

FORENSIC-CORRECTIONAL PSYCHIATRIC SERVICES IN ABU DHABI: LESSONS FROM A DESCRIPTIVE ANALYSIS OF THE ATTRIBUTES OF A SAMPLE OF SERVICE USERS

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SUMMARY

Background: Forensic-correctional psychiatric services are an important component of the public mental health services that provide care to offenders with mental illness in the criminal justice system and conduct psycho-legal assessments. Although forensic-correctional psychiatric services have evolved in Abu Dhabi, more work is needed in providing adequate mental health care for offenders.

Methods: This study provides a situational analysis of forensic-correctional psychiatric services in Abu Dhabi. We included a descriptive analysis of the data collected on service users admitted for psycho-legal assessments and treatment in the forensic-correctional units and those reviewed in the medical board units for issuing court reports. The study spanned the period between January 2019 to October 2020.

Results: A total of 398 males were included in the study. The participants' mean age was 35.3 (SD 9.27) years and were predominantly single, unemployed and high school graduates. The most prevalent diagnosis was schizophrenia spectrum disorder, (n=129, 31.6%). The mean length of stay in the forensic-correctional unit was 11.07 days. As many as 82.4% of the participants were referred for evaluation. The most common type of crime was categorized as "abnormal behaviour" under the code of practice number 511 of the list of crimes as per the general prosecutor of the United Arab Emirates followed by violence.

Conclusion: Considering the level of demand for services and the limited number of forensic-correctional health professionals, there is a need for more resources to develop expertise, clinical services and infrastructures to expand the practice of forensic-correctional psychiatry. The creation of a universal database for all forensic-correctional psychiatric services is needed to better understand the unmet mental health needs. An additional investment of resources for research to inform mental health policy, laws and practice is indicated. Optimally, the lessons highlighted in this study can guide action plans for improving forensic-correctional mental health services in comparable settings.

Key words: Arab - correctional psychiatry - criminal responsibility - forensic psychiatry - United Arab Emirates

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INTRODUCTION

Forensic-correctional psychiatric services represent an important component of the public mental health services that conduct specialized psycho-legal assessments and provide care for offenders with mental illness to enhance their wellbeing, mitigate re-offense and promote public safety (Eckert et al. 2017, Gosek et al. 2020). Globally, forensic-correctional psychiatry has evolved into a recognized specialty field in psychiatry, however, there are wide variations in the organization, structure and capacity of forensic-correctional psychiatry across different jurisdictions (Velinov & Marinov 2003, Olagunju et al. 2018). This paper is aimed to provide a situational analysis of forensic-correctional psychiatry services in Abu Dhabi and propose relevant recommendations. The paper consists of two major sections, (1) an overview of Abu Dhabi, a historical trend in the development of mental health services and a description of forensic-correctional psychiatric services in the emirate

using the selected themes below; and (2) a description of the attributes of a sample of patients assessed by the medical board and those who were admitted into the forensic-correctional psychiatric units in the city of Abu Dhabi. Furthermore, we presented a set of generic recommendations based on the lessons from the data presented in the second section to inform action plans for improving forensic-psychiatric services in the emirate. Optimally, the action plans are modelled and developed to guide steps for broader application to guide steps in addressing inadequate mental health care for offenders in comparable settings elsewhere.

Brief description of the study context - Abu Dhabi emirate

Abu Dhabi is the capital and the largest of the seven emirates that form the United Arab Emirates (UAE). The UAE was founded in 1971 by H.H. Sheikh Zayed bin Sultan Al Nahyan, covering an area of about 71,023.6 sq km

of land and 27,624.9 sq km of territorial water (Fact Sheet 2021, UAE 2018, pages 8-10). The seven emirates that form the UAE are Abu Dhabi, Dubai, Sharjah, Ajman, Ras Al Khaimah, Umm Al Quwain and Fujairah. In 2017, the total population of the UAE was 9,304,277 (Data Commons 2022, UAE 2018, page 8), consisting of more than 200 nationalities, and expatriate populations form as many as 88.52% of the total population in the UAE. Expatriates from India, Pakistan and Bangladesh form the top three nationalities. Around 78% of the total population are aged 15 and 54 years. Males form 69% of the total population, which may be due to the influence of male migrant workers (Fact sheet 2021, UAE Government 2022).

The Abu Dhabi emirate accounts for 84% of the total landmass and about 27% of the total population of UAE (Data Commons 2022, UAE Government 2022). The emirate of Abu Dhabi consists of three main cities, Abu Dhabi, Al Ain city and Al Dhafra city. In 2016 the total population of the emirate of Abu Dhabi was 2,908,173 people, and 19% are Emirati nationals. The majority of the population of the emirate of Abu Dhabi live in the city of Abu Dhabi, with a population of 1.8 million in 2016 (62.1% of the total population). The city of Al Ain (population = 0.76 million people) and Al Dhafra (population = 0.33 million) make up about 26.4% and 11.5% of the total population of the emirate of Abu Dhabi respectively (Statista 2021).

Mental health services in Abu Dhabi emirate

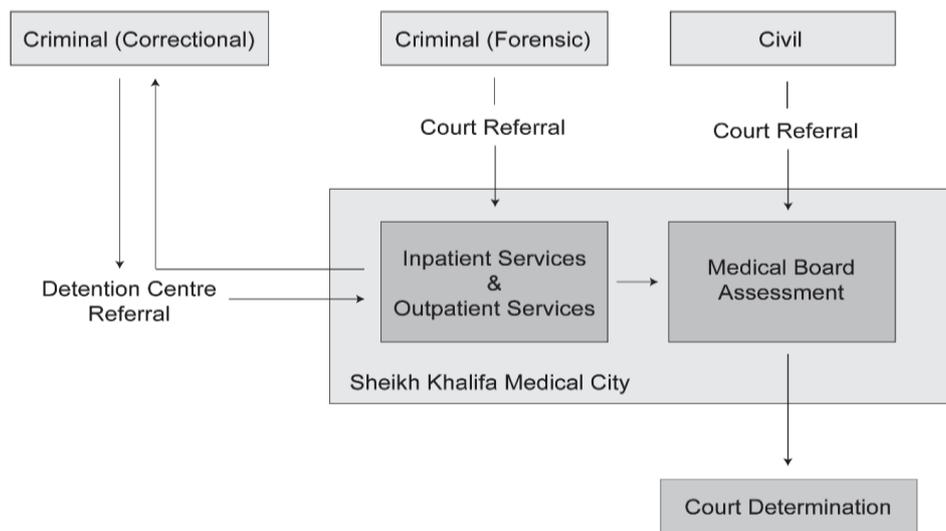
Mental health services in the emirate of Abu Dhabi and other emirates in the UAE are modeled after the Mental Health Act developed in 1981 (Alhassani & Osman 2015). The first psychiatric unit was established in a public general hospital in the city of Abu Dhabi in 1981, albeit the public mental health services have since evolved. Currently, psychiatric services are generally provided through either outpatient clinics or inpatient units. Notably, inpatient psychiatric services are provided solely by public hospitals, and outpatient mental health services are delivered by both private and public hospitals.

In 1995, the city of Abu Dhabi developed its first and only government psychiatric department in Sheikh Khalifa Medical City called the Behavioural Science Pavilion [BSP] (SKMC 2020). The BSP provides a wide range of mental health inpatient and outpatient services in adult general psychiatry, child and adolescent psychiatry, addiction psychiatry, community and rehabilitation psychiatry, inpatient and outpatient forensic-correctional psychiatry, old age psychiatry, home visits, outreach and crisis intervention services, psychology services and occupational services. In 2020, the BSP has a capacity of 123 admission beds and treatment is conducted by a multidisciplinary team of 22 psychiatrists, 145 psychiatric nurses, 13 social workers, 12 psychologists and two occupational therapists. Mental health treatment is publicly funded by the emirate and is free to all UAE nationals who form 19% of the total population of the emirate.

Forensic-correctional psychiatric services in Abu Dhabi

In Abu Dhabi, forensic and correctional psychiatry are closely integrated in terms of practice and not as well delineated as in other jurisdictions, mostly in developed countries. In many jurisdictions, forensic psychiatry has several roles and constitutes a recognized subspecialty of psychiatry that addresses issues that interface between psychiatry and the law, providing services encompassing the assessments and mental healthcare of offenders whose criminal responsibilities, fitness to stand trials, and risk profile are impacted by mental disorders (Rosner 2003, Chaimowitz et al. 2018, Niveau & Welle 2018, Al Barbari et al. 2021). On the other hand, correctional psychiatry deals with the mental health treatment and rehabilitation of mentally ill offenders in correctional settings, including lock-ups, jails, detention centers, and juvenile correctional centers (Rosner & Scott 2016).

The forensic-correctional psychiatric unit in Abu Dhabi city was established in 2004 and has expanded to include an acute inpatient unit with 13 beds. As of 2020, the forensic-correctional psychiatric services are provided by a team of a senior general psychiatrist, 13 forensic psychiatric nurses, a social worker, and a clinical psychologist (SKMC 2022). The forensic-correctional psychiatric services (Figure 1 shows the organization of the services) are divided into inpatient and outpatient units, both dealing with criminal and correctional cases. Criminal cases from both units are referred upon the completion of the assessment to the medical board unit for report issuing. More specifically, the inpatient unit deals with both forensic and correctional patients. Some of the patients who get admitted into the inpatient unit are referred for Criminal Responsibility assessments before they are referred to the medical board for report issuing. Others are referred for acute stabilization from the correctional facilities. The forensic psychiatric services in the city of Abu Dhabi get a very limited number of referrals for Fitness to Stand Trial assessments either through inpatient or outpatient departments and the reason behind that is unclear. The outpatient forensic-correctional psychiatric department deals with forensic and correctional patients who are referred for an initial assessment of criminal responsibility before referring them to the medical board for issuing of report. Further, mentally ill offenders with mental disorders are also referred for clinical management and administration of medications if these services are unavailable in the correctional facility. The medical board, on the other hand, gets its referrals from forensic inpatient or outpatient departments or directly from the court to assess for criminal and civilian matters. The medical board consists of three senior psychiatrists who review all psycho-legal assessment to make independent decision and issue the court report.



Civil cases are by court referral assessed by the medical board at Sheikh Khalifa Medical City (SKMC) while forensic patients are by court referral for psychiatric services and assessment. Correctional patients are referred by the detention centre for acute psychiatric care before returning to the detention centre. SKMC determines the provision of inpatient vs. outpatient services.

Figure 1. Forensic-Correctional psychiatric services in Abu Dhabi

Study rationale and objectives

To our knowledge, this is the first study to describe a forensic-correctional psychiatric population in the emirate of Abu Dhabi. While civil and forensic-correctional mental health services in the emirate have evolved in the last few years, including the development of an updated Mental Health Act to be approved soon (Alhassani & Osman 2015), more work is needed to improve forensic-correctional psychiatric services in the Emirate of Abu Dhabi. An overview of the services and understanding of the characteristics of the forensic-correctional psychiatric population with respect to criminogenic, clinical or diagnostic and risk attributes are critical to inform innovative ideas to improve forensic-correctional psychiatric services in the Emirate and stimulate future research. As such, our study aims are:

- to provide an overview of the mental health services and describe the forensic-correctional psychiatric services in Abu Dhabi;
- to describe the sociodemographic, clinical and criminogenic attributes of patients in forensic-correctional psychiatric units in Abu Dhabi over the study period;
- to discuss lessons and propose a set of generic recommendations to inform action plans for improving forensic-correctional psychiatric services in the emirate and comparable settings.

SUBJECTS AND METHODS

Study design

This retrospective descriptive study was conducted at the Behavioural Science Pavilion (housing the department of psychiatry) of the Sheikh Khalifa Medical City

(SKMC). The SKMC is the only government hospital in Abu Dhabi city with a psychiatric department. The present study was completed via a review of the medical records of all male forensic-correctional patients seen at the hospital from January 2019 to October 2020. Specifically, the study covered all admissions into the forensic-correctional psychiatric inpatient unit and the patients who were assessed in the forensic medical board unit. The in-patients who were in the forensic-correctional unit are typically admitted for detention, criminal responsibility assessments and treatment. Further, patients under the review of the medical board consisted of all forensic patients assessed by the medical board members for criminal responsibility. The inclusion criteria are all male patients admitted into the forensic-correctional psychiatric unit and all the forensic patients with criminal cases who were assessed by the medical board, aged 18 years or older. The exclusion criteria were patients below 18 years old and civilian cases. The study was focused only on males because there were limited numbers of female forensic cases referrals and the hospital has no designated unit for female forensic cases. Similarly, there is no designated unit for juvenile offenders under 18 years of age.

Ethical Approval

Ethical and institutional approval was obtained from the Institutional Review Board (IRB) in the Department of Health of Abu Dhabi (Reference No. REC-06.07.2021 [RS-705]).

Data collection

The study data was collected from the participant's electronic records using a study-designed spreadsheet. Information was collected on sociodemographic items

(including age, marital status, level of education, employment status, and level of education), clinical characteristics (e.g. psychiatric diagnosis, history of substance abuse and length of hospital stay) and criminogenic factors (including the reason of referral, current crime, and prior criminal history). The psychiatric diagnoses that are included in patients' records were completed by psychiatrists based on the Diagnostic Statistical Manual of Mental Disorders 5th edition (DSM-5) criteria. Only variables with complete data were included in the final data analysis.

Data analysis

Data analysis was conducted using the Statistical Package of Social Sciences for Windows (SPSS) version 26. Descriptive statistics were conducted to summarize findings on the variables included in the data. Continuous data with normal distributions were described with a mean (standard deviation) and median for skewed data. Categorical variables were described with frequencies and percentages.

RESULTS

Findings on sociodemographic characteristics of the participants

Table 1 shows the sociodemographic characteristics of the study participants, made up of 398 male incarcerated individuals. Of all the study participants, 53 of them completed forensic assessments by the medical board while the rest were admitted to the forensic-correctional unit. The mean (SD) age of the study participants was 35.3 (SD 9.27) years. The characteristics of the participants showed that 49.7% were never married, and 0.3% were widowed. Arab populations made up the majority of the cases, constituting 61.3% and about 50.1% of all participants were UAE nationals. The most common level of education was high school (48.2%) and 3% of the participants were illiterate (with no formal education or schooling). Regarding employment status, 55.69% of the participants were employed before detention.

Findings on clinical attributes of the study participants

The diagnosis of schizophrenia spectrum and other psychotic disorders was the most prevalent among the participants, constituting 31.6% and anxiety disorders (3.76%) were the least common diagnosis (See Figure 2). The mean length of stay (defined as the number of days stayed as inpatient in the forensic-correctional units) was 11.07 days, and the median was nine days. Overall, the hospital length of stay ranged from one to 163 days. Half of the cases had a prior history of substance abuse.

Table 1. Sociodemographic attributes of the participants

Variables	Frequency (n)	Percentage (%)
Ethnicity		
Arab	256	61.3
Non-Arab African	12	2.87
Non-Arab Asian	143	34.2
Others	6	1.43
Nationality		
UAE Nationals	209	50.1
Non-UAE Nationals	208	49.9
Marital Status		
Divorced	53	13.3
Married	146	36.7
Single	198	49.7
Widowed	1	0.3
Employment Status		
Full time job	137	34.4
Labor	44	11.1
Military or Police	26	6.5
Private business	15	3.8
Retired	18	4.5
Unemployed	149	37.4
Missing	9	2.3
Level of Education		
Illiterate	12	3.0
Some schooling	84	21.1
High school	192	48.2
University graduate	62	15.6
Postgraduate	4	1.0
Missing	44	11.1

UAE: United Arab Emirates

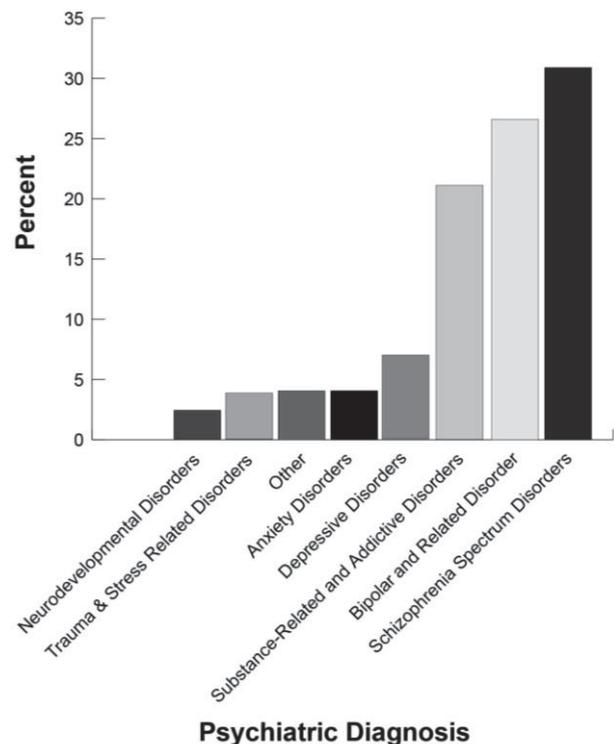


Figure 2. Distribution of psychiatric diagnoses among study participants

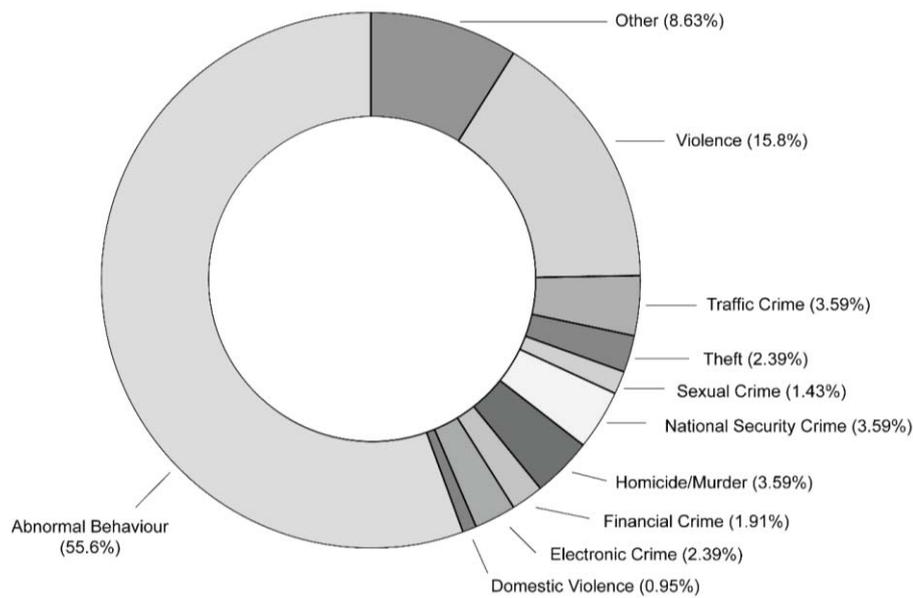


Figure 3. Distribution of types of crime

Findings on criminogenic attributes of the study participants

Participants were referred for different reasons. The majority of the participants were referred for diagnostic evaluation (82.4%) to inform care and 1.25% of the participants were on detention orders. There were no referrals for fitness to stand trial assessment during the study period. Participants were in detention for several different categories of crimes as shown in Figure 3. In this regard, participants in detention for “abnormal behaviour” were the most prevalent (56.7%). Abnormal behaviour is codified under the code of practice number 511 containing the list of crimes as per the general prosecutor’s office of the United Arab Emirates (Ministry of Justice, 2022). While offences relating to violence were reported in 15% of the participants, homicide and national security-related crimes were each reported in 3.51% of the study participants. A total of 48.9% of the participants had no previous criminal record.

DISCUSSION

Findings from different countries on the characteristics of forensic-correctional psychiatric populations have been published to highlight the progress and gaps in mental healthcare of this important population group. To our knowledge, this study is the first study to describe the forensic-correctional population in the emirate of Abu Dhabi. Specially, we provide an overview of forensic-correctional psychiatric services in the city of Abu Dhabi and describe the characteristics of a sample of male forensic-correctional population in Abu Dhabi in the UAE. Several lessons and emerging trends on the need to improve

forensic-correctional psychiatric services in the emirate were highlighted in the study findings. We also provided a generic set of recommendations to inform action plans for improving forensic-correctional psychiatric practice in the emirate and other comparable settings with inadequate mental health care for offenders.

Sociodemographic characteristics of the study participants

The age distribution of our study participants was within the average age range of the general population in United Arab Emirates (Statista 2021), and this is comparable to findings in other Arab studies from Saudi Arabia and Algeria (Al Barbari et al. 2021), and international settings such as South Africa and Nigeria (Yusuf & Nuhu 2009, Strydom et al. 2011, Olagunju et al. 2018). However, the majority of the forensic-correctional psychiatric population reported in an Indian study were younger compared to our study (Kumar et al. 2014). Similarly, finding on the marital status varies between our study compared to other countries, with about half of our study population as well as in Jordan, India, and Turkey reported being single. However, one and eight in every ten individuals in Iraq and South Africa respectively were single (Strydom et al. 2011, Kumar et al. 2014, Marais & Subramaney 2015, Inan et al. 2018, AlBarbari et al. 2021). The majority of our study participants were high school graduates, similar to findings in Saudi Arabia (Al Barbari et al. 2021). This is in contrast to findings reported in South Africa and India where a significantly less proportion had a high school education (Uncu et al. 2007, Kumar et al. 2014, Marais & Subramaney 2015, Inan et al. 2017). In previous studies, unemployment was preponderant in the forensic-correctional psychiatric population and

linked with about 2.8 times increase in the risk of committing a crime (Inan et al. 2017). We see this reflected in our study in the United Arab Emirates as well as in studies in Kuwait and Saudi Arabia where a similar proportion was unemployed (Al Barbar et al. 2021). In Nigeria, all the individuals (Yusuf & Nuhu, 2009), and over two-thirds in South Africa were unemployed (Uncu et al. 2007, Marais & Subramaney 2015, Inan et al. 2017). In general, the differences in our study findings compared to other regional and international studies are possibly due to several factors. For example, the population studied in this paper is exclusively males while others studied both genders. The level of education and the average number of years of schooling is likely influenced by the economic development in education in the United Arab Emirates.

Clinical characteristics of the study participants

Individuals in this study have multiple psychiatric diagnoses. Schizophrenia spectrum disorder was the most common psychiatric diagnosis in this study and other international studies, including in the UK, Turkey, Sweden, South Africa, and Nigeria (Oncu et al. 2007, Yusuf & Nuhu 2009, Strydom et al. 2011, Kumar et al. 2014, Marais & Subramaney 2015, Inan et al. 2018, Olagunju et al. 2018, Tully et al. 2019). However, in Arab countries like Saudi Arabia, Kuwait, Iraq and Jordan, studies showed that the majority were diagnosed with substance use disorders followed by psychotic disorders (AlBarbari et al. 2021). The proportion of the study participants with a history of substance abuse was found to be lower in our study compared to other regions where such individuals tended to comprise as many as two-thirds of the studied populations (Du Plessis et al. 2017, Olagunju et al. 2022b). This difference may be due to the legal system in the United Arab Emirates where individuals with addictions and substance abuse are treated under a different pathway (diversion program) and sometimes placed in compulsory rehabilitation before reaching forensic psychiatric services.

The mean length of hospital stays in the United Arab Emirates differs quite significantly from the findings in other studies elsewhere. For example, in the UK, the median length of stay in the hospital was 503 days, while in Ireland, the mean was 25.5 months (Tully et al. 2019, Gosek et al. 2020). In this study, the length of stay tends to be less than two weeks, which can be attributed to the design of the forensic-correctional psychiatric services. Patients are referred to the psychiatric unit for acute stabilization and/or assessment. They are subsequently transferred to the community for reintegration or the detention center based on the decision of the court. As such, there is a quick turnover and only a few forensic patients remain on the unit for extended periods.

Criminogenic attributes of the study participants

In this study, the most common reason for referral was for a mental health screening for diagnostic clarification to effect treatment. However, several individuals who were referred for diagnostic assessment and treatment were also required to have court-ordered criminal responsibility assessments before their discharge. Furthermore, few of the referrals were from correctional facilities to effect acute stabilization of active mental disorders in the affected participants. Lastly, some individuals were held on detention orders despite being deemed not criminally responsible because they posed a significant risk to public safety. Taking together, the foregoing highlights the intersection between forensic and correctional mental health services in the emirate. A similar model and structure have been described in other settings (Alhumoud et al. 2018, Bioku et al. 2021, Olagunju et al. 2022). The most common crime in our study population was abnormal behaviour, defined as any strange behaviour in a public place, which could be risky toward self or others (codified under the code of practice number 511 of the list of crimes as per the general prosecutor of the United Arab Emirates). Violence as the primary offence is the second most common crime but the rate in our study is dramatically lower than the rates reported in Saudi Arabia, Iraq, and Turkey, where violence was reported in as many as eight in every ten of the forensic populations (Inan et al. 2018, AlBarbari et al. 2021).

Lessons and implications of study findings for forensic-correctional psychiatric services

Considering all the above-mentioned findings, this study showed that a lack of confiding relationships, fewer school years, unemployment, schizophrenia spectrum disorder, substance use disorders, high turnover rate, abnormal behaviour and violent crime are prevalent problems among the forensic-correctional population in Abu Dhabi. Notably, schizophrenia spectrum disorder and substance use disorders are chronic disabling mental disorders with serious ramifications if untreated. For instance, these disorders have been associated with major direct and indirect socio-economic cost burden due to functional impairment and loss in productivity, and this cost is likely to be huge considering that our study participants are a young population (GBD 2017, Olagunju et al. 2022b). Furthermore, high-risk behaviour, violence and several social determinants of poor health are marked preponderant among the forensic-correctional population in this study. These study findings underscore the need for comprehensive assessment, psychopharmacological interventions, rehabilitation, and social support program for offenders with mental illness in Abu Dhabi to optimize risk management, mitigate recidivism, promote community

re-integration and enhance recovery. The significance of scalable mental health assessment and intervention across comparable settings with inadequate services for offenders cannot be over-emphasized (Bioku et al. 2021, Chaimowitz et al. 2020, Slavin-Stewart et al. 2022, Olagunju et al. 2022a). While health financing by the Abu Dhabi government covers payment for forensic-correctional psychiatric services, it would be beneficial to disaggregate forensic and correctional psychiatric services to ensure that the unique needs of these two groups of population are met adequately. The health financing model in the emirate allowed the availability of a wide range of effective treatment options. This is a good practice for sustainable health delivery in correctional settings and a model for comparable settings (GBD 2020).

Further, investment in mental health resources to develop services for female offenders is also indicated. On a positive note, UAE has a good model for psycho-legal evaluation, involving collaborative assessments and reviews that are completed by three senior psychiatrists on the medical board. The input of this team of psychiatrists enhances the production of an objective report to the court and the provision of humane mental health services in the forensic-correctional units. Notwithstanding, there is a need for mental health law reform and policies to allow clarity and best practices. Furthermore, there is a need to bolster the current model of assessments and care with interdisciplinary health professional expertise, including psychiatrists, nurses, psychologists, social workers, occupational therapists, recreational therapists, and vocational counsellors that are needed for the successful practice of forensic-correctional psychiatry (Alhassani & Osman 2015, Bioku et al. 2021, Olagunju et al. 2018, Rosner & Scott 2016).

There are some limitations in this study. First, the study design is a descriptive retrospective chart review, which limits advanced and robust statistical analysis to explore complex trends and causal relationships among the studied variables. Second, the lack of proper documentation is considered a major challenge in the study setting. Finally, there is a lack of data about forensic-correctional mental health services across the rest of the emirates in the UAE for comparative analysis.

CONCLUSION

In conclusion, this study described the characteristics of the forensic-correctional psychiatric population in the city of Abu Dhabi in terms of their socio-demographic, clinical and criminogenic attributes. This study has several lessons for the emirate and other comparable contexts, especially those where forensic-correctional psychiatry is not well developed. For instance, this study can serve as an important reference to stimulate future research to gather evidence for planning. Moreover, the lessons from this study informed the action plans that are highlighted below for impro-

ving forensic-correctional psychiatric services. These action plans model evidence-based steps needed to guide the development or improvement of forensic-correctional mental health services in the emirate and comparable contexts with inadequate resources and care for offenders with mental illness.

- A comprehensive assessment of needs is indicated to understand the current mental health burden, available resources and ascertain the unmet mental health needs. This information can help inform advocacy, stakeholders' engagement for support, planning and implementation of evidence-informed forensic-correctional mental health services. For example, the data from this study are supporting our advocacy efforts in the emirate.
- The practice of forensic-correctional psychiatry is often affected by many factors as shown in the emirate, including culture, religion, and the law of the land. Integration of the principles of equity, cultural sensitivity, humane care and recovery into the development and administration of mental health services is highly recommended.
- In the emirate and other comparable settings, there is a need to promulgate or revise existing mental health laws and policies to support the care of offenders with mental disorders. For example, there is a need to clarify and better understand if the crime categorized as "abnormal behaviour" in the emirate encompasses specific psychiatric phenomenology with diagnostic value. Such insight can inform the modernization of the criminal code to repeal this crime, and promote evidence-based mental health acts that will pave way for diversion programs for offenders with mental illness, who manifested with "abnormal behaviour". This applies to settings with similar challenges due to poorly codified crimes and less developed forensic psychiatry systems.
- There is a need for better training of law enforcement officers to raise awareness about individuals with mental illness and how to identify these populations so as to divert them to mental health care instead of charging them with "abnormal behaviour".
- The existing infrastructure for forensic-correctional mental health services needs additional support to ensure adequate screening, triaging to identify mental health problems, stabilization of acute mental health conditions, relapse prevention and recovery-rehabilitation.
- Longitudinal follow-up mental health services to ensure continuity of care, rehabilitation and community re-integration are needed. This often entails an active integration of correctional mental health services with the existing public health system to make sure offenders have maintenance treatment upon discharge. Tracking and collection of information on the outcome and disposition of service

users are important. The data can generate appropriate information to evaluate the performance of the system based on outcome and final disposition (e.g., medical board evaluation of not criminally responsible, released into the community, and detained to a mental health facility or detention center).

- The majority of cases in this study were diagnosed with schizophrenia spectrum disorder, and similar to findings in settings elsewhere. The creation and linkage of services for specialized care for people with schizophrenia might be of value for community care and tracking of patients. Experts have canvassed for the adoption of case management and community care model for individuals in forensic-correctional mental health services. This would require the investment of resources to ensure the active role of case managers to ensure active follow-up in specialized
- There is a need for more resources to ensure the delivery of interdisciplinary forensic-correctional psychiatric mental health services by providing the appropriate training to psychiatrists, clinical psychologists, nurses, vocational counsellors, recreation therapists, social workers occupational therapist and other allied health professionals to improve and expand their expertise.
- There is a need for a more organized post-assessment and discharge follow-up care to oversee the management, transition and safe reintegration of patients into the community. Support services (e.g., legal, social and housing etc) during and after their period in the criminal justice system to ensure relevant needs are addressed.
- Designated forensic units for females are needed to accommodate the unique mental health needs of this population. It is beneficial to separate forensic and correctional patients in different units, and the importance of evidence from research to inform policies and services cannot be overemphasized.
- Future studies of forensic-correctional services in the UAE would greatly benefit from the creation of databases for forensic and correctional psychiatric patients. The collection of data, promotion of research, knowledge translation and evidence-based practice are best practices to support psycho-legal assessments and holistic health care in forensic-correctional settings.

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Contribution of individual authors:

Sumaya Al Marzooqi was involved in all aspects of the manuscript conception, data collection, analysis, presentation of results, drafting and revision of the paper, and coordinated the entire process.

Adel El Sheikh, Noora Al Shehhi, Amna Al Mesmari & Mariam Al Zaabi was involved in all aspects of the manuscript conception, data collection, analysis, and critical review of the draft.

Alaa Haweel was involved in all aspects of the manuscript conception, data collection, analysis, drafting and critical review of the draft

Jeffrey Wang was involved in all aspects of the manuscript conception, critical review of the results and revisions of the draft

Sebastian Prat & Gary Chaimowitz was involved in all aspects of the manuscript conception, critical review of the results and the draft.

Andrew T. Olagunju was involved in all aspects of the manuscript conception, data analysis and presentation, drafting and revisions of the draft, and supervision of the entire work as the senior author.

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