




# Obsessive–compulsive disorder in treatment seeking children & adolescents during the COVID-19 pandemic

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## Abstract

**Background** Few studies have investigated the COVID-19 pandemic's effect on children and adolescents with obsessive–compulsive disorder (OCD). This study aims to investigate whether the pandemic is associated with increased referral of young people with OCD, any changes in their symptom severity and treatment offered.

**Methods** Service data were used to investigate 58 young people (8–17 years) referred and assessed in the Central and Northwest London NHS Foundation Trust Child and Adolescent Mental Health Service (CAMHS), before and during the COVID-19 pandemic (months March–October 2018–2020). Changes in symptom severity were measured using the Health of the Nation Outcome Scale for Children and Adolescents (HoNOSCA). Patient records were reviewed to assess if COVID-19 had exacerbated symptoms. Type of treatment offered was compared.

**Results** 26 (5.62%) assessments to CAMHS related to OCD in 2020, compared to 12 (1.30%) and 20 (2.27%) assessments pre-pandemic (2018 and 2019), showing a significant increase in the proportion of OCD cases ( $X^2(1, N=58)=20.3, p<0.001$ ). There was no significant difference in any HoNOSCA dimensions on initial assessment. However, 69.2% of patients in 2020 showed symptom worsening over the COVID-period, versus 46.7% of cases first assessed pre-pandemic. Significantly more patients were discharged without being offered treatment pre-pandemic ( $X^2(2, N=58)=12.7, p=0.002$ ). In 2020, there was an 8.5% increase in the frequency of medication offered.

**Discussion** The proportion of OCD cases in CAMHS increased in 2020 despite the overall number of CAMHS referrals falling. Furthermore, many cases reportedly worsened during the pandemic, and services will need to address the increased burden of more severe cases. Further larger investigation of this subject is warranted.

**Keywords** Obsessive–compulsive disorder · Children and adolescents · COVID-19 · CAMHS referrals · Symptom exacerbation · Cognitive behavioural therapy · Pharmacotherapy · Service evaluation

## Introduction

The COVID-19 pandemic has had significant effects on the lives of children and adolescents, with massive impacts on family life and upheaval in schooling and other institutions [1]. Whilst the available reports suggest the mental health consequences are generally negative [2], further research is warranted [1, 3, 4].

The pandemic is thought to be especially difficult for many people with obsessive–compulsive disorder (OCD). Amongst the most common obsessive–compulsive symptoms in young people are fear of contamination and cleaning; with half of young people with OCD presenting such symptoms [5, 6]. Public health measures to combat the spread of the virus like handwashing are inherently repetitive, mimicking OCD behaviours. Social distancing, with

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closure of schools which increases unstructured time might increase OCD. Additionally, reminders of the importance of these measures through mass media, are a persistent source of stress [7].

A recent review of children and adolescents suggested that the pandemic may indeed increase obsessive–compulsive symptoms and exacerbate OCD amongst those seeking treatment [8]. The effect of the pandemic on help seeking for children and adolescents with OCD has not to our knowledge been reported.

We report an investigation into whether the COVID-19 pandemic is associated with increased referral of young people with OCD, changes in their symptom severity and treatments offered.

## Methods

The setting for the study was a large mental health provider, Central and North West London NHS Foundation Trust (CNWL) that covers the five London boroughs of Westminster, Kensington and Chelsea, Brent, Harrow and Hillingdon, population in 2020 1.32 million. The electronic records were used to identify the number of children and adolescents aged up to 18 years referred to the clinics in the five boroughs. The observation window of the study was between the months March and October in 2018, 2019 and 2020.

A senior trainee in child and adolescent psychiatry with more than 4 years of experience in child and adolescent psychiatry (SC) reviewed the patient records. The patient records are completed by child and adolescent mental health practitioners (child and adolescent psychiatrists, psychologists or other clinicians with experience in the multidisciplinary team). Clinicians are required to record data on initial assessment including descriptions of the problems, background and developmental history, assign diagnoses using ICD-10 categories, and complete the Health of the Nation Outcome Scale for Children and Adolescents (HoNOSCA) [9]. HoNOSCA was used to assess severity of the symptoms at the time of initial assessment in 2018, 2019, and 2020. We obtained information on the total CAMHS assessments related to OCD were counted to determine the proportion of CAMHS cases related to OCD in each time period. For children and adolescents who were assessed and found to have OCD in 2019 and 2020, we used the total HoNOSCA score and the following dimensions: (1) emotional and related symptoms, (2) problems with family life and relationships, (3) poor school attendance [5]. Records on patients with OCD assessed in March–October in each year 2018–2020 were reviewed to ascertain potential improvement or exacerbation on clinical symptoms, to assess if patients' symptoms had improved, stayed the same or worsened during

the pandemic. Details of treatment offered were extracted. Frequency of CBT-only and combined CBT and medication therapies were compared between patients pre- and during the pandemic period to determine if treatment approaches had changed. The senior trainee in child and adolescent psychiatry in child and adolescent psychiatry (SC) who reviewed the patient records assigned each patients' progress during the COVID-19 pandemic (March to October 2020) into one of three categories: symptoms had improved, stayed the same or worsened during the COVID-19 pandemic.

The data were transferred from an excel spreadsheet to an SPSS (v. 27) file and analysed using Chi-square, Kruskal–Wallis and Mann–Whitney U tests.

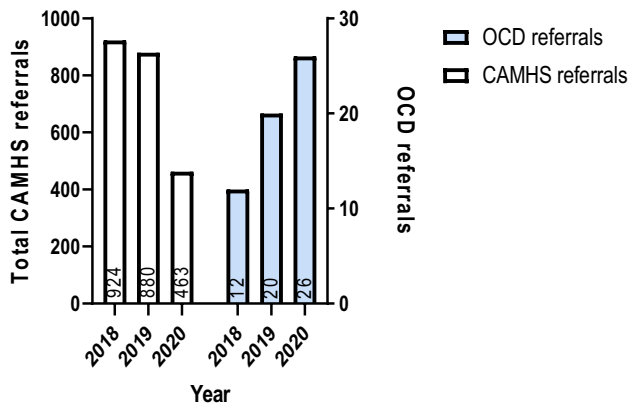
## Ethical considerations

The study used only routinely collected data service data and it was granted permission by CNWL to be used as sharing anonymised clinical service data. Imperial College Research Ethics Committee (ICREC) advised that formal ethical approval was not required due to the study's status as a service evaluation, hence consent was assumed by patient participation in clinical services.

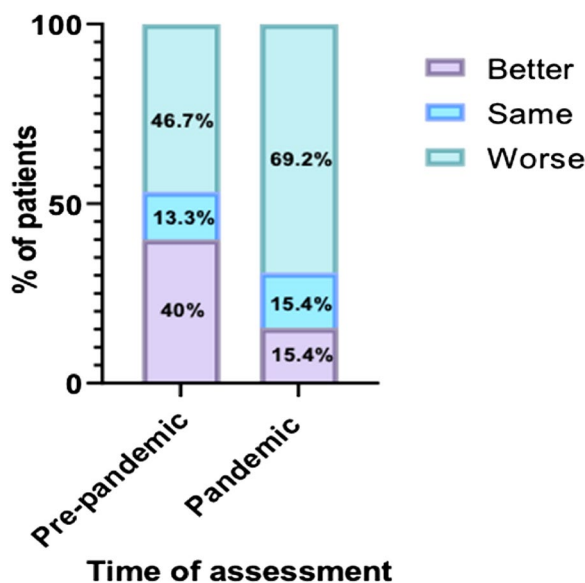
## Results

Thirty of the 58 (51.7%) of the participants were female. 4 (6.9%) were young children (5–9 years old), 11 (19%) older children (10–12 years old), 28 (48.3%) young adolescents (13–16 years) and 25.9% older adolescents (16–17 years). Regarding ethnicity, 22 (37.9%) were White, 10 (17.2%) Asian, 3 (5.2%) African, and 8 (13.0%) mixed ethnicity (ethnicity data were unavailable on 15). The total number of patients referred and assessed across CAMHS services dropped steeply from 924 in 2018 to 463 in 2020 (see Fig. 1). Despite this, analysis showed there was an increase of cases with OCD from 12 in 2018 and 20 in 2019, to 26 in 2020. This was a significantly greater proportion of cases with OCD assessed, being 1.36% in 2018, 2.27% in 2019, and 5.62% in 2020 ( $X^2(1, N=58) = 20.3, p < 0.001$ ).

Figure 1 here. Total and individual HoNOSCA dimension scores showed no significant change in symptom severity on initial assessment in 2019 before and during the pandemic, 2020. Based on clinicians descriptions, in case notes, it was found that cases assessed in 2020 showed greater symptom worsening over the pandemic period, compared with cases assessed in 2018 and 2019 combined. The specific findings were that in 2020, 18 of 26 (69.2%) patients showed symptom exacerbation compared to 7 of 15 (46.7%) cases first assessed in the pre-pandemic period (2018–2019), although this difference was not significant ( $X^2(1, N=41) = 2.035, p = 0.153$ ). (See Fig. 2).



**Fig. 1** Referral trends before and during the pandemic (months March to October in 2018, 2019 and 2020). Note: number of all referrals to Child and Adolescent Mental Health Services (left y-axis) and referrals with OCD (right y-axis)



**Fig. 2** Symptom worsening over the pandemic (months March–October 2020). The bar on the left-hand side summarises changes in symptom severity over the course of the pandemic of those initially assessed in 2018 and 2019 who were still in treatment during the pandemic ( $n=15$ ). Severity changes of those assessed in 2020 are shown on the right-hand side ( $n=26$ )

Figure 2 here. Prior to the pandemic, many patients with OCD were discharged ( $n=12$ , 37.5%) without treatment following initial assessment, whereas no patients assessed in 2020 were discharged after the assessment. Overall, significantly more patients required and were offered treatment in 2020 compared with 2018 and 2019; 20 of 32 (62.5%) patients assessed pre-pandemic were offered treatment compared to 26 (100%) of patients in 2020 ( $X^2(2, N=58) = 12.7, p=0.002$ ). Of those requiring treatment,

in both periods, CBT-only was the most offered form of treatment, 16 of 26 cases (61.5%) during the pandemic year, and 14 of 20 cases (70%) pre-pandemic). This difference was not significant ( $X^2(1, N=46) = 0.357, p=0.550$ ) There was a small increase in the amount of combined CBT and medication therapy offered during the pandemic; 10 of 26 (38.5%) patients were offered combined treatment in 2020 versus 6 of 20 (30%) of patients pre-pandemic. However, this difference was not significant ( $X^2(1, N=46) = 0.144, p=0.229$ ).

### Discussion

This study explored the potential impact of the pandemic on the proportion of CAMHS referrals related to OCD, their symptom severity and treatment provision. We found that whilst the number of assessments for all disorders and problems to CAMHS fell in 2020, whilst the proportion of assessments related to OCD increased significantly. The reduced number of assessments reflected the reduced number of referrals during this time period. On initial assessment, cases in 2020 did not appear to be more severe using HoNOSCA, but clinicians reported greater deterioration over the course of the pandemic. Far fewer cases were discharged without treatment during the pandemic; CBT remained the most common type of treatment offered and a small increase in medication prescribed was observed. The pandemic seems to have had an impact on young people with OCD and health services, with many factors potentially influencing the outcomes observed in this study.

The increase in the proportion of OCD cases may be due to the pandemic acting as a precipitating factor in individuals predisposed to developing OCD, or already experiencing subclinical OCD prior to the pandemic. Given the multifactorial and neurobiological basis for the aetiology of OCD [10], it is possible that true prevalence of OCD has increased, as the pandemic may have served as a precipitating factor for those predisposed to developing OCD, or already experiencing subclinical or mild OCD previously. This could have led to help seeking and then referral to CAMHS.

The finding that overall symptom severity on initial assessment (via HoNOSCA) showed no significant difference between time periods may suggest that young people with OCD were referred with similar levels of distress and impairment before and during the COVID-19 pandemic. However, many of the children and adolescents with OCD assessed 2020 reported fears of infection and contamination by the COVID-19 virus in particular. Clinicians found that cases assessed in 2020 deteriorated more over the pandemic compared with those first assessed in 2018 or 2019. Changes in the psychosocial environment as social isolation due to

school closures and increased family accommodation may have increased OCD symptoms. [7, 8] Additionally, other studies found that the exacerbation of comorbid mental health problems, such as depression and anxiety, also got worse during the pandemic and was consequently correlated with worsening of OCD symptoms [11].

Far fewer cases were discharged without treatment during the pandemic period. The reasons for this may relate to the greater motivation of the individuals and their families who were seen, to get help and adhere to treatments in this period. It is known that during March to October 2020 consultations in primary care reduced, as many people were frightened about consulting their GP's (family doctors), and there were concerns about primary care access, and they were the most frequent referrers for patients with OCD to the involved services.

However, as treatment has been found to be a protective factor against symptom exacerbation, it may be that those first assessed before the pandemic were consequently less likely to deteriorate during the pandemic having spent a greater time in treatment. CBT remained the most frequently used treatment offered in 2020, and even though CBT delivery in the involved services changed and became remote using the telephone or internet, evidence suggests they would still be effective [12, 13].

The study does have some limitations. Relying on clinical service data may lead to under-reporting and failure to assign diagnosis. Nevertheless, whilst the absolute number of cases with OCD could be an underestimate, the size of the increase may reflect real changes in service demand, and are consistent with the review [8]. HoNOSCA does not measure changes in individual obsessive–compulsive symptoms and hence may not have been sensitive enough to detect symptom severity changes, and robust measures of OCD severity such as the Children Yale-Brown Obsessive–Compulsive Scale (CY-BOCS) [14] were not generally used by clinicians. Furthermore, the sample size of the study was small, and the services just served one sector of London, reducing the overall generalisability of findings. The follow-up period was longer for the cases assessed in 2018 and 2019 than those diagnosed in 2020, and so comparison was not exact. It may be that those who were assessed in 2018 or 2019 had received therapies that prevented them from deteriorating during the pandemic 2020.

In conclusion, the COVID-19 pandemic may be associated with an increase in presentation of children and adolescents with OCD, and those with the disorder may deteriorate. Given the limitations of this study, further research is warranted. In the future, there may be further epidemics that could reach pandemic levels, and given the benefit of hygiene measure to halt the spread of many infectious diseases, the effect on OCD is a topic that may be increasingly important in the future.

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## Declarations

**Conflict of interest** On behalf of all authors, the corresponding author states that there is no conflict of interest.

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