RESEARCH ARTICLE

An analysis of mental health referrals from public health centres to the Emergency Department of Mater Dei Hospital, Malta

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ABSTRACT

Introduction:

Fifty per cent of the population experiences at least one mental disorder in their lifetime with 25% suffering one in the previous year. Recognition, diagnosis, treatment and referral depend on general practitioners (GPs). Prevalence of psychiatric problems in local primary care was 8% in 2017.

Aim:

To evaluate the number of patients with a psychiatric complaint referred to the Emergency Department at Mater Dei Hospital (MDH), Malta, the reason for referral and whether these referrals were associated with certain factors, including time of day.

Method:

Data of all patients with a psychiatric complaint referred to the Emergency Department from one of the primary health care centres in Malta was collected retrospectively using Excel. Referrals during the months of November and December 2019 were considered.

Results:

Sixty-nine patients inputted were equally distributed between November and December. Forty-two percent were females, the commonest age group was 19-30 years and most were triaged as Emergency Severity Index-2 upon arrival to the Emergency Department. Most patients were referred from the South region (Kirkop, Paola and Bormla). Most patients were referred between 09:01 and 17:00 hours. Twenty-seven point per cent were referred due to suicidal ideation closely followed by severe anxiety (21.7%).

Forty-three percent were discharged on the same day with an urgent psychiatric appointment being given, 20% were kept at MDH, 7.2% required care at Psychiatric Unit and 5% admitted to the psychiatric Mount Carmel Hospital (MCH).

Conclusion:

Suicidal ideation and severe anxiety are common complaints from government primary care to the Emergency Department. The majority of patients referred were given urgent psychiatric follow-up appointments in the community. The role of an onsite community psychiatrist would be twofold; immediate review for certain patients (such as

a walk-in system) and further follow up by the same person in the community to improve the continuity of care.

Keywords:
Community care, general practice, psychiatry, accident and emergency

INTRODUCTION

Fifty percent of the population experiences at least one mental disorder in their lifetime with 25% suffering one in the previous year (Wittchen et al., 2003). Recognition, diagnosis, treatment and referral depend on GPs. The prevalence of psychiatric comorbidities in a local study carried out in primary care was found to be 8% in 2017 (Baldacchino et al., 2017).

Primary health care aims to promote healthier lifestyles and prevent communicable and non-communicable diseases. During 2014, the cost of providing General Practitioner (GP) services through nine health centres, which is utilised by around 30 per cent of the Maltese population, was estimated at €10.3 million (Auditor General, 2016). The exact number of psychiatric patients reviewed is not known but considering that an average GP will review one patient suffering from psychiatric illness per five patients seen, this equals 6% of the whole population with around €2 million being invested (Witchen et al., 2003).

The three major local health centres are the ones found in Mosta, Floriana and Paola, which operate on a 24-hour basis in order to offer continuous medical care to patients (Government of Malta, 2021). Although only around 20% of patients (of all patients seen at primary care) are seen at night, Sundays and public holidays, this reduces the load being placed on the Emergency Department (ED) at Mater Dei Hospital (MDH), Malta's only government general hospital (Auditor General, 2016).

Despite the continued broadening and development of the GP function provided through health centres, during 2014 around 23% of all persons who utilised the services of Mater Dei Hospital's ED, could have been dealt with at health centre level (Auditor General, 2016). Additionally, most of these users were self-referred. This implies that patients are intentionally by-passing health centre services to the detriment of increasing pressures on MDH's resources (Auditor General, 2016).

Aim

The objectives of this study were threefold:

1. To approximate the number of patients referred from governmental health centres to the ED with suspected psychiatric disorders for specialist input.
2. To determine the most common reasons why patients are referred to the ED.
3. To determine whether there was a diurnal variation in patient presentation and referrals done comparing findings from both day and night shifts.

METHOD

This was a retrospective cross-sectional study carried out in January 2020. All the required permissions (from the Chief Executive Officer, the head of the ED and data protection at MDH) were requested and granted prior to the initiation of this study. This study did not require ethical approval since at no point did the authors make any contact whatsoever with any of the patients mentioned in this study.

Inclusion criteria were set to encompass all patients who were referred to the ED from primary care during the months of November and December 2019. November and December were specifically chosen as they were deemed to be two of the busier months in the health centres.

These patients' demographics were noted, along with the reason for referral, the referring health centre and the follow-up plan provided after discharge from the ED. Information was gathered directly from ED review triaging sheets. Referrals from private general practice were excluded since this study's aim was to analyse governmental health centres' referrals.

All patients reviewed at the ED from the nine Health Centres around Malta (Mosta, Birkirkara and Rabat encompassing the north region; Gzira, Qormi and Floriana encompassing the Central region and Kirkop, Paola and Bormla encompassing the South region) were included in this study. Data was inputted and processed with Microsoft Excel 2010.

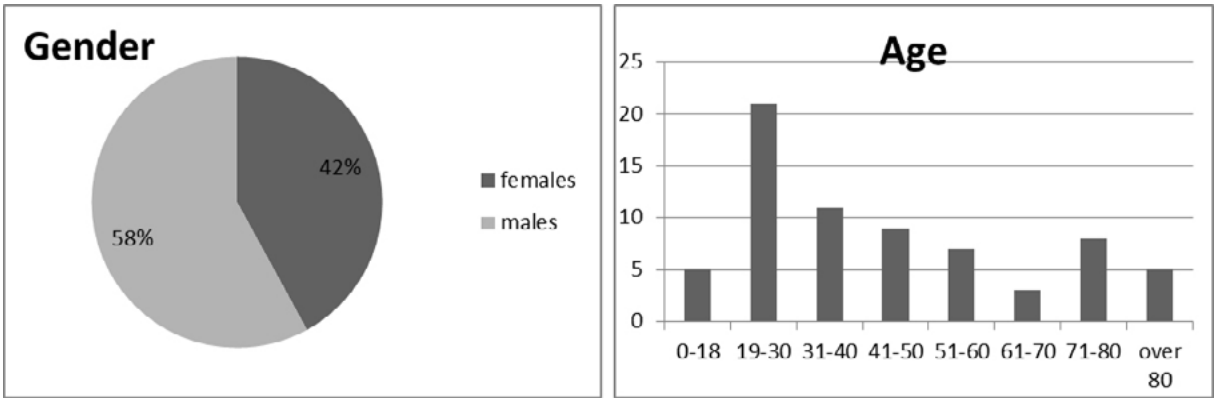

Figure 1 - Gender distribution (left) and the age of patients being referred to the ED

RESULTS

The number of patients being referred to the ED was similar in both November (52%) and December (48%). From the sample taken, there were more males (40 as opposed to 29 females) being referred to the ED for further investigation. The mean age of the patients overall was 42.6 years. The gender and age distribution of patients being referred can be seen in Figure 1.

The majority lived in the South catchment area (n = 27), followed by the north (n = 23) and then central (n =19). This can be seen in Figure 2 below. Marsa had the highest number of patients being referred to the ED.

Upon arrival to the ED, patients were triaged according to the severity of their presenting complaint using the Emergency Severity Index (ESI) scale. Patients assigned as ESI-1 are the most likely to be in danger of imminent death whilst those being assigned as ESI-5 being those who present with the least dangerous complaints. Eighty-three per cent of patients were immediately triaged as ESI-2. The mean ESI rating was 2.29 (CI 0.74; 0.91). The majority of patients (75%) were seen and referred between 08:00 - 19:59. The times chosen reflect the already existing shifts in place locally; the day shift is between 8:00-20:00 and night shift is between 20:00 to 08:00. ESI category of patients and time of referral can be seen in Figure 3.

The presenting complaints varied significantly from aggressive behaviour to severe side effects of treatments which required hospitalization (as can be seen in Figure 4). Twenty-seven point five percent were reviewed for suicidal ideation whilst severe anxiety came a close second with 21.7% of patients being referred with it. Other important causes included aggressive behaviour (10%), depression (10%) and deliberate self-harm (DSH) (8.7%). Moreover, Figure 4 also separates those referred in view of suicidal ideation alone and those with suicidal ideation (SI) and DSH combined.

Patients were seen at the ED by psychiatric trainees and then according to the findings, a plan was set up for each patient. From the cohort of 69 patients referred to the ED, 43% were reviewed by a psychiatric trainee and deemed fit for an urgent psychiatric outpatients appointment. Twenty per cent of patients were kept for further observation at MDH in a medical ward, some under constant watch whilst 7.2% had to be kept at the Psychiatric Unit at MDH. Six per cent of patients required hospitalization at MCH. Twenty three per cent of all referrals were either deemed not to warrant an outpatient psychiatric appointment or had their previously booked psychiatric appointment

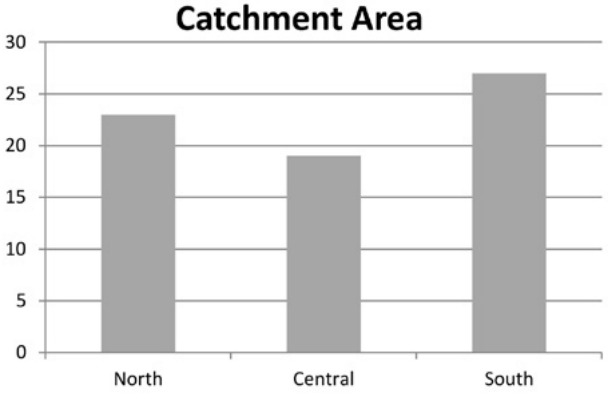

Figure 2 – Areas from which patients were referred

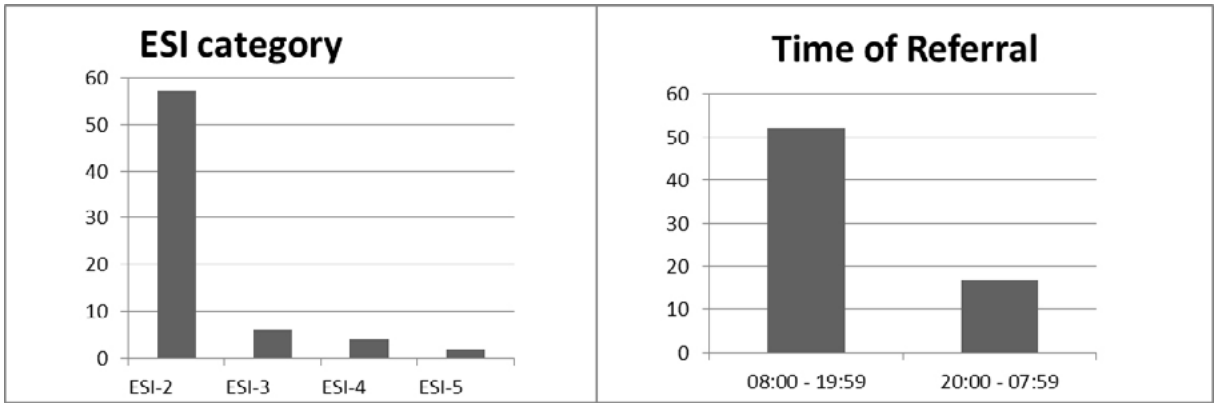

Figure 3 – ESI category once patients were reviewed at the ED (left) and time of arrival of patients (right)

date unchanged. All this information is illustrated in Figure 5.

The 4 admissions to MCH were balanced between males and females (50% for both).

DISCUSSION

Males were more likely to present with a psychiatric condition requiring referral to the ED. This is an interesting point since usually females are more willing to seek help for their mental health issues (Doherty et al., 2010). However, males are more likely to have serious issues when they present which can result in more referrals as was seen in the current study (Biddle et al., 2004).

The most common age group requiring referral was that of people aged between 19 and 30 years. This might have been due to alcohol and drug-related problems manifesting in DSH attempts, suicidal ideation and severe anxiety symptoms (Goodyear-Smith et al., 2017). Seven percent were patients aged above 80 and most were referred due to an inability to cope with depression following the death of a loved one. This was justified since a drastic change had occurred with severe implications on one's mental health and not all people can cope with such a swift unexpected change (Margrett et al., 2010).

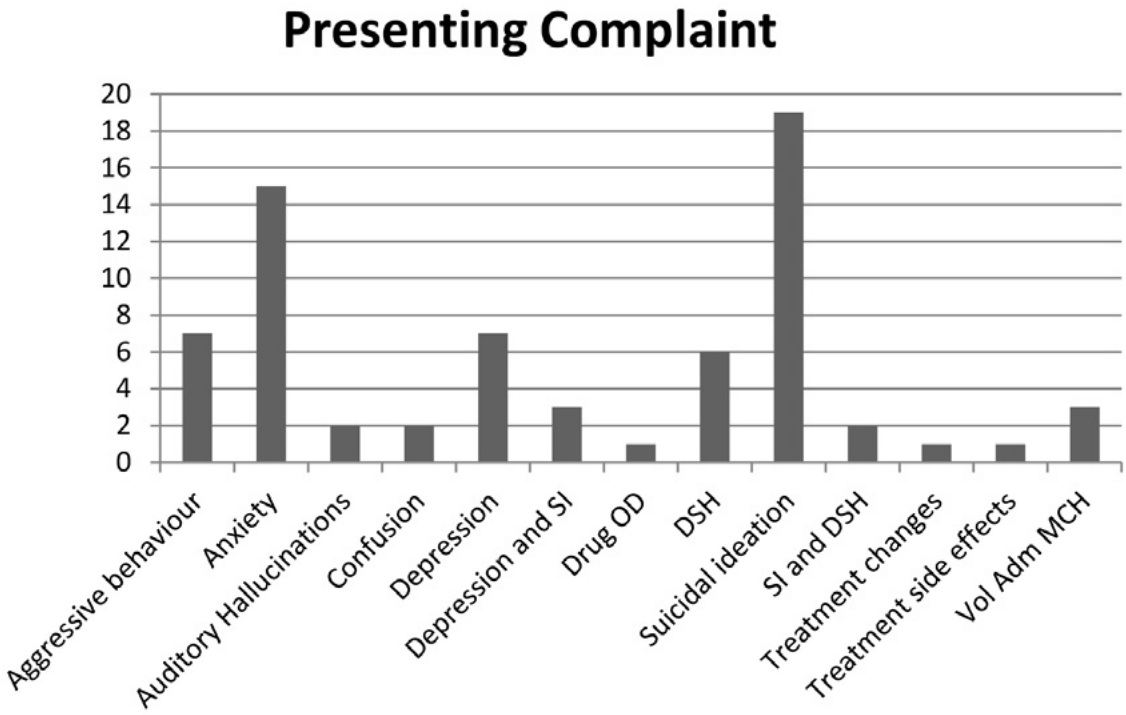

Figure 4 – presenting complaint of patients (NB: SI – suicidal ideation; OD – overdose; DSH – deliberate self-harm; Vol Adm MCH – voluntary admission Mount Carmel Hospital)

The referrals were well distributed amongst the three main regions locally, with the southern region having a slightly higher referral rate than the north, and the latter having a slightly higher referral rate than the central region. Considering that the inhabitants of Marsa had the highest referral rate of any town, this might be due to the immigrants living there. It has been well established in literature that migrants suffer from more mental health problems (von Werthern et al., 2018).

Figure 4 above only denotes the initial and main complaint and reasons for referral. However, there were often a number of secondary issues which had also arisen and had to be dealt with at the ED with the help of further testing and psychiatric review.

The local ESI triaging system has been mentioned above and indeed the low mean ESI number in this study consolidates the fact that the vast majority of referrals were not only warranted but also of an urgent nature. This meant that the patients referred required immediate review and management by a psychiatrist.

The difference in referral rate between day shifts and night shifts is probably due to the total amount of patients being seen by GPs. It is well known that health centres are busier during the day and indeed, during the night, only Mosta, Paola and Floriana Health centres remain open to offer a 24 hour service. This study did not review the percentage referral rates during the day and night to determine whether there is a difference in the rates of referrals between patients being seen during the day or during the night.

Suicidal ideation (SI) is classified as R45.8 under International Classification of Diseases-10 (ICD-10) and is the idea or thought which one has to end their lives (World Health Organization, 1992). SI can arise due to a multitude of reasons, even manifesting itself as a reaction to an acute stress event, severe depression, acute rejection and organic causes. The latter requires careful investigations and hence the reason why patients were referred to the ED. Suicidal ideation can result in deliberate self-harm and/or suicidal intent, with both being serious indicators that the patient needs urgent help. Suicidal ideation can be either noted by the patient who seeks help or else noticed by their relatives. It was the commonest problem faced by GPs during this period with a total of 27.5% of all cases. These should all be taken seriously and in fact all cases were referred to the ED for further evaluation.

Anxiety is described in the ICD-10 as a sub-section in F41 (World Health Organization, 1992). Anxiety can range from phobias to palpitations to tachycardia. Depressive and obsessional symptoms, and even some elements of phobic anxiety, may also be present, provided that they are clearly secondary or less severe. Anxiety on its own was never the cause of referral but

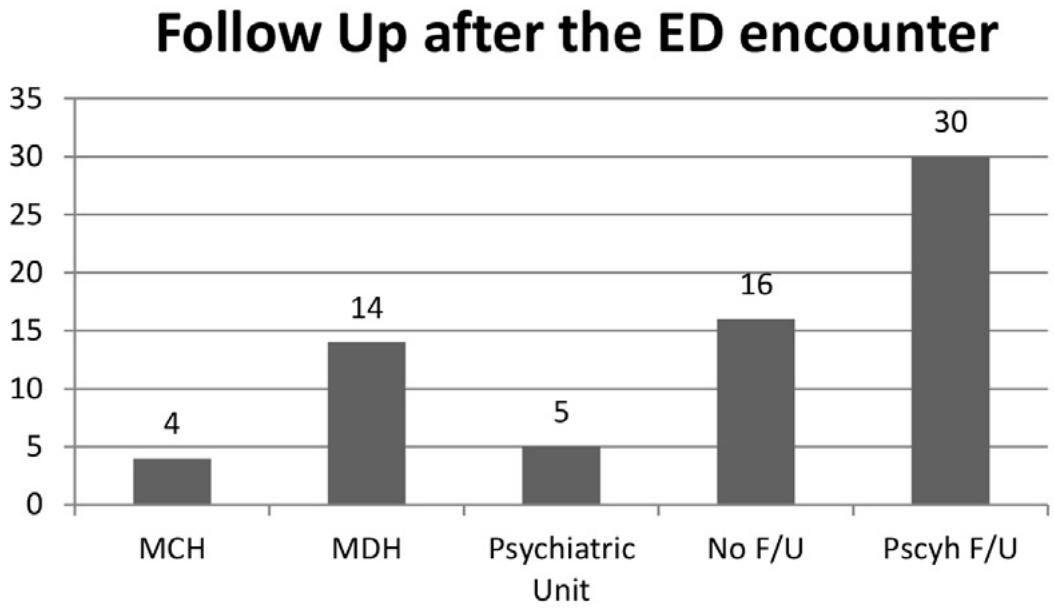

Figure 5 – follow up of patients after initial encounter at the ED

often times (66%) was associated with other serious issues such as depression, insomnia and suicidal ideations which warranted further evaluation. Nearly half (46.7%) of patients reviewed in view of anxiety presented with chest pain and palpitations, further complicating the presenting complaint and challenging the general practitioner. Patients with psychiatric diseases are known to suffer from medical conditions around 2-3 times more frequently than their counter part general population (Harris et al., 1998); hence cardiac disease should have been rightly ruled out. Moreover, these patients often resort to smoking and alcohol, the former being a strong independent risk factor of cardiac disease further complicating the case.

Another important group of disorders is affective/mood disorders (listed under F30-39 in ICD10). In depressive episodes (F32), there are mild, moderate or severe episodes, in which the patient suffers from lowering of mood, reduction of energy, and anhedonia. Capacity for enjoyment, interest and concentration is reduced, with marked tiredness after minimum effort also noted (World Health Organization, 1992). Other commonly associated symptoms include insomnia, decreased appetite, and reduced self-esteem with frequent feelings of worthlessness. The lowered mood does not depend on external daily activities, with depression being present even in the morning. Depending upon the number and severity of symptoms, a depressive episode may be specified as mild, moderate or severe.

Recurrent depressive disorder is characterized by repeated episodes of depression (F32), without any history of independent episodes of mood elevation and increased energy. There may be brief episodes of mild mood elevation and over activity (hypomania) immediately after a depressive episode, sometimes precipitated by antidepressant treatment. The more severe forms of recurrent depressive disorder (F33.2 and F33.3) have much in common with earlier concepts such as manic-depressive depression, melancholia, vital depression and endogenous depression (World Health Organization, 1992). Around 10% of patients were seen due to both depressive episodes and recurrent depressive episodes requiring referral to the ED. Thirty per cent of patients who were referred due to depression had associated suicidal ideation and hence two separate categories were put in Figure 4.

Ten per cent of patients were referred in view of aggressive behaviour towards their family members. These patients required urgent investigations and psychiatric review in view of uncovering the underlying cause of their behaviour. Unfortunately aggressive behaviour commonly leads to domestic violence (Hsieh et al., 2017). This can also stem from personality disorders such as bipolar disorder and narcissism. Common factors leading to aggressive behaviour include both alcohol and drug intoxication along with organic causes which need to be ruled out by the appropriate investigations (Hsieh et al., 2017).

Deliberate self-harm (DSH) was also a common problem facing GPs. This ranged from intentional overdose with a particular common drug (such as paracetamol) to self-inflicted injury with sharp objects (such as knives). The reasons behind these acts were not fully understood at GP health centres, but they usually include wanting more attention diverted to oneself to an actual attempt and suicidal intent (ICD 10).

Other issues facing GPs included acute confusion (3%), auditory hallucinations (3%), drug overdose (OD) (1.4%) and treatment side effects (1.4%). Patients who were reviewed at a health centre, following initial assessment were referred to the ED, where they received the proper treatment. The patient who was referred to the ED was referred in view of paracetamol OD and required further assessment. The patients seen and diagnosed with acute confusional state and auditory hallucinations all needed to be investigated further about the cause since organic causes need to be excluded as they are important differential diagnoses of both. Another patient had to be referred in view of unstable depression. The patient had recently been started on sertraline and ever since had been complaining of lethargy, weakness and insomnia (Joint Formulary Committee, 2020). In view of the above, the patient was referred for further assessment and to determine whether these

symptoms were due to sertraline or another underlying pathology.

A note should also be made about a number of patients who recognized their problems and requested a voluntary admission to Mount Carmel Hospital. They recognized that they had an issue, sought help and were referred in view of a toxicological screening prior to voluntary admission to MCH.

This shows that the decision to refer these patients was completely justified since it was backed up by the ESI number at the ED.

Strengths

This study enlisted all patients referred to the ED from the governmental primary health sector for the total duration of two months. Follow up of all patients was accounted for after being managed at the ED.

Limitations

This study relied on documented evidence and hence has an inherent and unavoidable bias related to the quality and legibility of documentation. Furthermore, certain inferences on diagnoses made at the ED were not necessarily backed up by psychiatric specialists and may thus be open to further diagnostic scrutiny. This study only reviewed referrals done by the main governmental health centres and did not include referrals done by private general practice.

CONCLUSION

The aims set for this study were all achieved. Suicidal ideation and severe anxiety were common complaints referred from the government primary care setting to the Emergency Department. Locally, there are community mental health services but only with scheduled appointments. Considering that nearly half of the patients only required psychiatric follow up and another quarter did not require any kind of follow up, a psychiatrist on site at the main health centres would have been able to do this (as a walk-in service). Alternatively a psychiatrist on call specifically for health centres would be beneficial for advice or possible review in the community. Moreover, the follow-up can be done with the same psychiatrist in the community to ensure continuity of care is maintained. Psychiatry dilemmas remain due to patient's vague symptoms which can easily arise from multiple systems, some of which should be considered as life threatening.

Recommendations

A psychiatrist on site in the community might be a great addition since, as can be seen in this study, most patients reviewed at the ED were discharged with a psychiatric outpatient appointment. Moreover, a psychiatrist in health centres can arrange psychiatric follow ups in the community which would ease the burden on patients and ensure a smooth follow up. Even if patients are sent to the ED, the local centre psychiatrist can follow those patients up during both day and night.

A number of patients were sent to MCH, most of them being on a voluntary basis and this could have been facilitated in the community with direct transportation keeping in mind that the patients were not under the influence of drugs and/or alcohol which would have required admission to MDH first.

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