


Original Research

A two-year longitudinal evaluation of the impact of the COVID-19 pandemic on pre-existing mental health service attenders

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Abstract

Background: To examine if the COVID-19 pandemic was associated with a differential effect longitudinally in relation to its psychological and functional impact on patients with bipolar disorder and Emotionally Unstable Personality Disorder (EUPD).

Methods: Semi-structured interviews were conducted with 29 individuals attending the Galway-Roscommon Mental Health Services with an ICD-10 diagnosis of either bipolar disorder ($n = 18$) or EUPD ($n = 11$). The impact of the COVID-19 pandemic was assessed in relation to anxiety and mood symptoms, social and occupational functioning, and quality of life utilising psychometric instruments and Likert scale data, with qualitative data assessing participants’ subjective experiences.

Results: Individuals with EUPD exhibited significant anxiety and depressive symptoms and increased hopelessness compared to individuals with bipolar disorder. Repeated measures data demonstrated no significant change in symptomatology for either the EUPD or bipolar disorder group over time, but demonstrated an improvement in social ($t = 4.40, p < 0.001$) and occupational functioning ($t = 3.65, p = 0.03$), and in quality of life ($t = 4.03, p < 0.001$) for both participant groups. Themes attained from qualitative data included the positive impact of the discontinuation of COVID-19 mandated restrictions ($n = 19$), and difficulties experienced secondary to reductions in the provision of mental health services during the COVID-19 pandemic ($n = 17$).

Conclusion: Individuals with EUPD demonstrated increased symptomatology over a two-year period compared to those with bipolar disorder. The importance of face-to-face mental health supports for this cohort are indicated, particularly if future pandemics impact the delivery of mental health services.

Keywords: Bipolar affective disorder; borderline personality disorder; COVID-19; emotionally unstable personality disorder; mood disorders

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Introduction

On March 11th 2020, COVID-19, the infectious disease associated with the coronavirus, SARS-CoV-2 was characterised as a global pandemic by the World Health Organisation (WHO). Robust public health containment measures were implemented worldwide due to the serious physical health risks posed, particularly to vulnerable patient groups. In the Republic of Ireland, a tiered range of stringent measures were introduced, which until February 28th, 2022 was based on the advice of the National Public Health Emergency Team. These measures, resulted in the closure of many facilities deemed as ‘non-essential’ and included facilities attended by individuals with mental health disorders such as day hospitals and day centres. Thus, many therapeutic interventions normally available for individuals with mental health difficulties both within and outside the mental health services were unattainable during

this time, including group psychotherapeutic activities, and where these continued, most had to adapt to a range of public health measures, with for example face-to-face interactions often replaced by teleconsultations (Kopelovich et al. 2021; Rojnic Kuzman et al. 2021; Li et al. 2022).

Previous viral pandemics have been associated with increased psychological distress (WHO ‘Outbreak Communication Guidelines’, 2005). Research pertaining to the COVID-19 pandemic suggest an increase in psychiatric pathology, including an increase in mood and anxiety symptoms, in individuals with no prior diagnosed mental disorder subsequent to mandated governmental restrictions secondary to COVID-19 (Hyland et al. 2020, Wang et al. 2020). In contrast, several studies in individuals with major mental health disorders (i.e. anxiety and psychotic disorders) examining individuals at different time-points longitudinally since the onset of the COVID-19 pandemic have noted only a minimal increase in symptomatology, with impairments in social functioning most pronounced, however significant individual variation has been noted (Plunkett et al. 2021; Hennigan et al. 2021; McLoughlin et al. 2023; Fahy et al. 2021; Rainford et al. 2022).

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We previously examined individuals with both bipolar disorder ($n = 20$) and emotionally unstable personality disorder (EUPD, $n = 16$), (disorders associated with mood instability) approximately 3 months after the introduction of governmental mandated social restrictions (McLoughlin et al. 2022). Significantly higher levels of psychopathology were evident across a range of instruments measuring depressive and anxiety symptoms, hopelessness, and impulsivity in individuals with EUPD, with Likert Scale measurements similarly noting a greater impact of the COVID-19 pandemic relating to anxiety, depressed mood and quality of life in this patient cohort. Although, we previously noted only minimal impacts of the COVID-19 pandemic for individuals with bipolar disorder, increased depressive and anxiety symptoms, suicidal ideation, and reduced quality of life have been noted for this patient cohort secondary to concerns pertaining to the COVID-19 pandemic (Van Rheenen et al. 2020, Karantonis, et al. 2021).

Consequently, in this study we wanted to assess the psychological and social impact of the COVID-19 pandemic including its associated mandated social restrictions on individuals with diagnosed bipolar disorder and EUPD attending a general adult mental health service longitudinally over a longer time-period (24 months after the initial assessment). We hypothesised that participants with both bipolar disorder and EUPD would experience mild anxiety and depressive symptoms, with a reduction in symptom severity in the EUPD cohort compared to the initial study, but that impaired social functioning would remain. We additionally wanted to evaluate participants' views on how the COVID-19 pandemic had impacted them and ascertain suggestions participants had for the future delivery of mental health services based on their experiences.

Methods

Participants

All participants who previously engaged in the initial study (BPAD ($n = 20$) and EUPD ($n = 16$) (McLoughlin et al. 2022)) were invited to participate in two follow-up visits by letter and subsequently received a telephone call to provide clarification regarding the purpose of and procedure associated with this study. Inclusion and exclusion criteria for participation in this study has previously been detailed (McLoughlin et al. 2022), with inclusion criteria including being over 18 years of age and having the capacity to provide informed written consent for study participation. Exclusion criteria included participants having an intellectual disability ($IQ < 70$), or a diagnosis of dementia. Clinical diagnoses were based on International Classification of Diseases (ICD)-10 diagnostic criteria and were reviewed and confirmed by a senior clinician prior to initial study participation. Ethical approval was attained prior to the commencement of this follow-up study from the Galway University Hospitals Research Ethics Committee (C.A. 2362). All participant responses were anonymised, and all participant data was securely stored (encrypted and password protected) and handled in accordance with the Data Protection Act, 2018. On the case report file for participants, patients were not identified by their names but by an identification code, with consent forms located securely and separately to paper records.

Assessments

Interviews were conducted by telephone between May 31st and July 13th 2021 and between July 19th and September 28th 2022

approximately 12 and 24 months after participants completed baseline assessments (conducted between June 5th and June 26th 2020). Assessment periods in the years of 2020 and 2021 coincided with similar periods of easing of restrictions (i.e. resumption of outdoor dining) following COVID-19 waves 1 and 3 respectively, while the 2022 assessment timeline (follow-up assessment 2) coincided with a period where no such restrictions remained in place. Previous demographic and clinical data were reviewed during these assessment to identify any changes from baseline.

The same established psychometric instruments with known high reliability and validity indices were utilised at both study follow-up time-points to measure participants' current symptomatology and included the: (1) Beck Anxiety Inventory (BAI, Beck et al. 1988a), (2) Beck Depression Inventory (BDI, Beck et al. 1988b), (3) Beck Hopelessness Scale (BHS, Beck et al. 1988c) and (4) Barratt Impulsivity Scale (BIS, Patton et al. 1995).

At the second follow-up visit, Likert scales data (0–10) employed at the baseline visit was again utilised to measure: (1) anxiety symptoms, (2) mood symptoms (3) social functioning, (4) occupational functioning and (5) quality of life; with 0 indicating no adverse impact and 10 indicating a very severe impact due to restrictions imposed because of the COVID-19 pandemic (see Appendix 1). Participants were additionally invited to provide free-text data on their perspectives on the impact of the COVID-19 pandemic. This included a number of prompts pertaining to potential adverse and beneficial impacts of the COVID-19 pandemic including social and occupational impacts (Appendix 2).

Statistical analysis

Statistical analysis was performed using the Statistical Package for Social Sciences (SPSS) 27.0 for Windows (SPSS Inc., IBM, New York, USA). For key demographic and clinical data, descriptive analysis (frequencies, percentages, means and standard deviations) was performed for categorical and continuous variables as appropriate. The paired t -test was utilised for parametric data to compare baseline data and follow-up Likert scale data to assess any changes, with the Chi Square (χ^2) or Fisher's exact test also utilised for non-parametric data as appropriate.

We utilised repeated measures analysis of co-variance (Wilkes-Lambda statistic) to compare psychometric data between baseline and both follow-up visits for all participants, and for participants with either EUPD or bipolar disorder. Post hoc data to examine differences between groups was undertaken utilising analysis of variance, with the Wilcoxon ranked test utilised for non-parametrically distributed data.

Free-text data obtained from participants were open-coded and based upon the framework of the questionnaire (Appendix 2) and on any other themes that emerged. Data attained from free texts were grouped into themes using a thematic analysis approach by the consensus of the researchers (EOG, AR, BH).

Results

Demographic and clinical data

Of the 36 participants who participated in the initial study, 22 participants engaged at the first follow-up visit (61.1%) and 29 participants engaged at the second follow-up visit (completing all Likert scales) (80.5%), (see Tables 1–3). At this second follow-up visit, one participant declined to participate in follow-up visits, and six non-respondents uncontactable. Of the 29 participants who engaged at the second follow-up visit, six participants (five

Table 1. Demographic and clinical data for participants at time-point 2

Variable	EUPD (n = 11) n (%)	BD (n = 18) n (%)
Gender		
Male	1 (9.1)	7 (38.9)
Female	10 (90.9)	11 (61.1)
Marital Status		
Single / Partner	8 (72.7)	13 (72.2)
Married / Civil Partnership	2 (18.2)	2 (11.1)
Separated / Divorced	1 (9.1)	3 (16.7)
Employment / Vocational Status		
Unemployment	3 (27.3)	6 (33.3)
Employed	7 (63.6)	12 (66.7)
In third level education	1 (9.1)	0 (0.0)
Domiciliary Status		
Parents	4 (22.2)	2 (18.2)
Partner/Spouse	3 (16.7)	4 (36.4)
Single Parent	0 (0.0)	2 (18.2)
Housemates/Friends	5 (27.8)	2 (18.2)
Alone	6 (33.3)	1 (9.1)
Substance Use		
Alcohol	8 (72.7)	7 (38.9)
Nicotine	5 (45.5)	5 (27.8)
Cannabis	5 (45.5)	3 (16.7)
Psychotropic Medications		
Yes	9 (81.8)	14 (77.8)
No	2 (18.2)	4 (22.2)
Psychotropic polypharmacy	5 (45.5)	9 (50.0)

BD, bipolar disorder; EUPD, emotionally unstable personality disorder.

diagnosed with bipolar disorder) completed Likert scale and provided free-text data but did not complete the psychometric instruments stating they did not have sufficient time to complete this aspect of the study (see Table 3). There was no significant difference in terms of gender or age between respondents and non-respondents. No participant was excluded from the follow-up study due to meeting exclusion criteria. Data for the 29 study participants at time-point 2 are presented in Table 1. Of note the EUPD cohort had a non-significant higher percentage of females (90.9% v. 55.6%, $\chi^2 = 3.40$, Fishers’ exact $p = 0.11$), and a younger mean age compared to the bipolar disorder cohort (30.8 (SD = 10.9) years v. 43.2 (SD = 16.3), $t = 2.45$, $p = 0.021$). Only one participant in both the EUPD and bipolar disorder groups described an increase in alcohol use, with no change in cannabis or nicotine use noted, since study commencement (McLoughlin et al. 2022). Over the two-year time-frame of this study, two participants with bipolar disorder required admission to the acute psychiatric inpatient unit due to depressive symptoms (11%), with two other individuals engaging in self-harm, and one further participant attending the Emergency Department (ED) with distress. Four of the 11 EUPD participants (36.4%) engaged in self-harm, one of whom was admitted to the acute psychiatric inpatient unit, with a further individual attending the ED due to distress.

Table 2. Psychometric and Likert scale data at all time-points

Variable	Time-point 1				Time-point 2				Time-point 3			
	BD		EUPD		BD		EUPD		BD		EUPD	
	n	Mean (SD)	n	Mean (SD)	n	Mean (SD)	n	Mean (SD)	n	Mean (SD)	n	Mean (SD)
Psychometric Instruments	20		16		15		7		13		10	
BAI	13.65 (12.83)	39.56 (11.78)	6.24, <0.001	13.67 (12.07)	38.71 (15.02)	4.20, <0.001	12.69 (10.31)	35.30 (14.77)	4.32, <0.001	12.69 (10.31)	35.30 (14.77)	4.32, <0.001
BDI	9.35 (7.88)	31.13 (10.34)	7.17, <0.001	11.20 (8.10)	26.00 (13.24)	3.26, 0.004	12.54 (9.90)	24.60 (12.46)	2.59, 0.017	12.54 (9.90)	24.60 (12.46)	2.59, 0.017
BHS	3.50 (3.56)	13.19 (5.01)	6.78, <0.001	3.47 (3.40)	11.29 (4.89)	4.37, <0.001	4.54 (3.57)	10.30 (5.36)	3.10, 0.005	4.54 (3.57)	10.30 (5.36)	3.10, 0.005
BIS	60.25 (10.15)	76.38 (15.32)	3.79, 0.001	62.33 (11.52)	67.29 (15.17)	0.85, 0.405	64.69 (10.44)	67.00 (15.28)	0.43, 0.671	64.69 (10.44)	67.00 (15.28)	0.43, 0.671
Likert Scales	20		16		18		11		18		11	
Anxiety	2.65 (2.92)	6.44 (3.05)	3.79, 0.001	-	-	-	2.11 (2.70)	5.64 (2.66)	3.43, 0.002	2.11 (2.70)	5.64 (2.66)	3.43, 0.002
Mood	2.15 (2.92)	6.13 (2.80)	4.13, <0.001	-	-	-	1.61 (2.27)	4.64 (2.62)	3.28, 0.003	1.61 (2.27)	4.64 (2.62)	3.28, 0.003
Social Functioning	3.00 (3.65)	6.81 (3.25)	3.26, 0.003	-	-	-	1.33 (1.28)	1.91 (1.58)	1.08, 0.292	1.33 (1.28)	1.91 (1.58)	1.08, 0.292
Occupational Functioning	4.60 (4.32)	5.75 (4.18)	0.80, 0.427	-	-	-	2.78 (2/73)	3.36 (3.20)	0.42, 0.604	2.78 (2/73)	3.36 (3.20)	0.42, 0.604
Quality of Life	3.20 (2.96)	6.38 (2.91)	3.21, 0.003	-	-	-	1.28 (1.41)	2.36 (1.86)	1.79, 0.085	1.28 (1.41)	2.36 (1.86)	1.79, 0.085

BAI, Beck Anxiety Inventory; BD, Bipolar Disorder; BDI, Beck Depression Inventory; BHS, Beck Hopelessness Scale; BIS, Barratt Impulsivity Scale; EUPD, Emotionally Unstable Personality Disorder; SD, Standard Deviation.

Table 3. Data at two-year follow-up

Variable	Baseline Mean (SD)	Follow-up 2 Mean (SD)	Statistics <i>t, p</i>
Total Group			
Psychometric Instruments (n = 23)			
BAI	24.17 (16.40)	22.52 (16.69)	0.73, 0.47
BDI	17.39 (13.20)	17.78 (12.42)	0.19, 0.86
BHS	7.39 (6.01)	7.04 (5.22)	0.53, 0.60
BIS	65.96 (12.01)	65.70 (12.51)	0.15, 0.88
Likert Scales (n = 29)			
Anxiety	3.72 (3.41)	3.45 (3.16)	1.39, 0.17
Mood	3.62 (3.55)	2.76 (2.80)	3.30, 0.003
Social Functioning	4.52 (3.96)	1.55 (1.40)	4.40, <0.001
Occupational Functioning	4.59 (4.22)	3.00 (2.88)	3.65, 0.001
Quality of Life	4.07 (3.20)	1.69 (1.65)	4.03, <0.001
Bipolar Disorder			
Psychometric Instruments (n = 13)			
BAI	14.08 (10.96)	12.69 (10.31)	0.63, 0.54
BDI	8.85 (7.32)	12.54 (9.90)	1.51, 0.16
BHS	3.62 (3.73)	4.54 (3.57)	1.06, 0.31
BIS	61.92 (10.40)	64.69 (10.44)	1.64, 0.13
Likert Scales (n = 18)			
Anxiety	2.39 (2.79)	2.11 (2.70)	1.16, 0.26
Mood	2.28 (3.05)	1.61 (2.28)	2.20, 0.04
Social Functioning	3.33 (3.71)	1.33 (1.28)	2.40, 0.03
Occupational Functioning	4.28 (4.36)	2.78 (2.73)	2.43, 0.03
Quality of Life	3.22 (3.14)	1.28 (1.41)	2.73, 0.01
EUPD			
Psychometric Instruments (n = 10)			
BAI	37.30 (12.60)	35.30 (14.77)	0.44, 0.67
BDI	28.50 (10.59)	24.60 (12.46)	1.18, 0.27
BHS	12.30 (4.74)	10.30 (5.36)	2.80, 0.02
BIS	71.30 (12.42)	67.00 (15.28)	1.37, 0.20
Likert Scales (n = 11)			
Anxiety	5.91 (3.30)	5.64 (2.66)	0.76, 0.47
Mood	5.82 (3.31)	4.64 (2.62)	2.45, 0.03
Social Functioning	6.45 (3.70)	1.91 (1.58)	4.62, 0.001
Occupational Functioning	5.09 (4.14)	3.36 (3.20)	3.01, 0.01
Quality of Life	5.45 (2.91)	2.36 (1.86)	2.97, 0.01

BAI, Beck Anxiety Inventory; BDI, Beck Depression Inventory; BHS, Beck Hopelessness Scale; BIS, Barratt Impulsivity Scale; EUPD, Emotionally Unstable Personality Disorder; SD, Standard Deviation.

Change in symptomatology

At all three time-points, psychometric data demonstrated increased anxiety (BAI) and depressive (BDI) symptoms and increased hopelessness in individuals with EUPD compared to bipolar disorder (see Table 2). Impulsivity symptoms (BIS) whilst

Table 4. Repeated measure psychometric data

Variable	Baseline Mean (SE)	Follow-up 1 Mean (SE)	Follow-up 2 Mean (SE)	Statistics <i>F, p</i>
Total Group (n = 17)				
BAI	22.06 (3.82)	25.77 (4.24)	22.88 (4.31)	0.90, 0.45
BDI	18.24 (3.36)	17.82 (3.00)	17.65 (3.15)	1.00, 0.97
BHS	7.06 (1.51)	6.77 (1.38)	6.41 (1.27)	0.96, 0.74
BIS	66.18 (2.73)	65.82 (2.99)	66.94 (2.90)	0.90, 0.81
Bipolar Disorder (n = 10)				
BAI	12.90 (3.05)	16.70 (4.13)	11.90 (3.24)	0.68, 0.21
BDI	9.90 (2.41)	12.10 (2.58)	13.30 (3.48)	0.59, 0.58
BHS	3.30 (1.20)	3.60 (1.22)	4.00 (1.09)	0.95, 0.82
BIS	63.50 (3.41)	64.80 (3.63)	66.00 (3.69)	0.72, 0.27
EUPD (n = 7)				
BAI	35.14 (13.48)	38.71 (15.02)	38.57 (13.95)	0.91, 0.78
BDI	30.14 (11.92)	26.00 (13.24)	23.86 (13.85)	0.49, 0.17
BHS	12.43 (4.96)	11.29 (4.89)	9.86 (5.61)	0.41, 0.11
BAI	66.00 (12.00)	65.93 (12.62)	66.57 (12.21)	0.97, 0.81

BAI = Beck Anxiety Inventory, BDI = Beck Depression Inventory, BHS = Beck Hopelessness Scale, BIS = Barratt Impulsivity Scale, EUPD = Emotionally Unstable Personality Disorder, SE = Standard Error.

increased in the EUPD cohort at baseline, were not significantly increased at either follow-up visit in this cohort compared to individuals with bipolar disorder. Likert Scale data at time-point 2 demonstrated increased subjective anxiety ($t = 3.43$, $p = 0.002$) and depressive ($t = 3.28$, $p = 0.003$) symptoms attributable to the COVID-19 pandemic in the EUPD cohort, however unlike at baseline, there was no significant difference in social or occupational functioning or quality of life attributable to the COVID-19 pandemic between the participant groups. Likert data demonstrated an improvement in social ($t = 4.40$, $p < 0.001$) and occupational functioning ($t = 3.65$, $p = 0.03$), and in quality of life ($t = 4.03$, $p < 0.001$) for the total group, with depressive symptoms also reduced in both the EUPD ($t = 2.45$, $p = 0.03$) and bipolar disorder ($t = 2.20$, $p = 0.04$) groups.

Psychometric data demonstrated reduced hopelessness in the EUPD cohort at time-point 2 compared to baseline ($t = 2.80$, $p = 0.02$) (see Table 3). Repeated measure data demonstrated no significant change in symptomatology for the entire group or for either the EUPD or bipolar disorder group over time (see Table 4).

Qualitative data

All participants ($n = 29$) who engaged at time-point 3 provided free-text responses ($n = 68$, EUPD = 30, bipolar disorder = 38) (see Table 5). The most common theme pertained to the positive impact of the discontinuation of COVID-19 mandated restrictions ($n = 19$), with benefits for participants' mental well-being described. The second most predominant theme ($n = 17$) related to the difficulties both patient cohorts experienced secondary to reductions in the provision of mental health services during the COVID-19 pandemic, with individuals describing in particular difficulty with a lack of face-to-face consultations. Other themes related to the negative social and occupational impact of the COVID-19 pandemic ($n = 11$), with individuals across both groups describing feeling more socially withdrawn, with

Table 5. Thematic data

Theme 1: Positive impact from discontinuation of COVID-19 mandated restrictions ($n = 19$, EUPD = 7, BD = 12)
<ul style="list-style-type: none"> • ‘My mood instantly lifted, it’s wonderful to be able to do things and see people out and about’ (#46, Female, EUPD) • ‘I feel back to myself and my old life, the difference is night and day. I’m a lot happier in general’ (#19, Male, BD)
Theme 2: Difficulty with reduced mental health supports during periods of COVID-19 restrictions ($n = 17$, EUPD = 9, BD = 8)
<ul style="list-style-type: none"> • ‘It was phone contact only and that has been difficult, face-to-face would have been more beneficial’ (#35, Female, EUPD) • ‘I talk to my psychologist twice a month, it’s hard not to talk face-to-face’ (#45 Female, EUPD) • ‘The day hospital was suddenly gone, you couldn’t go and see them face-to-face and that was hard to accept’ (#7, Female, BD)
Theme 3: Positive impact of COVID-19 ($n = 14$, EUPD = 5, BD = 9)
<ul style="list-style-type: none"> • ‘I felt calmer; I had time to try out new hobbies such as painting which I still keep up with today’ (#35, Female, EUPD) • ‘I needed a break at the time and it gave me that’ (#27, Female, BD) • ‘It was great to reassess things, to look at my mental health to see how my stress was. I am now more confident in my mental health’ (#24, Female, BD)
Theme 4: Negative social and occupational impact of COVID-19 ($n = 11$, EUPD = 6, BPAD = 5)
<ul style="list-style-type: none"> • ‘I am still working from home actually, and I have probably become more withdrawn’ (#46, Female) • ‘I am more withdrawn than I was 2 or 3 years ago, I was always social but I am in the habit of keeping my own company now. Being out of work knocked my confidence a bit’ (#44, Male, BD) • ‘My sociability has gotten less, I used to meet people, I had routines and then that was gone. I’m still struggling to get that back to be honest’ (#46, Female, BD)
Theme 5: How the COVID-19 pandemic can inform delivery of mental health services ($n = 7$, EUPD = 2, BD = 5)
<ul style="list-style-type: none"> • ‘The flexibility of Zoom and phone calls is nice. It is easier to move appointments • around. I felt less guilt when I needed to reschedule’ (#30, Female, EUPD) • ‘The pandemic helped to highlight what’s lacking in the service, people need more access to support, counselling and psychology especially’ (45, Female, EUPD) • ‘It would be nice to have the option of a phone call appointment rather than have to drive across town and wait to be seen’ (#14, Male, BD)

descriptions of not working in their usual occupational environment detrimental in this regard. Some individuals ($n = 14$), particularly in the bipolar disorder group believed that the COVID-19 pandemic had a positive impact for them, allowing them time to focus on their overall health including their mental well-being. The final theme related to potential putative changes to mental health service delivery secondary to the experience of the COVID-19 pandemic, with increased options for teleconsultations most commonly described.

Discussion

To our knowledge, this is the first longitudinal study that has assessed the impact of the COVID-19 pandemic and its mandated restrictions for individuals with either pre-existing

EUPD or bipolar disorder attending a secondary mental health service. We evaluated these two participant groups at three time-points over a 2-year period utilising psychometric instruments, with Likert scale data attained at baseline and at 2-year follow-up examining symptomatology, functioning and quality of life since the onset of the COVID-19 pandemic. Participants in the EUPD group reported increased symptomatology (anxiety and depressive symptoms) and greater levels of hopelessness at all time-points compared to participants in the bipolar disorder group. Individuals with both disorders reported improved social and occupational functioning and higher levels of quality of life at two-year follow-up with subjective improvements in mood also demonstrated compared to baseline measurements utilising Likert scale data.

There are a number of putative reasons why individuals with EUPD displayed significant symptomatology and distress longitudinally since the onset of the COVID-19 pandemic. Many individuals with EUPD have a strong requirement for attachment including emotional and physical proximity to others (Aaronson *et al.* 2006), thus the mandated requirements for social distancing might prove additionally difficult for this participant cohort. Fears of abandonment and rejection sensitivity (Poggi *et al.* 2019) may additionally make restrictions difficult for this patient cohort. The impact of COVID-19 related social restrictions on health care delivery led to a reduction in available psychotherapeutic input (both within and outside mental health services) and where such therapeutic inputs continued, these were predominantly delivered utilising tele-communication fora. Approximately 80% of the EUPD cohort reported in their free-text data, difficulties secondary to reduced mental health supports associated with the COVID-19 pandemic. These qualitative comments are suggestive of feelings of abandonment, particularly with descriptions of finding a lack of face-to-face contact particularly distressing, with consequent perceptions of care being of lower quality. Indeed such comments are consistent with reports from some clinicians of reduced therapeutic efficacy from online therapeutic interventions (Lakeman & Crighton 2020). Individuals with EUPD are also potentially more likely to engage in group therapeutic activities (i.e. Decider Skills Therapy, Managing Emotion Groups, Dialectical Behaviour Therapy, Mentalisation Based Therapy groups) and thus the disruption to their supports from mental health services (and potentially other services) was likely disproportionately greater than that experienced by most other patient groups. It was notable that over 50% of individuals in the EUPD cohort described a negative social impact of the COVID-19 pandemic, describing ongoing difficulties relating to self-confidence in social scenarios. Despite an overall improvement in social and occupational functioning and quality of life, many participants at an individual level have to date struggled to achieve previous levels of functioning which likely is related significantly to the COVID-19 pandemic and mandated restrictions associated with same.

The bipolar disorder cohort, similar to a previous cohort of individuals with anxiety disorders (McLoughlin *et al.* 2023) and in contrast to individuals with EUPD experienced only a modest impact of the COVID-19 pandemic in relation to symptomatology longitudinally, with the initial deleterious impact on functioning and quality of life, also ameliorating. Putative reasons for this cohort maintaining a more stable mental state, albeit with some individual variation, relate to continued support at approximately similar levels from their treating community mental health team and potentially higher levels of resilience. Many participants with bipolar disorder continued to attain input from community team members (for medical reviews, blood tests, psychotropic

medication administration) and would in general not have been engaging in many of the therapeutic interventions, including group interventions that were subsequently cancelled or moved to online forums. Many individuals, including those with mental health disorders have significant qualities of resilience (Herrman et al. 2011) and are able to engage in appropriate coping mechanisms and thus adapt positively to maintain their mental health despite the adversity experienced with COVID-19 and its associated restrictions. Individuals in the bipolar disorder group were also 13 years older on average than the EUPD cohort and consequently had greater life experience to support their potential higher levels of resilience.

Some qualitative data noted a positive impact of the COVID-19 pandemic including some individuals (more individuals in bipolar disorder cohort), stating for example that they utilised the time to prioritise their overall well-being and mental health and that this was both enjoyable and subjectively therapeutic. Additionally, despite some negative comments pertaining to teleconsultations, some participants (more individuals in bipolar disorder cohort) also believed that having the flexibility of this option would be of potential benefit in the future, particularly as attendance at medical appointments can be onerous from a time-perspective.

There are a number of limitations to this study, the most significant of which is the modest sample size and the lack of a control group. However, to date no longitudinal studies have been conducted in this patient cohort and this study can serve as a pilot study for future research studies with larger numbers of participants. Whilst we had no control group, we did include two different cohorts of participants, and we believe that data is present demonstrating a more deleterious impact of COVID-19 and its mandated restrictions in the EUPD cohort. A comparison of the deleterious impact of COVID-19 across more diagnostic categories would be optimal and is planned for a future research study. As the study was undertaken within one community mental health team, it is possible that findings may not be generalisable to other services. Although, the psychometric instruments utilised have high reliability and validity indices; as they are subjectively completed, they may be associated with higher levels of response bias compared to objective psychometric instruments. However, qualitative data was additionally collected, which corroborated many of the quantitative findings. Baseline psychometric data prior to the COVID-19 pandemic was not available for participants, and consequently, we cannot accurately compare psychometric data scores collected in this study to pre-pandemic measures. Thus, it is possible that the EUPD group would have demonstrated increased morbidity on these scales prior to the COVID-19 pandemic and that these findings are a result of the instability of mood and impulsivity associated with the disorder as opposed to a direct impact of COVID-19, however clinical interview, Likert scales and qualitative interviews all supported an impact of the COVID-19 pandemic and its associated mandated restrictions. Additionally, longitudinal evaluation has demonstrated that significant symptoms were present at all three time-points in the EUPD cohort, with only very modest (non-significant) reductions in symptoms evident to date. A longer-term follow-up, will help to more clearly elucidate if symptoms reduce to a greater extent in the EUPD cohort, as the impact of the COVID-19 pandemic reduces over time. Likert scale data is not validated, and would not be expected to provide identical scores to an assessment on psychometric instruments, give that they are only one measure and are assessing the impact of

COVID-19 on symptomatology rather than specific symptoms. However, the validity of our findings are tentatively suggested by moderate correlations between anxiety and depressive symptoms on Likert scales and scores on the BAI and BDI at both time-points (see Appendix 1 for correlation data). Finally, participants in this study were diagnosed utilising ICD-10 criteria. Since the onset of the study, ICD-11 diagnostic criteria have been introduced. Consequently, participants diagnosed with EUPD included in this study would fulfil criteria for a personality disorder of moderate to severe severity with the trait domain of disinhibition and a pattern specifier of 'borderline pattern'.

Conclusion

Individuals diagnosed with EUPD continue to experience more anxiety and depressive symptoms compared to participants with bipolar disorder; despite an improvement in both social functioning and quality of life. Qualitative data provided evidence of the positive impact relating to the easing of mandated social restrictions, but additionally reflected the adverse impact of reduced mental health supports secondary to the COVID-19 pandemic. The importance of face-to-face mental health supports for this cohort are indicated, particularly if future pandemics impact the delivery of mental health services.

Supplementary material. For supplementary material accompanying this paper visit <https://doi.org/10.1017/ipm.2024.8>

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