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ORIGINAL ARTICLE

Psychiatric Admissions amongst the Substance Use Disorder Population to Malta's Mental Health Hospital

Admissions related to substance use disorder in Malta

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Background

The population of substance users is frequently stigmatised and under-represented. Their management often poses specific challenges secondary to complex presentations.

This study aims to establish a comprehensive picture of substance user presentations to the acute mental health hospital in Malta, focusing on the number of and reasons for admission. Any correlation existing between the length of stay and the presenting complaint was also analysed.

Methods

Data collection was carried out retrospectively over a 13-week period between 29th October 2021 and 31st January 2022 on all patients admitted to Malta's Mental Health Hospital. 113 total patients met the outlined inclusion criteria. Of these, 18 had incomplete information, and were excluded from the study, giving an overall number of 95 records analysed.

Results

58.8% of all psychiatric admissions were prompted by social reasons, 34.3% were admitted with comorbid mental health illness, and 6.9% were admitted for stabilisation, prior to entering a rehabilitation programme. Results showed that the length of stay was not significantly correlated with the reason for admission with a Spearman r value of 0.137.

Conclusions

Admission to Malta's mental health hospital is often utilised as a gateway to access social services. Instituting timely, easily accessible community services would allow individuals to receive community based care. Relevant training for staff, better education on service access as well as timely social service interventions could potentially decrease hospital admissions. We suggest the implementation of specifically catered community residences as well as communication with rehabilitation centres, to decrease waiting times prior to entry to rehabilitation programmes.

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The population of substance users is frequently stigmatised and under-represented. Their management plan often poses specific challenges secondary to complex presentations.[1] Individuals making use of substances suffer from multiple medical, psychological, psychiatric, financial, social, family and legal issues. This creates a significant burden both on these affected individuals as well as their families and society at large.[2] Additionally, the existing mental health services in Malta do not reflect the needs of this patient population. Locally, community psychiatry addiction services are limited. Thus, individuals suffering from substance use disorder (SUD) tend to desperately and excessively rely on hospital settings. This, unfortunately, burdens the currently existing mental health infrastructure.

Stigmatisation and social exclusion amongst individuals suffering from SUD is the norm rather than the exception.[3] These challenges provide additional barriers to accessing social services, including employment and housing.[4] Moreover, substance users often forgo existing community aid infrastructure and instead present in crisis via the accident and emergency department or an emergency general practitioner. This often prompts hospitalisation for social rather than acute medical or psychiatric complaints. However, acute medical facilities are often unable to provide immediate solutions for long-standing social issues.

This prompts patients to request early discharge and impulsive treatment dropout prior to having their underlying social problems adequately addressed. This generates an unfortunate perpetual cycle of late and complex presentations to inappropriate facilities and early discharge prior to patient needs being met.[5]

Thus, the aim of this study is to establish a comprehensive picture of substance user presentations to Malta's Mental Health Hospital, focusing particularly on the number of presentations requiring admission. The primary reason prompting admission and whether a correlation exists between the length of stay and the presenting complaint was also analysed.

MATERIALS AND METHODS

This study evaluated admissions to Mount Carmel Hospital, which caters for a population of circa 516,000.[6] Data collection was carried out retrospectively over a 13-week period between 29th October 2021 and 31st January 2022.

Upon admission to Mount Carmel Hospital, all patients undergo a urine toxicology screening for opiates, cocaine, tetrahydrocannabinol (THC), synthetic cannabinoid receptor agonists (SCRA) and amphetamines. Patients appropriate for study inclusion were identified via a positive urine test upon admission. A diagnosis of substance use disorder was made by the responsible specialist depending on DSM-5 criteria. This was documented in the patient's clinical notes and/or discharge summary. Patients who did not fit the criteria for a substance-use disorder diagnosis in accordance with the DSM-5 were excluded.

Once these records were identified, information was collated using iClinical Manager v 2.4 that provided patient demographics, including age, gender and length of stay. The patients' clinical notes and discharge letters were utilised to determine the reasons for admission, the primary mental health diagnosis which was most clinically significant, if any, and categorization of severity of substance-use disorder.

All identifiable patient data was anonymised prior to data analysis to ensure protection of all sensitive and personal details. We identified 113 total patient admissions meeting the outlined inclusion criteria, with 25 of those admissions being readmissions. Of the 113 episodes identified, 18 had incomplete information, and were excluded from the study, giving an overall number of 95 records analysed 20 of which were readmissions. Data analysis was carried out using the GraphPad Prism® 9.4 version. Descriptive statistics were presented graphically using Excel™.

RESULTS

DEMOGRAPHICS

The percentages of male and female individuals included in the study were 78.9% and 21.1%, respectively. The mean age was ~25 years (Table 1).

Table 1 *Demographic data of the patients recruited*

Variables	Participants
Total	113
Documented	95
Percentage Males (%)	78.9
Percentage Females (%)	21.1
Average Age (years)	24.8

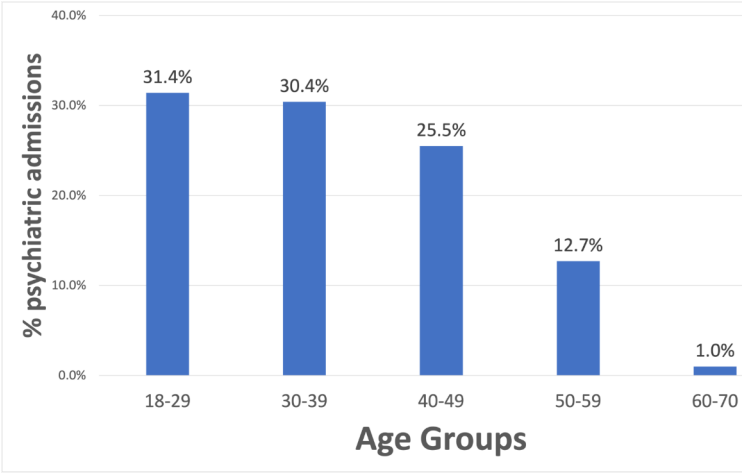

Figure 1 *Psychiatric admissions according to age*

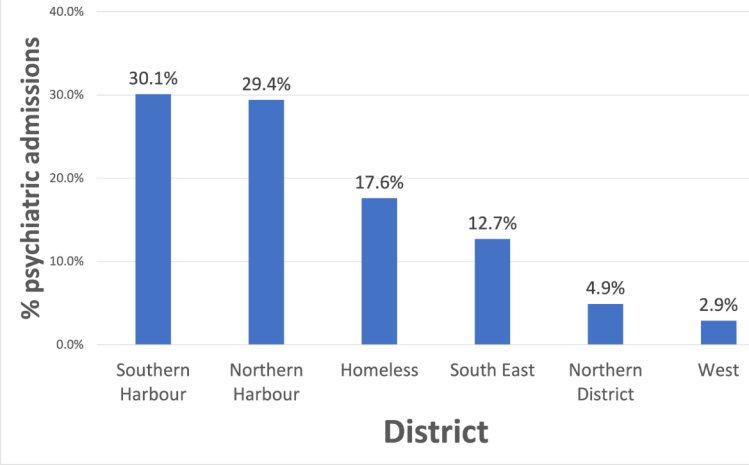

Figure 2 *Psychiatric admissions according to district*

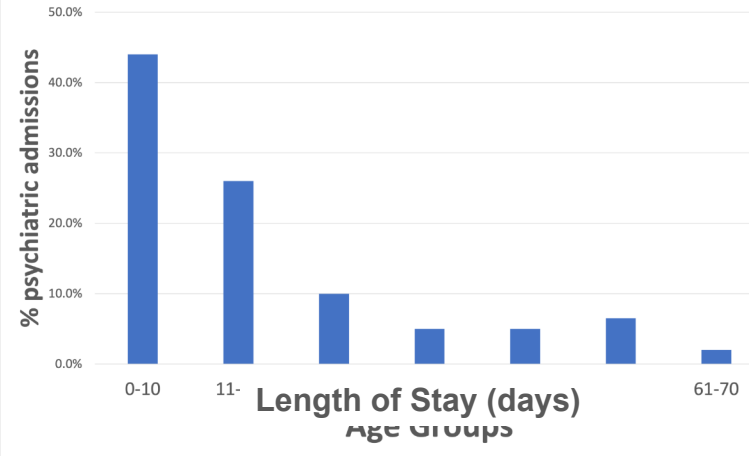

Figure 3 *Psychiatric admissions and length of stay*

Around a third (31.37%) of all admissions were in the 18-29yr age group, whilst only 0.98% of all admissions were in the 60-70yr age group. Another approximate third (30.39%) of admissions were between 30-39 years of age, whilst 26.47% were between 40-49 years, and 10.78% were between 50-59 years of age. The average age of all patients was 24.8, the median age was 67, and the mode was 45 (Figure 1).

The Nomenclature of Territorial Units for Statistics (NUTS) of the National Statistics Office (NSO) 2022 edition.[6] was used to assign the localities according to district. The most common district was the Southern Harbour with a percentage of 30.39%, whilst the Northern Harbour had a percentage of 29.4%. Interestingly, 17.65% of patients were homeless. 4.9% and 2.94% of patients originated from the Northern and Western district respectively. (Figure 2)

LENGTH OF STAY

Almost half (44.12%) of all psychiatric admissions spent between 0-10 days hospitalised, and around one-fourth (26.47%) of all patients spent between 11-20 days in hospital. The length of admission ranged from 1 to 64 days, with the median length of stay being 12.5 days. The average length of stay was 17.5 days (Figure 3, Table 2).

REASONS FOR ADMISSION

Significantly, more than half of all psychiatric admissions were due to social reasons, with a total of 58.8%. This contrasts with the initial reason for the majority of referrals which was often stated to be a decompensation of mental state or suicidal ideation. Around a third (34.3%) of patients were admitted with comorbid mental health illness, and 6.9% were admitted for stabilisation, prior to entering a rehabilitation programme.

This included detoxification from opioid substitution treatment or other medical stabilisation required. Social issues included lack of social support, financial instability, unemployment and homelessness.

Table 2 *Psychiatric admissions and length of stay*

Range length of stay (days)	**1 - 64**
Median length of stay (days) [IQR]	12.5 [5 – 21.75]
Average length of stay (days)	17.5

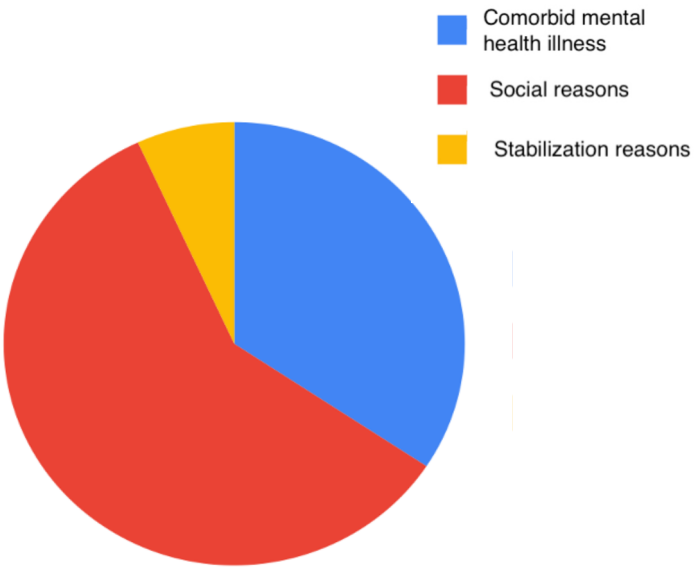

Figure 4 *Reason for Psychiatric admission*

Around half of all psychiatric admissions admitted with comorbid mental health illness experienced affective disorders, including: depressive disorders, anxiety disorders, and post-traumatic stress disorders. Another 25% of all comorbid mental health illness admissions were due to substance-induced psychosis (Figure 4, Table 3).

TYPE AND QUANTITY OF SUBSTANCE USED

During data collection, the type and number of substances used by the patients included in the study were also noted. More than half of all admissions (55.75%) were using more than one substance prior to admission. The term 'polysubstance' was therefore used to define the use of more than one substance within the same timeframe. Cocaine was the substance that was most prevalently used (67.3%), followed by opiates (34.5%), cannabis (33.6%) and synthetic (18.5%).

Table 3 *Percentage of psychiatric admissions according to dual diagnosis*

Comorbid mental health illness	Percentage (%)
Neurotic disorders	51.02%
Substance-induced psychosis	24.5%
Schizophrenia	2.04%
Personality Disorders	22.45%

CORRELATION ANALYSIS

A Spearman rank-order correlation coefficient was calculated between the length of stay and reason for admission. The Spearman r value was 0.137, with a confidence interval (CI) of -0.0724 to 0.3348. This implies that the length of stay was not significantly correlated with the reason for admission.

DISCUSSION

Data collected establishes three main cohorts of individuals suffering from SUD that are admitted to Mount Carmel Hospital. These include individuals with 1) comorbid psychiatric pathology 2) a relatively stable mental state who seek mental health services prior to engaging with rehabilitation programmes and 3) those admitted primarily in view of social issues. The vast majority (58.8%) of patients fell into the third cohort. Social issues prompting admission included financial instability, unemployment, housing issues and a lack of social support.

The results of this study clearly show the link between social issues and hospital admissions of substance users, in keeping with what has been previously published in literature [4] The pattern noted in international research reflects the current situation in Malta. Admission to Malta's mental health hospital is being utilised as a gateway to access social services, which are not readily accessible in the community. Our findings shed light on the lacunae in social services and access for substance users.

Access to social services in Malta is often a lengthy process which individuals may not be well versed in or may not be appropriately guided to do so. Such services are often not catered for individuals who make use of substances. Results show that hospitalisation is representing an immediate access to social services as the only viable alternative left to these individuals. This is often a last resort with patients preferring hospital admission, rather than continuing to tackle their social issues within the community.

The aforementioned social reasons affect society as a whole as they place a strain on the economy and have a significant impact on our countries' development.[7] According to the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) and the National Audit Office (NAO) of Malta, 59% of substance-users were unemployed

and this accounted for 10% of the unemployment registry in 2012.[89] Updated figures from the Key Issues - Drug Situation in Malta document published in 2022 state that this percentage has fallen to 48% of substance users on average being in stable employment.[10] When each substance is viewed individually, 41% of heroin where in regular employment, whilst 56% and and 55% of cocaine and cannabis users respectively were in active employment [10]

In data published in 2012, 82% of substance-users held no tertiary academic qualifications.[8] In available data published 10 years later, it was noted that only 69% of substance users reached a secondary level of education.[10] 75% of heroin users completed secondary education but only 7% completed higher education.[10] 62% of cocaine users completed secondary education with 17% completing higher education and 64% and 17% of cannabis users completed secondary education and higher education respectively.[10] This significantly reveals the strong association between addiction and lack of educational attainment.

Vulnerable individuals are often socially excluded in view of poverty, which in turn may lead to criminality, risky drug related practices, unemployment and an inability to integrate within society.[11] Reassuringly 92% of Maltese regular substance users were noted to be in stable accommodation.[10]

The Malta Sustainable Development Vision for 2050s' aims are to improve education and training, which would allow for better employment opportunities and would in turn help eradicate poverty, social exclusion and socio-economic instability.

This being said, our results did not show a significant correlation between the length of stay and the reason for admission. Rather, results showed that individuals diagnosed with SUD frequently discharge themselves against medical advice, and present for re-admission soon after. This could be due to a variety of reasons. Individuals diagnosed with SUD in the pre-contemplative phase of change are often chaotic in their use, seeking admission for a couple of days prior to re-establishing their substance use within the community.

Individuals forming part of the second cohort, often are required to wait for weeks, if not months to enter rehabilitation, which causes significant frustration. This inevitably leads to request for discharge against medical advice, and often, is followed by a relapse into substance misuse. This further perpetuates any social issues, consequently leading to hospital readmission. Out of the 20 patients who were readmitted during the time of study, 13 were readmitted due to social reasons, whilst 7 were readmitted due to dual diagnosis. This cohort of 13 patients found difficulty coping in the community in view of social reasons, causing social instability and with little alternatives, early readmission to hospital. Substance users who seek admission to deal with social issues such as unemployment or financial issues are often faced with a lengthy process to deal with these problems, which also in turn leads to seeking early discharge.[12]

SUMMARY BOX

What is already known about the subject

- Stigmatisation and social exclusion amongst individuals suffering from substance use disorder is the norm rather than the exception.
- Literature shows that individuals making use of substances suffer from multiple medical, psychological, psychiatric, financial, social, family and legal issues.
- Social reasons affect society as a whole as they place a strain on the economy and have a significant impact on our Malta's development.

New Findings

- More than half of all substance use disorder related psychiatric admissions were due to social reasons, with a total of 58.8%.
- Results did not show a significant correlation between the length of stay and the reason for admission.
- Results showed that individuals diagnosed with SUD frequently discharge themselves against medical advice, and present for re-admission soon after.
- Improvement of community services, including relevant training for staff working with individuals diagnosed with SUD, better education on service access as well as timely social service interventions could potentially decrease hospital admissions.

LIMITATIONS

The following patients and data were not included in the study due to the following limitations:

1. Incomplete information from 18 patient records.
2. Substance use related admissions to Gozo General Hospital.
3. Patients with neuro-developmental disorders were not included as no formal testing for their diagnosis was available during their inpatient stay.
4. Patients with personality disorders were included depending on the DSM-5 criteria, but did not undergo formal personality psychometric testing.

CONCLUSION

Numerous improvements can be implemented to reduce the burden on the already overstretched Mental Health services Hospital - Mount Carmel. Despite a recently updated admission protocol, which specifies admission of individuals who post a significant risk to themselves/others, SUD individuals are often admitted due to difficulty in gatekeeping. Medical staff currently face significant challenges when such patients present to crisis services due to the lack of services available for referral within the community. For the admission protocol to achieve success robust community services must be in place to offer alternatives for substance use disorder patients.

Improvement of community services, with specialised Addiction Mental Health Service Development including relevant training for staff working with individuals diagnosed with SUD is needed. This together with better education on service access and timely social service interventions could potentially decrease hospital admissions.

Instituting timely, easily accessible community services would allow these individuals to receive community based care. In turn this would greatly lessen the frustration, difficulties and stigma faced by people forming part of the third cohort in this study. Inpatient services would benefit from a decreased burden on hospital staff, increased bed space availability, decreased hospital costs and commodity in limited resource allocation. When it comes to patients forming part of the second cohort - we postulate that they too could be better served within the community.

Increasing links and communication with rehabilitation centres on the Maltese Islands, as well as decreasing waiting times prior to entry to rehabilitation programmes would lessen the quantity of admissions to hospital as well as their length. We suggest the implementation of community residences specifically catered for individuals diagnosed with SUD who are often turned away from other community residences based on the fact that they make use of substances. Should these changes be implemented we hypothesise that both the second and third cohort of patients mentioned in this study would receive timelier, appropriate care within the community allowing inpatient services more time, funds and staff to offer optimal care to patients forming part of the first cohort.

Finally, and most importantly, a collective effort by all organisations experienced in the management of patients suffering from SUD is required to effectively address the social issues of these patients. Thus, we would be able to provide better care, which is vital for the healing process of substance users.

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