect the presence of mental illness for subsequent management or criminal processing. The INC provides a systematic multidisciplinary approach to keep judges informed about each case's progress. However, in many cases, the forensic diagnosis does not match the presumptive diagnosis made at admission or the confirmatory diagnosis at discharge. This discrepancy often raises questions about the reliability and validity of forensic diagnoses.

Procedure

Data were extracted from clinical records archived in the statistics department of the INC. Variables analyzed included sex, age group, self-identified ethnicity, marital status, region of origin, education level, occupation, and socioeconomic status. Additionally, variables such as admission and discharge diagnoses were included, using the International Classification of Diseases, 10th Revision (ICD-10) [17]. The Comprehensive Organic Criminal Code (COIP) was used for the classification and definition of crimes [18].

Statistical Analysis

Data were analyzed using SPSS version 25 and Jamovi. Descriptive univariate tabulation was performed for sociodemographic variables. To determine the proportion of agreement between forensic and hospital diagnoses at admission and discharge, cross-tabulation analysis was performed using Cohen's Kappa coefficient [19], along with the chi-square test to determine the strength of relationships between variables.

Results

The study sample consisted of a total of 142 participants. Below are the sociodemographic characteristics. The majority of participants were male (n = 128; 90.1%), while 9.9% (n = 14) were female. The most represented age group was 18 to 34 years, with 73 participants (51.4%). This was followed by participants aged 35 to 64 years, with 66 individuals (46.5%), and only a small percentage corresponded to older adults over 65 years of age (n = 3; 2.1%). Most respondents self-identified as

mestizo (n = 133; 93.7%). Other ethnic groups included Afro-Ecuadorian (n = 6; 4.2%), Indigenous (n = 2; 1.4%), and White (n = 1; 0.7%).

Regarding education, 45.1% (n = 64) reported having completed primary education as their highest level, followed by secondary education (n = 56; 39.4%), no formal education (n = 15; 10.6%), and higher education (n = 7; 4.9%). The majority of participants were single (n = 109; 76.8%), followed by those in a common-law union (n = 10; 7.0%), divorced (n = 10; 7.0%), married (n = 12; 8.5%), and widowed (n = 1; 0.7%).

A high percentage of respondents were unemployed (n = 116; 81.7%), while 18.3% (n = 26) reported being employed at the time of the study. Most participants belonged to a low socioeconomic status (n = 129; 90.8%). The rest were distributed between middle socioeconomic level (n = 12; 8.5%) and high socioeconomic level (n = 1; 0.7%). Regarding geographic origin, the majority of participants resided in the coastal region of the country (n = 111; 78.2%), followed by the mountainous region (n = 27; 19.0%) and the insular region (n = 4; 2.8%) (Table 1).

Table 1. Descriptives of sociodemographic variables.

Sociodemographic variables	n (%)
Gender	
Female	14 (9.9%)
Male	128 (90%)
Age	
18 to 34 years	73 (51%)
35 to 64 years	66 (46%)
65 years or more	3 (2.1%)
Ethnicity	
Afro-ecuadorian	6 (4.2%)
White	1 (0.7%)
Indígenous	2 (1.4%)
Half blood	133 (94%)
Education Level	
None	15 (11%)
Primary	64 (45%)
Secondary	56 (39%)
Superior	7 (4.9%)
Civil status	
Married	12 (8.5%)
Divorced	10 (7.0%)
Single	109 (77%)
Free union	10 (7.0%)
Widower	1 (0.7%)
Job occupation	
Unemployed	116 (82%)
Employed	26 (18%)
Socioeconomic Status	
High	1 (0.7%)
Low	129 (91%)
Half	12 (8.5%)
Zone	
Coast region	111 (78%)
Island region	4 (2.8%)
Mountain region	27 (19%)

Note: The absolute and relative frequencies were analyzed (n = 142).

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A greater representation of crimes against life was observed, accounting for 28% of the total (n = 40). In second place were crimes against personal integrity, representing 21% (n = 30). Crimes against property rights constituted 16% (n = 23), and crimes against sexual and reproductive integrity accounted for 11% (n = 16). Other identified crimes included the possession or unlawful holding of controlled substances (n = 12; 8.5%), crimes against public safety (n = 10; 7.0%), and violence against women or members of the family unit (n = 10; 7.0%). Finally, traffic offenses represented the lowest percentage, with only one case reported (n = 1; 0.7%) (Table 2).

Table 2. Percentage distribution by types of crime.

Types of crime	n (%)
Traffic violations	1 (0.7%)
Crimes against the right to property	23 (16%)
Crimes against personal integrity	30 (21%)
Crimes against sexual and reproductive integrity	16 (11%)
Crimes against public safety	10 (7.0%)
Crimes against life	40 (28%)
Possession or illicit possession of scheduled substances subject to control	12 (8.5%)
Violence against women or family members	10 (7.0%)

Note: Absolute and relative frequencies of crime types.

Table 3 shows the distribution between types of crimes and the forensic diagnosis. The most frequent diagnosis was schizophrenic, schizotypal, and delusional disorders, which were present in more than half of the sample (n = 78; 54.93%). This diagnostic group was predominant especially among individuals processed for crimes against life (n = 28; 19.72%), crimes against personal integrity (n = 17; 11.97%), and crimes against property rights (n = 11; 7.75%). This diagnosis was also observed in sexual offenses (n = 8; 5.63%), domestic violence (n = 7; 4.93%), and crimes against public safety (n = 5; 3.52%).

Table 3. Forensic diagnosis and type of crime.

	Type of crime								
Diagnostic expert	Traffic violations	Crimes against the right to property	Crimes against personal integrity	Crimes against sexual and reproductive integrity	Crimes against public safety	Crimes against life	Possession or illicit possession of scheduled substances subject to control	Violence against women or family members	TOTAL
Schizophrenia, schizotypal and delusional disorders (F20-F29)	0(0%)	11(7.75%)	17(11.97%)	8(5.63%)	5(3.52%)	28(19.72%)	2(1.41%)	7(4.93%)	78(54.93%)
Mental retardation (F70-F79)	1(0.7%)	2(1.41%)	1(0.7%)	3(2.11%)	0(0.00%)	2(1.41%)	0(0.00%)	0(0.00%)	9(6.34%)
Symptoms and signs involving cognition, perception, emotional state and behavior (R40-R46)	0(0.00%)	0(0.00%)	0(0.00%)	0(0.00%)	0(0.00%)	1(0.7%)	0(0.00%)	0(0.00%)	1(0.7%)
Disorders of adult personality and behavior (F60-F69)	0(0.00%)	1(0.7%)	0(0.00%)	1(0.7%)	0(0.00%)	1(0.7%)	0(0.00%)	1(0.7%)	4(2.82%)
Mood [affective] disorders (F30-F39)	0(0.00%)	5(3.52%)	4(2.82%)	1(0.7%)	3(2.11%)	2(1.41%)	2(1.41%)	1(0.7%)	18(12.68%)
Episodic and paroxysmal disorders (G40-G47)	0(0.00%)	0(0.00%)	1(0.7%)	0(0.00%)	0(0.00%)	1(0.7%)	0(0.00%)	0(0.00%)	2(1.41%)
Organic, including symptomatic, mental disorders (F00-F09)	0(0.00%)	2(1.41%)	4(2.82%)	1(0.7%)	0(0.00%)	2(1.41%)	4(2.82%)	0(0.00%)	13(9.15%)
Mental and behavioral disorders due to psychoactive substance use (F10-F19)	0(0.00%)	2(1.41%)	3(2.11%)	2(1.41%)	2(1.41%)	3(2.11%)	4(2.82%)	1(0.7%)	17(11.97%)
Total	1(0.70%)	23(16.20%)	30(21.13%)	16(11.27%)	10(7.04%)	40(28.17%)	12(8.45%)	10(7.04%)	142(100%)

Note: X^2 (49) = 59.44; p = .146

The second most common diagnosis was mental and behavioral disorders due to the use of psychoactive substances, with a total of 17 cases (11.97%). These were mainly associated with crimes against personal integrity (n = 3; 2.11%), crimes against life (n = 3; 2.11%), and unlawful possession of controlled substances (n = 4; 2.82%). Affective disorders were diagnosed in 18 individuals (12.68%), mainly distributed among crimes against property (n = 5; 3.52%), crimes against personal integrity (n = 4; 2.82%), and crimes against public safety (n = 3; 2.11%).

On the other hand, intellectual disability was identified in 9 cases (6.34%), with higher representation in sexual crimes (n = 3; 2.11%) and crimes against property (n = 2; 1.41%). Organic mental disorders were observed in 13 individuals (9.15%), mainly associated with crimes against personal integrity (n = 4; 2.82%), crimes against property (n = 2; 1.41%), and domestic violence (n = 4; 2.82%). The least frequent diagnoses included personality and behavioral disorders in adults with 4 cases (2.82%), episodic and paroxysmal disorders with 2 cases (1.41%), and signs and symptoms related to cognition, perception, and behavior with 1 case (0.7%). The only recorded case of a traffic offense corresponded to an individual diagnosed with intellectual disability.

The most frequent clinical diagnosis was schizophrenic, schizotypal, and delusional disorders, present in 47.89% of cases (n = 68) (Table 4). This diagnostic category showed greater representation in crimes against life (n = 24; 16.9%),

crimes against personal integrity (n = 17; 11.97%), and crimes against property (n = 9; 6.34%). Cases were also recorded in crimes against public safety (n = 5; 3.52%), crimes against sexual and reproductive integrity (n = 6; 4.23%), domestic violence (n = 5; 3.52%), unlawful possession of substances (n = 1; 0.7%), and a traffic offense (n = 1; 0.7%).

In second place were mental and behavioral disorders due to the use of psychoactive substances (16.91%; n = 24). These were mainly associated with crimes against life (n = 5; 3.52%), crimes against property (n = 6; 4.23%), and unlawful possession of controlled substances (n = 7; 4.93%). Affective disorders accounted for 13.38% of cases (n = 19), being more frequent in crimes against personal integrity (n = 5; 3.52%), crimes against property (n = 4; 2.82%), and crimes against life (n = 2; 1.41%).

Likewise, organic mental disorders, including symptomatic disorders, were recorded in 12.68% of patients (n = 18), mainly distributed among crimes against personal integrity (n = 5; 3.52%), crimes against life (n = 4; 2.82%), and unlawful possession of controlled substances (n = 3; 2.11%).

The diagnosis of intellectual disability (4.23%; n = 6) was related to sexual crimes in 2.82% of cases (n = 4). Meanwhile, personality and behavioral disorders in adults were present in 4 cases (2.82%), and patients without a mental illness diagnosis accounted for 2.11% of the sample (n = 3).

Table 4. Clinical diagnosis and type of crime.

Hospital diagnosis at discharge	Type of crime								
	Traffic violations	Crimes against the right to property	Crimes against personal integrity	Crimes against sexual and reproductive integrity	Crimes against public safety	Crimes against life	Possession or illicit possession of scheduled substances subject to control	Violence against women or family members	TOTAL
Schizophrenia, schizotypal and delusional disorders (F20-F29)	1(0.7%)	9(6.34%)	17(11.97%)	6(4.23%)	5(3.52%)	24(16.9%)	1(0.7%)	5(3.52%)	68(47.89%)
Mental retardation (F70-F79)	0(0.00%)	0(0.00%)	1(0.7%)	4(2.82%)	0(0.00%)	1(0.7%)	0(0.00%)	0(0.00%)	6(4.23%)
No diagnosis of mental illness	0(0.00%)	1(0.7%)	0(0.00%)	0(0.00%)	0(0.00%)	2(1.41%)	0(0.00%)	0(0.00%)	3(2.11%)
Disorders of adult personality and behavior (F60-F69)	0(0.00%)	1(0.7%)	0(0.00%)	1(0.7%)	0(0.00%)	2(1.41%)	0(0.00%)	0(0.00%)	4(2.82%)
Mood [affective] disorders (F30-F39)	0(0.00%)	4(2.82%)	5(3.52 %)	1(0.7%)	3(2.11%)	2(1.41%)	1(0.7%)	3(2.11%)	19(13.38%)
Organic, including symptomatic, mental disorders (F00-F09)	0(0.00%)	2(1.41%)	5(3.52%)	2(1.41%)	0(0.00%)	4(2.82%)	3(2.11%)	2(1.41%)	18(12.68%)
Mental and behavioral disorders due to psychoactive substance use (F10-F19)	0(0.00%)	6(4.23%)	2(1.41%)	2(1.41%)	2(1.41%)	5(3.52%)	7(4.93%)	0(0.00%)	24(16.91%)
Total	1(0.70 %)	23(16.20 %)	30(21.13 %)	16(11.27 %)	10(7.04 %)	40(28.17%)	12(8.45%)	10(7.04 %)	142(100.00%)

Note: X² (42) = 62.71; p = .021

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The three analyses showed statistically significant agreement (p = .000), indicating validity in the calculation. The agreement between the forensic diagnosis and the hospital diagnoses at admission (k = .357) and at discharge (k = .319) yielded low values, while the agreement between the hospital diagnoses was good (k = .683) (Figure 1).
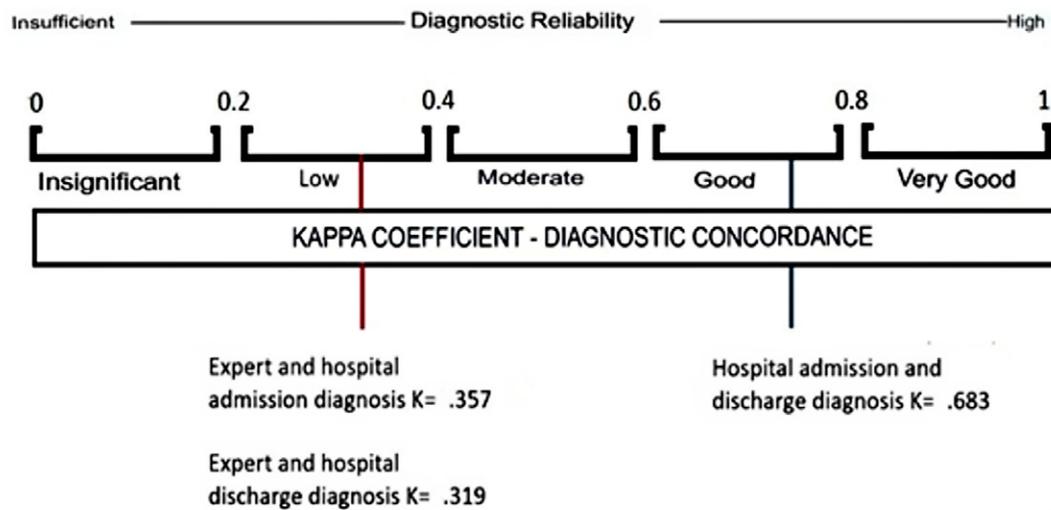
Figure 1. Proportion of agreement between expert diagnoses and hospital diagnoses.
Note. Kappa coefficient (diagnostic agreement n = 142). Good level of agreement between hospital diagnoses (k = 0.683) and low level between expert diagnosis and hospital diagnoses (k admission = 0.357 and k discharge = 0.319).

Sociodemographic characteristics and mental disorders related to the declaration of unfitness to plead in Ecuador

In Ecuador, the burden of mental and substance use disorders in the general population is significant, representing 378.7 disability-adjusted life years (DALYs) for all ages [20]. Currently, crime rates are rising in Ecuador, especially intentional homicides and non-lethal violent events such as robberies and assaults, mostly perpetrated by young males between 15 and 29 years of age, with a higher frequency of incidents in the coastal and highland regions of the country. By 2024, Ecuador reports a total prison population of more than 32,000 people deprived of liberty, of whom 34.2% are detainees undergoing pretrial mental evaluation and 2.1% are adolescents in conflict with the law [21].

The results of this study are consistent with findings from similar work in the region, which highlight similarities in the socioeconomic characterization of subjects, with most perpetrators being men, with primary or secondary education, single, and unemployed [12,22]. A profile from the Colombian Penitentiary Institute established associations between age and sex; with a median age of 34 years, most cases were men (92.1%) [13]. Cases without a partner were associated with a higher risk of homicidal behavior compared with other marital statuses (OR 1.02 [95% CI 0.37–2.86]), while patients residing in rural areas and those under 25 years of age did not show statistically significant associations.

Similar characteristics have been identified in European samples, as shown by Inge et al. in a Belgian study of 965 cases declared unfit to plead, in which single men with an average age of 36 years (SD = 10.94, 95% CI 18.8–74.4) constituted the majority of cases; only 13.3% were married or in some form of relationship [14]. Another study conducted in Cádiz determined a point prevalence of 46.1% for severe mental disorders in local penitentiary centers. The analysis revealed that the most prevalent psychiatric diagnoses within a sample of 128 people were personality disorders (35.2%), followed by schizophrenia and its spectrum (25.8%), and finally mental and behavioral disorders due to the use of psychotropic substances (16.4%) [15].

Other population studies and systematic reviews have also analyzed these variables, highlighting emerging evidence of lower median ages among offenders as well as a higher frequency of violent crimes, which underscores the need for larger population studies to analyze changing trends [13,22].

In our study, crimes against life were the most frequently identified (n = 40), followed by crimes against personal integrity (n = 30), against property rights (n = 23), against sexual and reproductive integrity (n = 16), and unlawful possession of controlled substances (n = 12). Gender-based violence, domestic violence, crimes against public safety, and traffic-related offenses accounted for only 10 cases (Table 1).

Regional studies show similar results regarding the type of crime committed. Homicide was the most common crime in prison populations in Colombia and Peru [23,24]. A Belgian study reportedly found that 29.3% of violent crimes committed by people with mental illness were homicides or attempted homicides, of which 11.9% were sexual in nature;

however, no public academic source was identified to confirm these data at the time of this publication [25].

In Russia, regional studies have found that inconsistencies in the impact of living-environment conditions—ranging from social and demographic deterioration to economic and industrial growth—correlate with differences in the individual mental health of Russians [26]. In Portugal, in an analysis of homicides, it was observed that only 8.3% of cases were committed by people considered unfit to plead due to mental illness [27].

In this study, the largest number of forensic diagnoses was schizophrenia, schizotypal disorders, and delusional disorders (n = 78). Mood disorders (n = 18) were the second most frequent group, followed by mental and behavioral disorders due to the use of psychoactive substances (n = 17). Organic mental disorders, including symptomatic disorders (n = 13), constituted the third most frequent diagnostic group.

Less frequent diagnoses were intellectual disability (n = 9), personality and behavioral disorders in adults (n = 4), and episodic and paroxysmal disorders, with 2 cases of epilepsy. Finally, one case with symptoms and signs involving cognition, perception, emotional state, and behavior was recorded (Table 3).

Table 4 shows the frequency of hospital diagnoses at admission. Schizophrenia, schizotypal disorders, and delusional disorders continued to be the most frequent (n = 61), followed by mental and behavioral disorders due to the use of psychoactive substances (n = 26) and organic mental disorders, including symptomatic disorders (n = 22). Mood disorders ranked third (n = 21).

Seven patients were diagnosed with an unspecified mental disorder and three with intellectual disability. Additionally, there was one patient with neurotic, stress-related, and somatoform disorders, one with other anxiety disorders, and one with personality and behavioral disorders in adults.

Discharge diagnoses varied compared with admission diagnoses (Table 5). Schizophrenia, schizotypal disorders, and delusional disorders (n = 61) ranked first, with a difference of 17 cases relative to the forensic diagnosis and no variation relative to the hospital diagnosis at admission. Organic mental disorders, including symptomatic disorders (n = 18), ranked second, followed by mental and behavioral disorders due to the use of psychoactive substances (n = 24) and mood [affective] disorders (n = 19). Personality and behavioral disorders in adults (n = 4) and intellectual disability (n = 6) were the least frequent. Interestingly, three individuals were recorded without a mental diagnosis at the time of hospital discharge.

In a 2023 study, Patiño et al. described a high frequency of schizophrenia cases considered unfit to plead, determining that most were over 18 years old and male, consistent with the average age of onset of the illness [28,29]. This disorder represents 1.6% of the total disability related to mental disorders in Ecuador, although it remains below the regional average compared with other countries such as Peru (1.7%), Colombia (1.8%), Argentina (1.9%), and Chile (2.1%) [14]. A psychosocial analysis of these patients determined that economic difficulties, interpersonal relationship problems, and limited access to mental health care represent risks both for the commission of crimes and for disease progression and also reported that most crimes committed were violent acts against life [16].

Additional studies indicate significant challenges and disparities in the diagnosis and treatment of schizophrenia in Ecuador. Moreover, the average age at diagnosis for schizophrenia in Ecuador is higher than international parameters, with men diagnosed at 36.8 years and women at 41.2 years. This delay may be attributable to factors such as social stigma, underreporting, and the low prioritization of mental health [30].

People with active schizophrenia are more likely to commit crimes. Auditory hallucinations with commanding voices instructing the patient to commit violent acts may also increase criminal risk [31]. Brain injuries, especially in the temporal or frontal lobes, can generate aggressive behaviors [32]. Acute intoxication by alcohol or drugs associated with a complete or partial transient state featuring psychotic symptoms such as hallucinations and delusions can abolish an individual's volitional and cognitive capacity and could be considered grounds for unfitness to plead. Some studies report that comorbidity is closely related to cases of extended suicide, with a higher prevalence in women, particularly in the presence of depression and drug use [33].

Studies in a population declared unfit to plead in Colombia also revealed that most declarations of unfitness were diagnosed with schizophrenia (63%), along with alcohol use (66.9%) and drug use (58.3%) [14]. There is a current trend promoting reforms of the concepts of unfitness to plead and criminal irresponsibility due to mental disorder, and their harmonization with human rights standards. In Mexico, people with disabilities who are declared not guilty by reason of insanity are sent to prison for treatment, while in Argentina they are referred to civil judges and transferred to psychiatric hospitals [34].

However, differences can be identified in European samples. A study in Belgian prison populations declared unfit to plead (n = 965) between 2001 and 2010 found that the most common diagnoses were personality disorders (64.1%), substance use disorders (42.7%), and psychotic disorders (41%), in which 48% of cases presented one or more major mental disorders overlapping with one or more personality disorders [35].

Challenges during evaluations and detection of feigned unfitness to plead

Age, gender, and IQ in young groups associated with psychopathology; the category of the crime; psychopathic traits; parental education level; income; and stress can generate

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discrepancies between forensic reports [36]. An important aspect to consider in the evaluation is malingering, which can influence how diagnostic criteria are defined by psychologists and psychiatrists when conducting pretrial evaluations for the criminal justice system. A comparative study of 39 defendants diagnosed with simulated psychotic symptoms and 25 defendants diagnosed with genuine psychosis resulted in an 8% incidence of diagnosed malingering in a series of 314 consecutive evaluations. Malingerers differed from psychotic individuals in 14 of 24 clinical presentation variables, including measures of general presentation, affect, hallucinations, delusions, and formal thought disorders, suggesting the presence of clinical features consistent with the diagnosis of feigned psychosis [35].

An evaluation of a cohort of Swedish patients declared unfit to plead between 1973 and 2009 found that 40% exhibited violent behaviors after discharge (n = 2,613). Substance use disorder as the primary diagnosis was associated with the highest risk of mortality and readmission, and personality disorder was associated with a higher risk of violent criminal behavior [34].

Various studies have noted the existence of a relationship between these disorders and the commission of criminal acts, which varies according to the specific characteristics of the disorder and its influence on the subject's dominant personality traits. From a clinical-forensic perspective, at least three behavioral profiles related to personality disorders in the criminal context can be distinguished. First, there are disorders with a low propensity to transgress social norms, such as schizotypal, histrionic, and obsessive–compulsive personality disorders. These individuals tend to avoid breaking rules due to an intense fear of the social and personal consequences of their actions, as well as a marked need to maintain control or receive external validation [37,38].

Second, dependent and avoidant personality disorders can facilitate passive or indirect participation in criminal acts. In these cases, the extreme fear of disapproval or abandonment can lead the individual to engage in illegal behaviors to please significant figures, without a clear intent to offend or full awareness of the scope of their actions. Third, disorders with a higher burden of criminal risk are identified. Paranoid personality disorder has been linked to behaviors such as false accusations or unfounded complaints, motivated by pathological distrust and a distorted perception of reality. In some contexts, this condition could justify a declaration of unfitness to plead if a significant alteration testing is demonstrated. Likewise, schizoid personality disorders have occasionally been associated with serious crimes against life, including serial or mass homicides, in which marked affective detachment, chronic social isolation, and an inability to empathize with others' suffering are observed [39].

Finally, antisocial personality disorder represents one of the diagnostic entities most closely linked to criminal behaviors, especially of a violent or sexual nature. This disorder is characterized by a persistent pattern of disregard for the rights of others, with behaviors that include impulsivity, irritability, manipulation, physical aggression, and pathological lying, manifested since childhood or early adolescence. Empirical evidence has shown that individuals with this profile are more likely to reoffend and show little or no response to conventional therapeutic interventions [40,41].

Taken together, these findings help to understand the heterogeneity of criminal behaviors in people with personality disorders, underscoring the importance of detailed psychiatric and forensic evaluation to distinguish between criminal responsibility, dangerousness, and the need for appropriate therapeutic or security measures.

Depressive and bipolar disorders pose a clinical challenge in the forensic context due to the episodic, recurrent, and, in many cases, chronic nature of their symptoms. Mood fluctuation, the presence of transient cognitive alterations, and comorbidity with other disorders complicate both differential diagnosis and the determination of the degree of criminal responsibility. A study conducted in Spain, focused on the prevalence of severe mental disorders in prison populations, identified that the most common diagnoses were personality disorders (35.2%), followed by schizophrenia spectrum disorders (25.8%) and mental and behavioral disorders associated with the use of psychotropic substances (16.4%), some of which were mistakenly classified as bipolar disorders [42].

The association between depressive disorders and criminal behavior appears to be mediated by the coexistence of other psychiatric pathologies, such as personality disorders or problematic alcohol and drug use. This comorbidity increases the risk of disinhibition, impulsivity, or hopelessness, factors that may act as triggers for criminal behavior [43]. Nevertheless, affective disorders by themselves generally do not constitute sufficient grounds for unfitness to plead, unless an acute episode is evidenced with severe impairment of reality testing and self-determination.

With respect to intellectual disability, its legal and clinical consideration should be based on the degree of cognitive impairment, as well as the functional impact on the individual's autonomy. In conditions such as dementia, progressive impairment of cognitive, affective, and behavioral capacities has been observed, which can compromise understanding of the unlawful nature of the act or the ability to conform to normative demands. In contrast, in people with anxiety disorders, sexual dysfunctions, or adjustment disorders, psychiatric–forensic criteria for legal exceptions are generally not met, since these conditions do not significantly affect reality testing or impulse control [4].

A relevant phenomenon in forensic evaluation is malingering, defined as the deliberate and false presentation of psychological or psychiatric symptoms for the purpose of obtaining legal, social, or economic benefits. This behavior represents a significant difficulty for the evaluating expert, as it can interfere with the correct determination of imputability,

dangerousness, or the need for treatment. Detection of malingering requires the use of validated psychometric tests, structured clinical interviews, and analysis of inconsistencies in the evaluatee's discourse or behavior [44].

Discussion

The level of reliability of clinical diagnosis is unknown and is probably lower than that of published studies, although researchers strive to ensure the reliability of their studies. It has been indicated that the reliability of the results of forensic reports in real practice may be substantially low [45]. In some studies, the intraclass correlation coefficient for individual evaluations (ICC1) is estimated to be above 0.80 (male offenders = 0.86; male forensic psychiatric patients = 0.88), although the reliability of forensic methods remains controversial [46]. A study that examined 450 independent forensic reports on subjects who committed serious crimes to assess the degree of agreement between experts and judicial consensus found results similar to field reliability in other types of complex decision-making, recommending the standardization of procedures, the application of structured professional methods, the use of forensic assessment instruments, and the impartial evaluation of mental health expert opinions [45].

However, under the criteria mentioned in Resolution CJ-DG-2016-10 (2016) and in Articles 36, 76, and 588 of the Comprehensive Organic Criminal Code [47], an ICD-10–based catalog specifying which mental disorders are accepted as grounds for unfitness to plead has not yet been established, nor has their predominance been determined. Additionally, to date there are no specialized mental health courts in Ecuador, unlike the U.S. model and the federal regulations under Public Law Number 107-77, which led to the implementation of such courts [46].

The impact of specialized courts for adolescents and adults processed with mental health problems was analyzed in a meta-analysis of 30 evaluations conducted between 1997 and 2020 by Fox et al. (2022) [18], which reported a 74% reduction in recidivism (OR 0.26 [95% CI 0.145–0.383]). Even with the enactment of the new Mental Health Organic Law in Ecuador (2024), budget allocations remain insufficient to address this issue. As a result, general judges and courts frequently resort to international norms or prevailing doctrine to define and handle these cases, under which psychosis, psychopathy, oligophrenia, and neurosis are considered a group of disorders accepted as causes of unfitness to plead [48,49].

A critical analysis of the forensic application of the categorical approach to describe a litigant's psychiatric state argues that psychiatric diagnoses do not play the same role in all legal contexts, as they may have consequences in one area of law but not in another. Diagnoses such as personality disorders are often excluded because they are not considered a severe mental defect when serious injuries are absent; in such cases, legal criteria are functional and refer to disability or capacity, without considering the diagnosis itself. In these actions, the presence of a diagnosis does not create or nullify legal claims or defenses by itself. Finally, it is recommended that psychiatric diagnoses not be used categorically in forensic contexts and that experts place greater emphasis on functional analyses [18].

Gowensmith et al. (2017) [50] evaluated the level of forensic diagnostic agreement among several independent evaluators who examined the same subject and found perfect agreement between independent diagnostic categories in only 18.3% of cases, with notable differences between diagnoses of psychotic, mood, or substance disorders (over 64.7%) and cognitive or developmental disorders (over 89.7%). Evaluators agreed on the combined diagnosis of psychotic and substance-related disorders in only 46.5% of cases [51].

A review of 216 cases in Hawaii, where three independent medical evaluations are required for each felony defendant, found moderate agreement (71% of initial evaluations) when all evaluators agreed on the defendant's competence or incompetence (kappa = 0.65). Agreement was somewhat lower (61%, kappa = 0.57) in reevaluations of defendants initially declared incompetent. When disagreement existed among evaluators, judges tended to make decisions aligned with the majority opinion. But when judges disagreed with the majority, they more often declared the defendant incompetent rather than competent, suggesting a generally conservative approach [52].

In Ecuador, psychiatric care centers must issue periodic reports regarding the evolution or regression of the accused, and if clinicians determine clinical improvement, they recommend modifications to the therapeutic approach or request the extension or termination of security measures. In these cases, the judge must request reevaluation by the forensic team. A substantial information gap has been identified in this respect, noting that if a specialized team is not available, accredited experts from the Judicial Council may also be designated, who will act as the sole technical opinion to review hospital reports.

Moreover, the participation of experts without specialized knowledge may be more prone to stigmatizing attitudes in decision-making or reporting. This has been described in a study [52], which identified higher levels of stigmatization toward offenders with diagnoses of psychopathy and schizophrenia [53].

Public perception and attitudes toward criminal cases involving mental disorders in Ecuador have not yet been studied. By contrast, this topic has been extensively evaluated in the United States, where a study conducted with a group of adolescents (n = 515) examined a clinical case with a diagnosis of schizophrenia that was declared unfit to plead, using the Public Conception of Aggression Questionnaire (CPA). The result showed that more than 50% considered the patient guilty, and that unpredictable behavior was the main variable associated with the evaluation of unfitness to plead, followed by the perception of aggressiveness and mental illness [54].

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An analysis of 483 evaluation reports in the United States corresponding to 165 criminal defendants, in which up to three forensic psychiatrists or psychologists offered independent opinions on a defendant's legal sanity, found that evaluators reached unanimous agreement on legal sanity in only 55.1% of cases. Evaluators tended to disagree more in their conclusions when the defendant was under the influence of psychoactive substances, such as drugs or alcohol, at the time of the offense. In contrast, levels of agreement increased significantly when there was consensus on a diagnosis of a psychotic disorder or when the defendant had been hospitalized for psychiatric reasons near the time of the offense [50].

In this regard, Resolution CJ-DG-2016-10 clearly establishes that if substantial differences are found between the forensic opinion and the hospital opinion, the forensic opinion must be prioritized, emphasizing that psychiatric confinement should not be suspended nor the length of hospitalization modified [32].

A meta-analysis that assessed interrater reliability of opinions on competence and unfitness to plead across 59 studies (with 9 focused on competence and 8 on unfitness to plead) reported a wide range of reliability estimates. Percent agreement among evaluators ranged from 57% to 100%, while Kappa values ranged from 0.28 to 1.0. Pooled estimates were $\kappa = 0.49$ (95% CI: 0.40–0.58) for opinions on competence and $\kappa = 0.41$ (95% CI: 0.29–0.53) for opinions on unfitness to plead. These results suggest that variability in reliability reflects differences in evaluation contexts, which in turn influence interrater agreement rates [50].

In relation to this, the MAIS in Ecuador states that the state response to cases of unfitness to plead in general is deficient. In addition, cultural and informational gaps could be related to discrepancies between forensic and hospital opinions, an aspect that requires further study. Added to this are the shortage of specialized centers, the limited availability of services and beds for court-related cases, and the absence of interinstitutional protocols, factors that could influence diagnostic approaches and even discharge times. Defendants are often sentenced to spend prolonged periods in psychiatric confinement. Similarly, cases have been documented of people without mental health problems who manage to be confined in psychiatric institutions to avoid a criminal sentence [55].

Of particular interest are the diagnostic discrepancies that arise when evaluators represent opposing parties in a legal proceeding. A study focused on determining the civil commitment of sex offenders revealed that evaluators in adversarial positions reported different scores when applying the same assessment tools—the Minnesota Sex Offender Screening Tool – Revised (MnSOST-R) and the Psychopathy Checklist – Revised (PCL-R)—to the same individual. These findings raise concerns about how an evaluator's adversarial allegiance could influence results obtained with certain forensic instruments [56]. Variables such as the category of the crime moderate discrepancies between informants

in psychopathology reports. In addition, self-reports of symptoms by youth can predict physicians' diagnoses of mood disorders and aggressive behaviors [43].

Finally, it should be considered that some tools can be useful for forensic decision-making if evaluators use them under precise indications, even though certain studies show agreement between clinical diagnosis and diagnosis within the forensic system [50]. A survey of experts about their two most recent forensic evaluations (n = 434 experts, 868 cases), regarding the use of structured tools to support expert judgment, found that most used tools (74.2%) and several (four on average), generally different from each other, suggesting the absence of a structured approach that would facilitate efficiency in the use and integration of relevant information in cases [57].

In this sense, there is a widespread lack of guidelines that accurately describe diagnostic approaches and present a set of standardized tools for evaluating people declared unfit to plead in Ecuador. Specifically, it is not clear how evaluation and diagnosis should be approached by the forensic team. Many tools remain unvalidated, untranslated, or unadapted for use in our context, which significantly limits diagnostic approaches in cases of unfitness to plead.

Moreover, it should be remembered that symptomatic profiles alone do not provide certainty in differentiating mental pathologies, since symptoms of conditions such as schizophrenia are also found in mania and in other disorders, demonstrating that, in symptomatic terms, there are no areas of rarity among these conditions. Cognitive alterations are identified in each of them, although they tend to be more severe in schizophrenia and other disorders on its spectrum [58]. The view that psychosis is a continuum ranging from normality to disorder, spanning different conditions such as bipolar disorder and schizophrenia, has been questioned by Lawrie et al. (2016) [59]. The results of current studies do not support the argument for a clear separation between bipolar disorder and other psychoses [46]. Therefore, there is still no definitive resolution in this debate. One way to address this dilemma would require that certain symptoms be essential to establish a diagnosis [60], an aspect that has been addressed in different diagnostic classifiers, but which has not yet reached clear consensus [61].

Reliability does not imply validity, since any arbitrary grouping of symptoms can be replicated, even if they are not part of a recognized psychiatric syndrome [62,63]. In direct examination, the evaluator can present the opinions reached and the grounds for them, bearing in mind that the judge represents a "lay" audience that rarely has knowledge about mental health and may hold misconceptions about it [64,65].

This study highlights the profiles of criminal cases declared unfit to plead in Ecuador, the majority of which correspond to young men, single, unemployed, and of low economic resources. It is notable that samples studied in the United States, Europe, and South America share these characteristics,

despite their sociodemographic differences. Schizophrenia is the most frequently diagnosed mental disorder among these cases, in which crimes against life and personal integrity are most associated with the severity and nature of offenses, both by forensic experts and clinicians.

However, a notable discrepancy is identified between forensic diagnoses and hospital diagnoses at admission and discharge, with a lower proportion of agreement in the forensic diagnosis, indicating possible problems in the reliability and consistency of evaluations performed by experts. The study also underscores the challenges of the Ecuadorian judicial system and legislative framework regarding unfitness to plead, including the lack of adequate training or the limited availability of specialized experts and mental health courts, which further exacerbate these issues.

Recommendations include the standardization of diagnostic approaches and tools, the promotion of interdisciplinary collaboration, as well as legal reforms that establish clear criteria and guidelines to ensure fair and accurate assessments in cases of people declared unfit to plead due to mental disorders.

Conclusion

Agreement between hospital diagnosis and forensic diagnosis in mentally ill defendants declared unfit to plead is neither automatic nor guaranteed. Differences in their objectives, contexts, and methods can generate significant discrepancies that must be addressed with rigor and sensitivity. Only through close collaboration between the clinical and judicial spheres, and through adherence to ethical and scientific principles, can an appropriate administration of justice be ensured for those whose mental illness prevented them from acting with full criminal responsibility.

Author contributions

J.A.V.F.: conceptualization; data curation; formal analysis; funding acquisition; investigation; methodology; project administration; resources; supervision; validation; visualization; roles/writing - original draft; and writing - review & editing. **J.E.G.C.:** conceptualization; data curation; formal analysis; investigation; methodology; validation; visualization; roles/writing - original draft; and writing - review & editing. **C.E.O.R.:** conceptualization; formal analysis; investigation; supervision; validation; visualization; roles/writing - original draft; and writing - review & editing. **M.A.E.M.A.:** supervision; validation; visualization; roles/writing - original draft; and writing - review & editing. **I.D.C.P.:** supervision; validation; visualization; roles/writing - original draft; and writing - review & editing. **K.V.R** and **MJPC:** supervision; validation; visualization; roles/writing - original draft; and writing - review & editing.

Data availability statement

The authors will make available the raw data that support the conclusions of this article, without undue reservation.

Conflict of Interest Statement

The authors declare that they have no conflicts of interest related to the research, authorship, and/or publication of this article.

To request these data, it is suggested to contact the corresponding author:

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Competing interests

Ethical Considerations

The studies involving humans were approved by Teaching and Research Department, Institute of Neurosciences, Junta de Beneficencia de Guayaquil, Guayaquil, Ecuador. The studies were conducted in accordance with the local legislation and institutional requirements. Written informed consent for participation was not required from the participants or the participants' legal guardians/next of kin in accordance with the national legislation and institutional requirements.

Institutional Review Board Statement

Ethical review and approval for this study was waived because it was a retrospective study in which only data from institutional databases of subjects who were not hospitalized at the time the study was initiated were analyzed.

Declaration of informed consent

Patient consent was waived because the databases of subjects who were not hospitalized at the time of the study were used. Data were appropriately anonymized to avoid being binding on participants.

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