MMJ

Malta Medical Journal, 2023; 35(2)
http://mmsjournals.org/index.php/mmj/36

ORIGINAL ARTICLE

The Impact of first wave of COVID-19 on referrals to Mtarfa Mental Health Clinic and evaluation of service response

Roberto Galea, Martha Anne Apap Bologna, Catherine Dimech, Anton Grech

Background

The COVID-19 pandemic necessitated social distancing measures to curb the spread of disease. This disrupted daily activities and social interaction with attendant impact on mental well-being, as well as mental health service provision.

Method

The study aims to investigate first contact community psychiatry referrals to the Mtarfa mental health clinic before and after the onset of COVID -19 and the adequacy of the service response. Following necessary approvals an index of new case appointments was constructed from the register at Mtarfa MHC from 11 March 2019 to 31 December 2020. This was cross referenced with eMR. The imposition of social distancing on 12 March 2020 was used to separate the date into before and after the onset of COVID-19.

Results

A total of 236 new case appointments were identified, 92 of these records preceded the onset of COVID-19 and 144 records followed. The date of referral was available in 105 of the 136 appointments attended. The waiting time could be calculated in 77.2% of these appointments, 76.4% before the onset of COVID-19 and 77.8.% after. The mean number of new case referrals received per month increased from 7.4 before the first wave to 21.2 after, a three-fold increase. Mean waiting time was 21.6 weeks prior to the onset of COVID-19 which decreased to 7.4 weeks when a steady state was observed after the first wave.

Conclusion

The COVID-19 pandemic posed significant challenges to community mental health services resulting in major service restructuring. These challenges were met through staff redeployment and increased clinic frequency. The service increase successfully met a threefold increase in new case appointments at the clinic and decreased waiting time by two thirds.

Roberto Galea, MD, MSc MHN, BSc MHN, PgD Clin Psych
Department of Psychiatry
Mater Dei Hospital
Msida, Malta

Martha Anne Apap Bologna, Msc,MRCPsych
Department of Psychiatry
Mater Dei Hospital
Msida, Malta

Catherine Dimech, MD, MEd, MRCPsych
Department of Psychiatry
Mater Dei Hospital
Msida, Malta

Anton Grech, MD, MSc, PhD, FRCPsych
Department of Psychiatry
Ministry of Health
Msida, Malta

Chairman,
Fondazzjoni Kenn għal Saħħtek,
Mtarfa, Malta

Department of Psychiatry
Mater Dei Hospital
Msida, Malta

Associate Professor,
University of Malta,
Msida, Malta

Senior Research Fellow,
Centre for Mental Health Research,
Cambridge University,
Cambridge, UK

INTRODUCTION

The onset of the Coronavirus disease 2019 (COVID-19) pandemic necessitated social distancing measures to curb the spread of disease. These measures disrupted normal patterns of daily activities and social interaction, as well as mental health service provision.[1] Isolation has added to the psychological burden of living through the pandemic, with resulting impact on community mental healthcare demand in Malta.[2-3]

BACKGROUND

The first wave of the COVID-19 pandemic hit Malta between 6 March and 24 April 2020.[4-5] On 12 March 2020, public health measures were announced including: closure of all schools, university and childcare centres; closure of day centres for the elderly; cessation of religious activities unless mandatory; suspension of social gatherings including sport and political activities.

During the first wave, between March and June of 2020, psychiatry outpatient clinics at Mater Dei Hospital were suspended and telepsychiatry services provided. A resident specialist and trainee psychiatrist provided telepsychiatry consultations through the Mtarfa Mental Health Clinic (Mtarfa MHC). Significant restructuring of community mental healthcare services occurred in response to the pandemic. Prior to the onset of COVID-19, Mtarfa MHC accommodated 12 specialist clinics quarterly (just under one clinic per week). Following the first wave, clinics at Mtarfa were resumed on a daily basis, a five-fold increase in clinic frequency.

Aim

This study aims to investigate and compare the number of first contact community psychiatry referrals to the Mtarfa MHC before and after the onset of COVID-19 and the adequacy of the response to the increased demand.

METHOD

Outline

Appointment data from the time leading up to the initial announcement of public health measures effecting social distancing at the onset of the first wave of COVID-19 in Malta (12 March 2020) was used to establish baseline demand. Following the end of the first wave regular clinics were resumed in July 2020. Appointment data from the period following resumption of regular clinics was then used to determine the increased demand secondary to COVID-19 imposed social distancing plus the concomitant COVID-19 related nation-wide psychiatry outpatients restructuring.

Methodology

Permissions: Approval for this study was obtained from the head of the department of psychiatry, and subsequently from the data protection officer. Ethical approval was facilitated as no patient or relative contact was required.

Workflow analysis: The Mtarfa MHC workflow was established through personal experience of the authors and interviewing the nursing officer in charge of the Mtarfa MHC.

Index: An index of first contact referrals to community psychiatry services assigned to Mtarfa MHC were identified through the clinic's register. The period chosen was between 11 March 2019 and end December 2020.

Capture: Subsequently, the respective files were consulted and analysed. Only data pertaining to this analysis was collected. Cross referencing with Electronic Medical Records (eMR) was performed to confirm attendance, further follow-up and residence locality. All data was then anonymised.

Processing: Anonymised data from the initial capture spreadsheets was entered into a rapid application database, checked for errors and consistency and normalised. The flat field data was then restructured into a relational database. This period was divided into two sections: prior to the 12 of March 2020 as the time prior to COVID-19 and from the 12 March 2020 onward. This date was chosen as it was the first announcement of public health measures effecting social distancing.

Querying: All subsequent queries were performed through structured query language (SQL).

RESULTS

Number of Appointments

Index and allocation: A total of 236 records were identified through the register at Mtarfa MHC between 11 March 2019 and 31 December 2020. On 12 March 2020 initial public health measures effecting social distancing were announced. This was taken as the onset of COVID-19. 92 of these records preceded the onset of COVID-19 and 144 records followed. (Figure 1)

Attendance: Of 236 register entries, 38 did not have an entry on eMR and a further three died before the appointment date leaving 195 attenable appointments. 46 patients did not attend (DNAd) and 13 appointments were cancelled. 136 appointments were attended in the whole study period according to eMR. (Table 1).

Analysis of Files Not Found

The original referral for an outpatient appointment (with date of referral when available) is kept in the

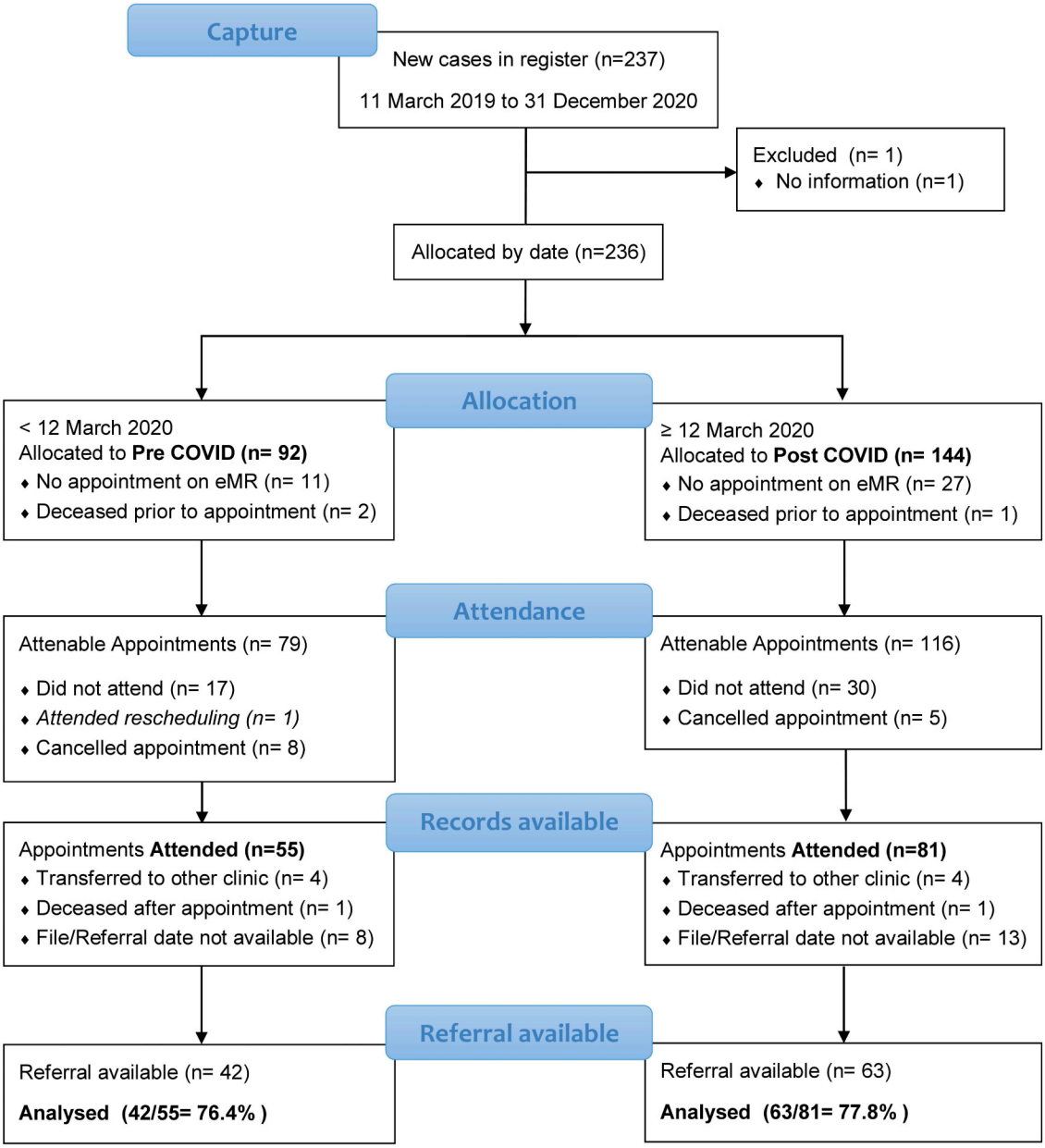

Figure 1 *Audit flow diagram giving number of appointments analysed*

patient's clinical notes. A date of referral was available in 105 of the 136 appointments attended. The waiting time could be calculated in 77.2% of these appointments. Referral dates were available for 76.4% of the pre COVID group and 77.8.% of the post COVID-19 group, a 1.4% difference. This difference is not statistically significant (Chi squared = 0.036, df = 1, 95% CI *P*=0.849). In 31 cases a date of referral was not available. 8 cases were transferred to another clinic after the visit and 2 cases died after the appointment, making the clinical files unavailable – thus unable to ascertain cause of death. In a further 21 instances either the file or the date of referral were not available at the time of writing, six of these DNAd subsequent appointments at Mtarfa MHC and a further two had eMR registered locality outside the Northern Region. Five of 21 were foreign nationals.

Patients having More than One Referral

Two patients had more than one entry in the register in the period of study. One had the initial appointment cancelled, the reason for this is not recorded in eMR; however, the patient then did not attend the second appointment given and subsequent appointments at Mtarfa MHC following the end of the study. The second patient had two appointments within a month, the patient passed away in this short interval and is likely to have been too unwell to attend the first.

Analysis of Impact of Covid-19 Onset on number of New Case Appointments, Waiting Time & Service Changes

The mean number of new case referrals received at Mtarfa MHC was 7.4 cases per month in the period

Table 1 *Number of appointments analysed for frequency and wait time*

	Pre COVID	Post COVID	Total
Register	92	144	236
Appointment in eMR	81	117	198
Deceased before appointment	2	1	3
Attenable	79	116	195
DNA (attended rescheduling)	17 (-1)	30	46
Cancelled	8	5	13
Attended	55	81	136
Transferred to other clinic	4	4	8
Referral date or File not available	8	13	21
Deceased after appointment	1	1	2
Referral date available	42	63	105
Proportion	*76.4%*	*77.8%*	*77.2%*

from 11 March 2019 to 11 March 2020 prior to the onset of the COVID-19 pandemic. This increased to 21.2 cases per month after the first wave, that is between first August 2020 and end December 2020, effectively a three-fold increase. See figure 2 below. The mean waiting time from referral to appointment was 21.6 weeks prior to the onset of COVID-19. This increased gradually to a maximum of 27 weeks during the first wave and subsequently decreased to 7.4 weeks after the number of clinics increased. Figure 2 below suggests that a steady state may have been achieved in August 2020 following the resumption of clinics in July. The mean number of patients and waiting time for the interval August to December 2020 was taken to represent a steady state. Further audit following the time window investigated, would add confidence to this estimate. The institution of the second lock down in March 2021 would mark the end this steady state period.

Interim Telepsychiatry

The telepsychiatry service set up at Mtarfa MHC was dealing with an average 6.3 new cases per month up to a maximum of 13 new cases in June 2020 at the

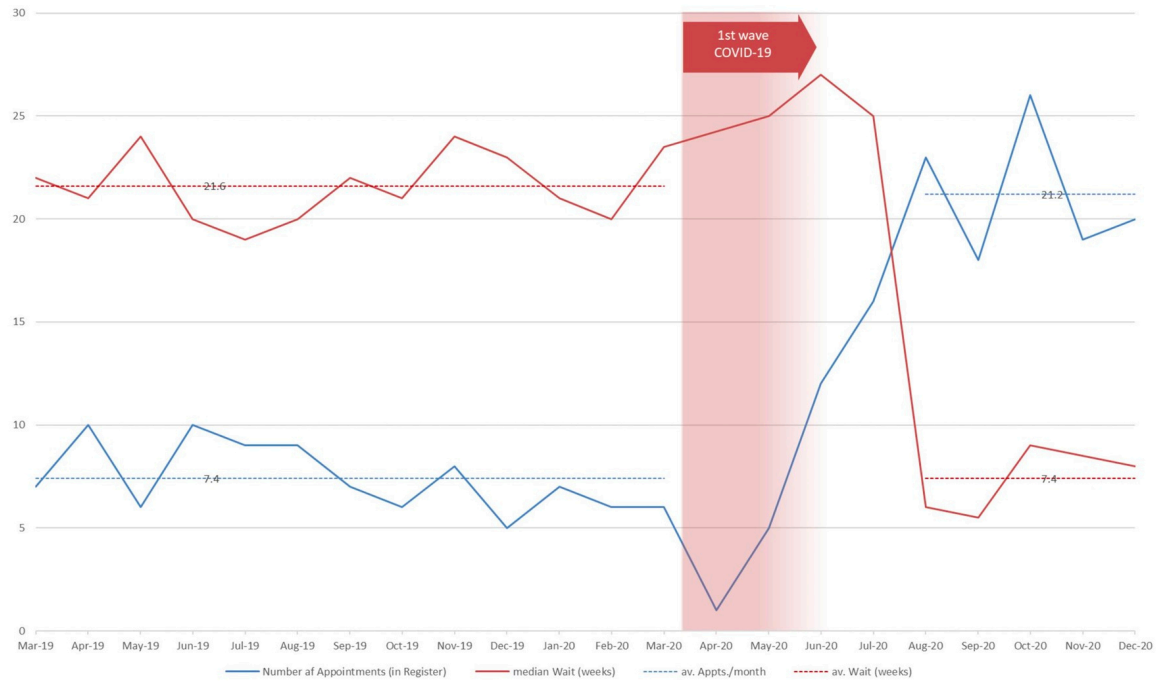

Figure 2 *Number of new case appointments and median wait from referral at Mtarfa MHC*

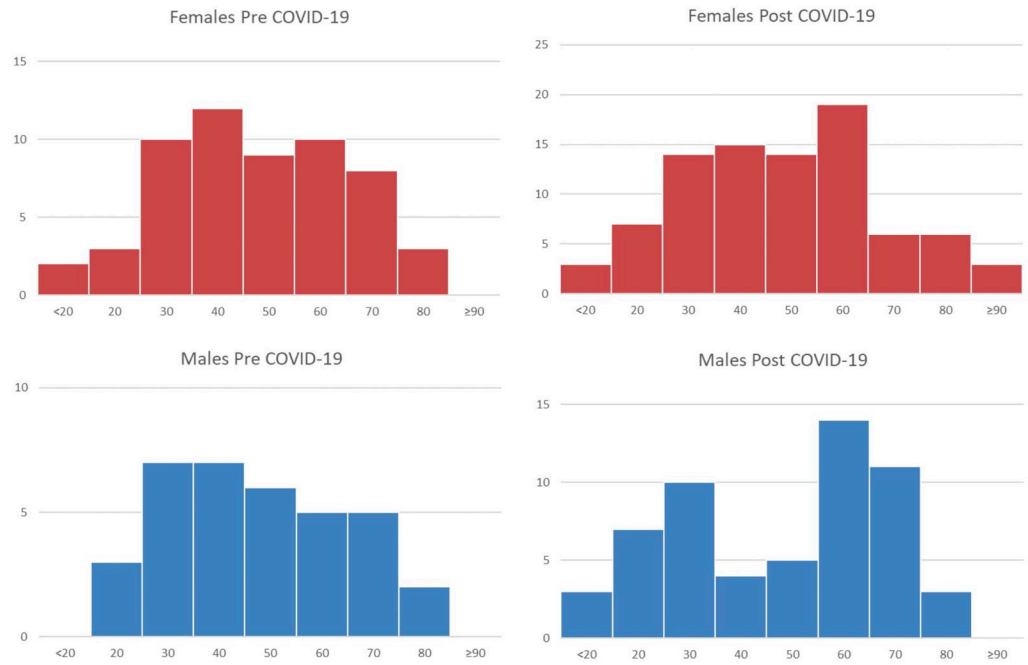

Figure 3 *Gender age distribution before and after COVID-19*

end of the first wave. The median waiting time for new cases in June 2020 rose from a median of 23.5 weeks to 27 weeks. While the number of new cases seen effectively doubled, only a 13 % increase in waiting time was observed for this period. This interim effort appears to have largely contained the waiting time burden; indeed a steady state appears to have been achieved by the increased service provision (daily clinics) within the space of a month.[6]

Demographic Analysis

Age

The ages of patients referred to Mtarfa MHC during the study period are analysed separately for both sexes prior to and following the onset of COVID-19. The proportion of new case referrals for men aged 60-80 appears to have increased; a similar change is observed for 60–70-year-old females. (Figure 3)

This observation could reflect the anxieties of health risk and isolation in older persons.[7] The expected rise in working age adults is not seen. This may be due to a lag and would be scope for further audit. Coincident with the onset of the first wave, referral practices changed, resulting in additional patients being referred to Mtarfa MHC. This and the different intervals studied are confounding issues that do not allow direct comparison of numerical values. Hence normalised histograms are presented below to facilitate comparison of distributions rather than absolute number.

Nationality

The majority of referrals to Mtarfa MHC are Maltese nationals, both before and after the onset of COVID-19. The proportion of referrals of individuals from central and eastern Europe (Serbia, Poland, Romania, Albania, Hungary, Slovakia, Ukraine and Bosnia and Herzegovina) decreased by more than half following the onset of the pandemic, while the proportion of referrals of persons originally from the UK remained unchanged. Referrals also included other nationals from Italy and Germany, Egypt and South Africa. The numbers are too few for meaningful analysis. In view of changes in referral practices as well as different time intervals studied, proportions are being represented to facilitate comparison.

These results are in keeping with expectations. Central and Eastern Europeans tend to be younger/ middle aged workers who would return home if their

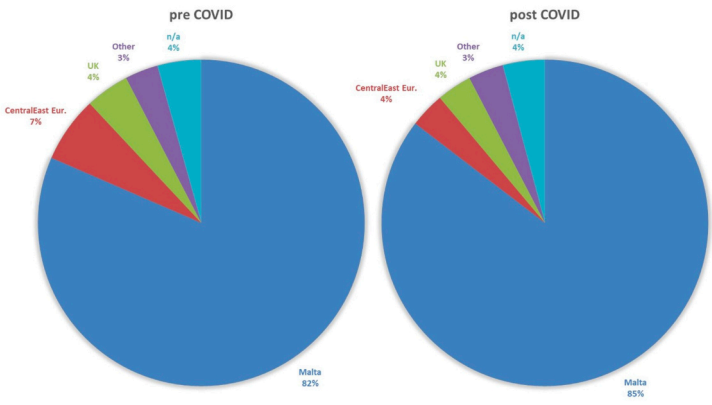

Figure 4 *Proportion of referrals to Mtarfa MHC by nationality*

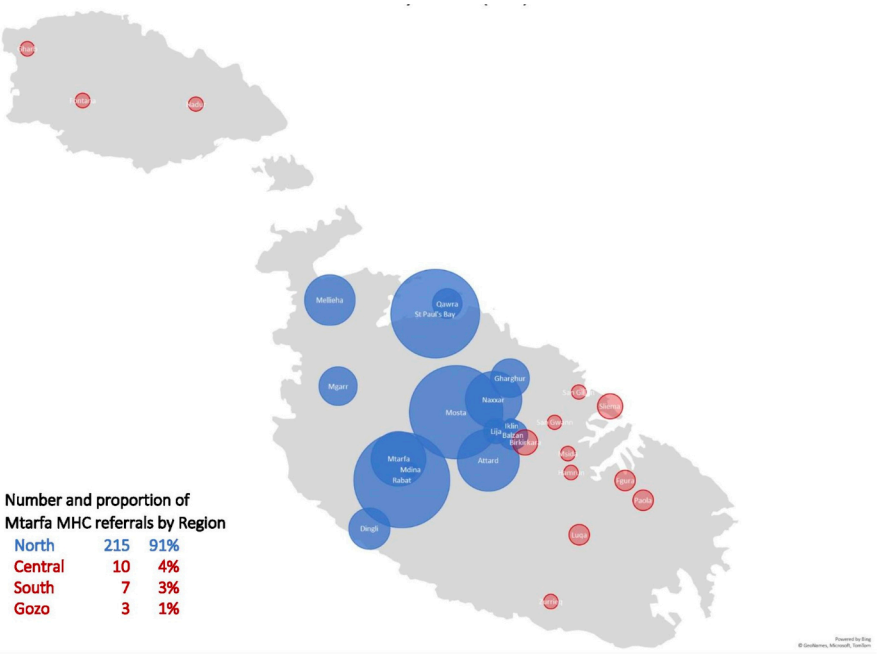

Figure 5 *Referrals to Mtarfa MHC by location (eMR)*

job security is threatened while UK citizens tend to be longer term residents in Malta. (Figure 4)

Locality Of Referrals

Locality of referrals was obtained through the registered address on eMR for all 236 entries in the Mtarfa MHC register. In one entry the locality was not forthcoming. Localities were then analysed for appropriateness to clinic catchment area. (Figure 5)

Referrals to Mtarfa MHC by location (eMR)

It appears that the vast majority of referrals to the clinic are region appropriate, allowing for interim change of address and patient preferences. A separate analysis before and after the onset of COVID-19 found no relevant change in this pattern. This is to be expected as these regional divisions are service imposed and as such arbitrary, with no association to the locality background excepting convenience to patients and workload distribution.

SOURCES OF REFERRAL TO MTARFA MCH

Referrals to Mtarfa MHC are primarily made by General Practitioners working in the community. Referrals from Mater Dei Hospital (Medicine and Surgery) as well as directly from the Accident and Emergency department are also encountered. See

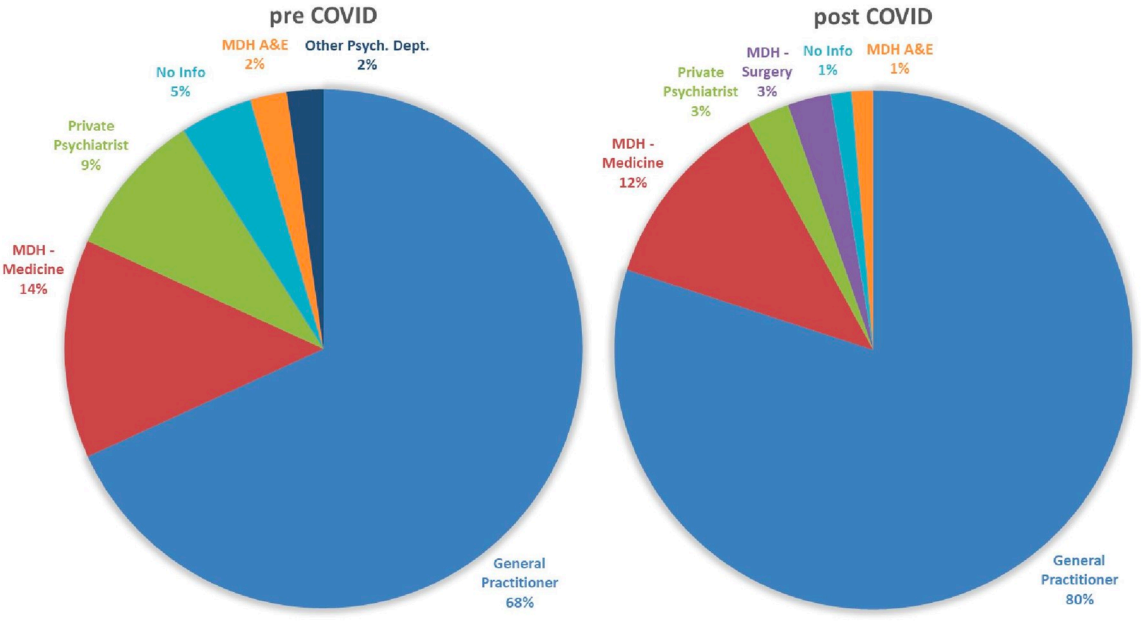

Figure 6 *Proportion of referrals to Mtarfa MHC by source*

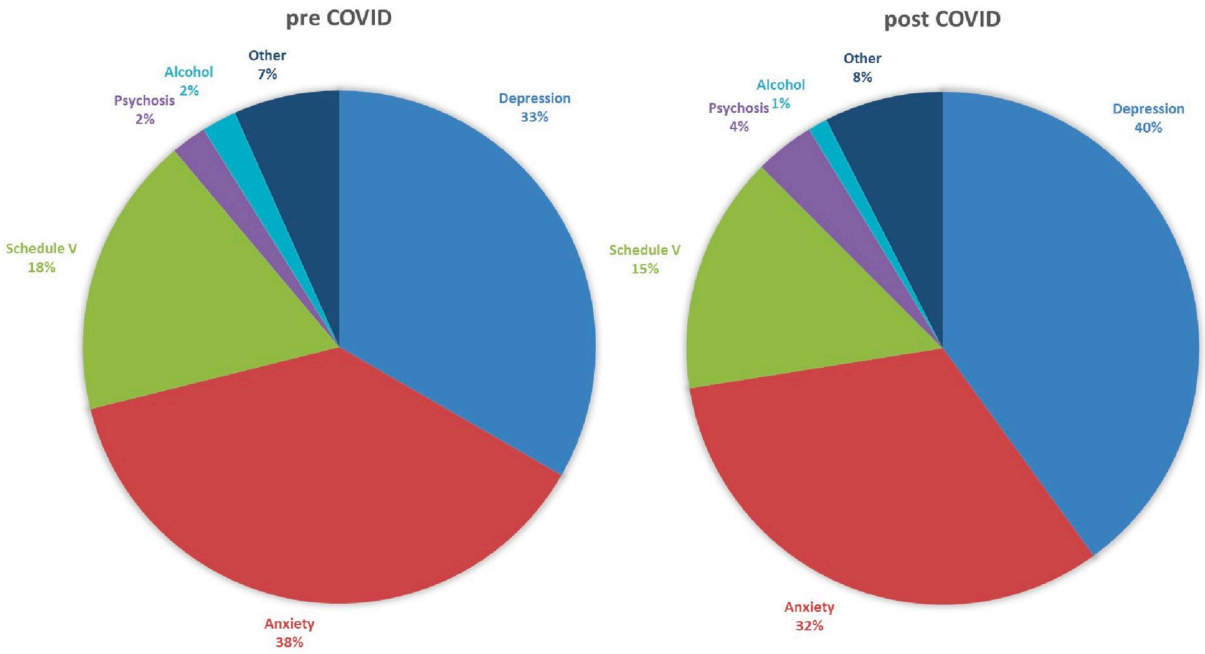

Figure 7 *Presenting complaints cited on referral*

figure 6. The available sample size did not allow these observations to reach statistical significance at 95% confidence interval. It would have been significant with the initial sample size.

Pathologies

The relative proportions of presenting complaints cited on referrals to Mtarfa MHC during the study period are represented in Figure 7.

The most frequent presentation before the onset of COVID-19 was anxiety accounting for 38% of presentations. This dropped to 32% after the onset of COVID-19. The proportion of depression has increased from 33% to 40% after the onset of COVID-19. Similarly, psychosis has doubled from 2 to 4%. Alcohol misuse has dropped by half. This may have been the result of social distancing measures. Available sample size did not allow these observations to reach statistical significance at 95% confidence interval. It would not have been significant even with the initial sample size.

DISCUSSION

This audit comprises three phases – a one year period leading up to the onset of the COVID-19 pandemic, the first wave of the COVID-19 pandemic in Malta and the six months thereafter. Following closure of the Psychiatric Outpatients Department (POP) at Mater Dei Hospital, patients were redistributed to community mental health clinics. This simultaneously achieved better social distancing, limiting the potential for COVID-19 transmission and allowed better provision of services to patients in their community. The combined effects of the POP closing down and probable increased demand for psychiatric community services secondary to the psychological impact of the COVID-19 pandemic has resulted in a median fivefold increase in demand at Mtarfa MHC. This has been met with an increase in clinic frequency and staff allocation, that increased the monthly number of new case appointments from 7 to 20 cases.

Disruption of services secondary to clinic closure and pandemic-mandated isolation measures contributed to a backlog of new cases during the first wave, with attendant increase in wait time, to a maximum median wait of 27 weeks. Telepsychiatry services rapidly increased their workload to address this, seeing 16 new cases in the month of June. A threefold increase in new case appointments has increased the burden of the clinic that was met through a fivefold increase in clinic frequency. Waiting time has decreased from a mean of 21.6 weeks before the onset of COVID-19 to 7.4 weeks in the last five months of 2020. In effect this constitutes a 66% drop in waiting time despite a threefold increase in workload. The increased referral of retirement age patients to Mtarfa MHC may reflect health anxiety and adverse impact of isolation in this age group. This age group is likely to pose greater resistance in adapting to telepsychiatry.

Referrals in other ages remained relatively stable during this period. The expected rise in mental health burden in the younger age groups may not have been observed due to a lag in effect or because of the change in demographics that may have accompanied the above closures.[7-9]

General Practitioners are the primary source of referrals made to Mtarfa MHC, and the majority of cases seen are Maltese nationals. The proportion

referred by private psychiatrists has decreased substantially following the first wave. This may be due to changes in clinical practice following the onset of COVID-19 or changes in the altered referral base. Analysis of presenting complaint revealed a relative increase in depression and a drop in anxiety. The latter deficit may be obscured by the imposed proportional analysis and/or the changing case mix after the onset of COVID-19.[10]

CONCLUSION

The COVID-19 pandemic posed significant challenges to community mental health services at the Mtarfa MHC. Major service restructuring through decentralisation, such as the termination of psychiatric out-patient services at Mater Dei Hospital and respective shift into community MHCs increased the demand at this mental health clinic. These challenges were met through staff redeployment and increasing clinic frequency fivefold, from weekly to daily. The service increase successfully met a threefold increase in new case appointments at the clinic and decreased waiting time by two thirds.

This study focuses on the early stages of the COVID-19 pandemic, and it is likely that mental health burden will continue to increase with time. Further studies would be well-placed to assess longer-term effects. Separating the effects of decentralisation from increased demand secondary to the COVID-19 pandemic would merit separate study. This study would need to evaluate the previous central versus peripheral workloads, the redistribution of the central workload to community mental health centres and adherence to agreed catchment areas.

REFERENCES

1. Rojnic KM, Vahip S, Fiorillo A, Beezhold J, Pinto M, Skugarevsky O, et al. Mental health services during the first wave of COVID-19 pandemic in Europe: results from the EPA Abassadors survey and implications for clinical practice. Eur Psychiatry. 2021; 64:(1) p. e41.
2. Bonello F, Zammit D, Grech A, Camilleri V, Cremona R. Effect of COVID-19 pandemic on mental health hospital admissions: comparative population-based study. BJPsyh Open. 2021; 7.(5)
3. Simon FAJ, Schenk M, Palm D, Faltraco F, Thome J. The collateral damage of the COVID-19 outbreak on mental health and psychiatry. Int J Environ Res Public Health. 2021; 18.(9)
4. Micallef S, Piscopo TV, Casha R, Borg D, Vella C, Zammit MA, et al. Correction: The first wave of COVID-19 in Malta; a national cross-sectional study. PLoS One. 2021; 16:(8) p. e0255881.
5. Micallef S, Piscopo TV, Casha R, Borg D, Vella C, Zammit MA, et al. The first wave of COVID-19 in Malta; a national cross-sectional study. PLos One. 2020; 15:(10) p. e0239389.
6. Mazziotti R, Rutigliano G. Tele-mental health for reaching out to patients in a time of pandemic: provider survey and meta-analysis of patient satisfaction. JMIR Ment Health. 2021; 8:(7) p. e26187.
7. Hwang TJ, Rabheru K, Peisah C, Reichman W, Ikeda M. Loneliness and social isolation during COVID-19 pandemic. Int Psychogeriatr. 2020; 32:(10) p. 1217-1220.
8. Nwachukwu I, Nkire N, Shalaby R, Hrabok M, Vuong W, Gusnowski A, et al. COVID-19 pandemic: age-related differences in measures of stress, anxiety and depression in Canada. Int J Environ Res Public Health. 2020; 17.(17)
9. Pieh C, Budimir S, Probst T. The effect of age, gender, income, work and physical activity on mental health during coronairus disease (COVID-19) lockdown in Austria. J Psychosom Res. 2020; 136: p. 110186.
10. Pierce M, Hope H, Ford T, Hatch S, Hotopf M, John A, et al. Mental health before and during the COVID-19 pandemic: a longitudinal probability sample survey of the UK population. Lancet Psychiatry. 2020; 7:(10) p. 883-892.
11. Kim DM, Bang YR, Kim JH, Park JH. The prevalence of depession, anxiety and associated factors among the general public during COVID-19 pandemic: a cross-sectional study in Korea. Jorean Med Sci. 2021; 36:(29) p. e214.