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RESEARCH ARTICLE

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Psychiatric symptoms during the COVID-19 outbreak in older adults with bipolar disorder

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Abstract

Objectives: Older adults with bipolar disorder (OABD) are vulnerable for a COVID-19 infection via multiple pathways. It is essential for OABD to adhere to the COVID-19 measures, with potential consequences for the psychiatric symptoms. This situation offers the unique opportunity to investigate factors of vulnerability and resilience that are associated with psychiatric symptoms in OABD.

Methods: This study included 81 OABD patients aged over 50 years. Factors measured at baseline in patients that participated in 2017/2018 were compared with factors measured during the COVID-19 outbreak.

Results: Participants experienced less psychiatric symptoms during COVID-19 than (67.9% euthymic) than at baseline (40.7% euthymic). There was no difference in loneliness between COVID-19 and baseline. Not having children, more feelings of loneliness, lower mastery, passive coping style and neuroticism were associated with more psychiatric symptoms during COVID-19 measures.

Conclusions: Participants experienced less psychiatric symptoms during COVID-19 measures when compared to baseline. Our results indicate promising targets for psychological interventions aimed at curing and preventing recurrence in OABD and improving quality of life in this growing vulnerable group.

KEYWORDS
bipolar disorder, COVID-19, mental health, older patients, pandemic, psychiatric symptoms, social

Key Points

- COVID-19 offers the unique opportunity to investigate factors of vulnerability and resilience that are associated with psychiatric symptoms in older age patients with bipolar disorder (BD)
- Older adults with BD experienced less psychiatric symptoms during COVID-19 measures when compared to baseline
- There was no difference in loneliness between the COVID-19 wave and baseline
- Not having children, more feelings of loneliness, lower mastery, a passive coping style and neuroticism were associated with more psychiatric symptoms during COVID-19 measures

1 | INTRODUCTION

The coronavirus disease (COVID-19) pandemic has quickly spread around the world thereby affecting many countries, including the Netherlands. As of 17 March 2020, the Dutch Government has introduced measures aimed at reducing the spread of COVID-19 in line with the World Health Organization: quarantine, social distancing and isolation of infected populations in order to contain the pandemic.[1] The course of COVID-19 is more serious and potentially fatal in older adults compared to younger adults and in those with somatic diseases, therefore these groups are considered "at risk." Older patients with a mental disorder belong to this risk group in terms of age, but also because of the frequent somatic co-morbidity.[2] Therefore, it is essential for older patients with a mental disorder and their environment to adhere to the COVID-19 measures in order to prevent a COVID-19 infection.

It is expected that COVID-19 affects multiple health-related aspects directly and indirectly. Directly, COVID-19 infections may cause morbidity and mortality, and indirectly, the diminished access to healthcare facilities and long-term effects of social isolation and threat of COVID-19 may affect somatic and mental health. The COVID-19 measures have high psychological costs: they require adapting daily routines and may hamper social interactions that enhance health and quality of life and provide emotional support.[3]

As seen in previous pandemics, the number of people who experience an increase in psychiatric symptoms is greater than the number of people directly affected by the disease itself. During a pandemic, individuals are exposed to uncertainty and fear for a longer period of time, resulting in a negative effect on mental health across the lifespan.[4] In addition, the COVID-19 measures are mostly aimed at limiting social contact. Social disconnection puts older adults, particularly those living alone, at a greater risk of isolation, seclusion, depression, and anxiety.[5,6] Vice versa, there is evidence that social support protects older individuals against harmful stress and promotes physical and emotional well-being.[7–9]

In our naturalistic dynamic cohort including patients aged 50 years and over with a diagnosis of bipolar disorder (BD); Dutch Older Bipolars (DOBi),[10] we have been studying characteristics in older adults with bipolar disorder (OABD). In previous studies conducted in the DOBi cohort, we did not find significant associations between several clinical, social, psychological and cognitive factors and recurrence.[11–13] Knowledge about factors that predict recurrence is essential in order to detect the most vulnerable patients, allocate resources for mental health services and develop specific treatment strategies. Due to COVID-19 measures, patients are at increased risk of recurrence of psychiatric symptoms. Therefore, the aim of this study was to identify factors that are associated with psychiatric symptoms in OABD during COVID-19.

For this purpose, data from the DOBi study were used. Factors measured at baseline in patients that participated in 2017 and 2018 (baseline wave) were compared with measurements during the COVID-19 outbreak (COVID-19 wave). In the COVID-19 wave, patients with clinically relevant psychiatric symptoms were compared with euthymic patients on several aspects. Following this cohort in times of the pandemic and its associated measures offers the unique possibility to study the association between a life-event (the COVID-19 outbreak) and psychiatric symptoms, measures of vulnerability and resilience such as coping strategies, personality traits, social participation and social network. This will contribute to developing a treatment approach for this group that is vulnerable for recurrence at an older age,[11] but for whom specific evidence-based recommendations are currently lacking.[14]

Our hypothesis was that social isolation, a decline in social participation, more COVID-19-related concerns, a lower sense of mastery and more feelings of loneliness will increase psychiatric symptoms. In addition, we investigated the association between coping style, neuroticism and psychiatric symptoms. It was expected that a more passive coping style and more neuroticism were associated with more psychiatric symptoms.

2 | MATERIALS AND METHODS

2.1 | Study sample

Participants in the baseline wave had been included in the DOBi study in 2017 and 2018.[10] In short, all older patients (aged 50 years and over) in contact with services between 1 January 2017 and 31 December 2018 were identified by a computerized search in the electronic record-keeping system of the Mental Health Organization (GGZ inGeest, Amsterdam, the Netherlands). Patients were screened for eligibility if they had any registered diagnosis of BD, which was confirmed in the Mini International Neuropsychiatric Interview.[15] Medical records of all potential participants were screened by a psychiatrist for exclusion criteria, including: not being able to give written informed consent due to not being able to communicate in Dutch or English, IQ < 70, poor cognitive functioning (Mini-Mental State Examination <18)[16] or a highly unstable psychiatric condition. Several questionnaires were conducted, assessing characteristics such as coping, personality, cognition and clinical characteristics. In the baseline wave, 130 participants were included in the study, and 106 of them gave permission on their informed consent to contact them for follow-up studies. In April 2020 (week 17), these 106 participants were contacted to participate in the COVID-19 wave, of whom 12 were not willing to participate, one had received a diagnosis of Alzheimer's disease, four had passed away and eight were lost to follow-up. This resulted in a sample of 81 patients for the current study. DOBi was approved by the Medical Ethics Committee of the VU University Medical Center, Amsterdam, the Netherlands.

2.2 | Measurements

2.2.1 | Demographic and psychiatric symptoms

Demographic data (e.g., age, gender, partner status) were obtained through interviews in the COVID-19 wave. Psychiatric symptoms were measured in the baseline wave and COVID-19 wave, respectively with the Young Mania Rating Scale (YMRS)[17] with scores ≥ 12 indicating clinically relevant (hypo)mania, the Center for Epidemiologic Studies Depression Scale (CES-D)[18] with scores ≥ 16 indicating clinically relevant depression and the Beck Anxiety Inventory (BAI).[19] The BAI is a 21-item self-report instrument for measuring the severity of anxiety. Scores range from 0 to 63, whereby a score of 0–9 indicates normal or no anxiety, 10–18 mild to moderate anxiety, 19–29 moderate to severe anxiety and 30–63 severe anxiety.

2.2.2 | Social functioning

Several measurements were conducted to assess social functioning. First, the Social Participation Scale (SPS)[20] was measured in the baseline wave and the COVID-19 wave. The SPS was used to measure self-report of involvement in ten different social activities at baseline (e.g., doing groceries, doing sports, or attending a church service). Higher scores indicate more frequent participation in social activities. We also calculated a social participation change score by subtracting social participation during COVID-19 from social participation at baseline. Patients' social network was measured in the COVID-19 wave. This was assessed by asking if participants have children and/or grandchildren and how their living situation (household composition) is during the COVID-19 measures. Third, feelings of loneliness were measured in the baseline wave and in the COVID-19 wave. Loneliness was measured by the Loneliness Scale.[21] The total loneliness score can be categorized into four levels with a score of 0–2 being not lonely, a score of 3–8 being moderately lonely, a score of 9–10 being severely lonely and a score of 11 being very severely lonely.

2.2.3 | Mastery, coping, and personality

Mastery was measured in the COVID-19 wave. The Pearlin Mastery scale[22] measures the extent to which an individual regards their life chances as being under their personal control rather than fatalistically ruled. Coping style was measured in the baseline wave. Coping style was measured using the Utrechtse Copinglijst.[23] The subscales are divided into active and passive coping styles.[23] Personality traits were measured in the baseline wave, by the Revised NEO Personality Inventory.[24] In the present study, we only included the "Neuroticism"-scale, since neuroticism is a relatively well-established risk factor for depression and anxiety in older adults.[25] Since coping and personality are regarded as factors that are relatively stable over time, we used these factors measured in the baseline wave.

2.2.4 | COVID-19 related concerns

COVID-19 related concerns were measured in the COVID-19 wave. Several multiple-choice questions were asked based on the study protocol as designed by Pan et al.,[26] thereby assessing if participants (or someone in their household) had been infected with COVID-19, how many hours they were spending inside their homes and which aspect of the COVID-19 outbreak was most concerning to them. In addition, a list of 20 multiple-choice questions asked for the perceived threat of the COVID-19 outbreak and how participants coped with the new situation. Based on a previous exploratory factor analysis in a large sample consisting of three Dutch psychiatric cohorts (n = 1517), we computed three scales from the 20 items: "perceived COVID-19 mental health impact," "fear for the virus" and "positive coping." It was also assessed how participants were experiencing their mental health care and how this care was adapted due to COVID-19 measures. Furthermore, as suggested by an expert by experience, we added these open questions: "What do you experience as being the most disabling in this period?," "What are the positive aspects of this period?," "Are there any positive or negative life experiences that help you in this period?," "Are you supporting others in this period and in what manner are you doing that?." For a complete and detailed overview of the items and their coding, see Pan et al.,[26]

2.3 | Statistical analysis

Data were analyzed using the Statistical Package for the Social Sciences (version 24.0; SPSS). First, descriptive analyses were performed for all study variables. Paired sample t-tests for continuous measures were conducted for normally distributed variables, and Wilcoxon Signed Rank tests were conducted for variables that were not normally distributed to investigate whether patient characteristics differed between the COVID-19 and baseline wave. Separate linear regression analyses were conducted with COVID-19 related concerns, social functioning, loneliness, mastery, coping style, and neuroticism as independent variables and severity of depressive symptoms or anxiety symptoms as outcome measure. Due to the limited variability in mania scores, we decided not to include this variable in these analyses. In order to attain a normal distribution, severity of depressive symptoms and anxiety were log-transformed. Age and gender were entered as covariates. Additionally, with logistic regression analyses we studied differences in functioning between the symptomatic group and the euthymic group. The symptomatic group was defined by having psychiatric symptoms above the cutoff score on minimally one of the three scales (CES-D ≥ 16, YMRS ≥ 12, BAI ≥ 19). Results with $p < 0.05$ were regarded as statistically significant.

TABLE 1 Descriptives of demographic and clinical variables ($n = 81$)

	Baseline	During COVID-19	Statistics
Demographics			
Age, M (SD), range	-	66.1 (7.2), 53.4–80.7	-
Gender, female % (n)	-	55.6 (45)	-
Living situation	-		-
Alone % (*n*)		49.4 (40)	
Children? Yes, % (n)	-	50.6 (41)	-
Grandchildren? Yes, % (n)	-	32.1 (26)	-
Psychiatric symptoms			
YMRS, median (IQR), range	2 (4), 0–17	0 (3), 0–16	<0.01**
CES-D, median (IQR), range	13 (18), 0–51	8 (13.8), 0–48	<0.01**
BAI, median (IQR), range	7 (15.3), 0–63	5.5 (7), 0–34	0.02*
Social functioning			
Social participation, median (IQR), range	24 (4), 11–31	16 (3), 11–23	<0.01**
Loneliness, median (IQR), range	3 (6), 0–11	3 (4), 0–10	0.06
Coping			
Mastery, M (SD), range	-	19.1 (5.2), 7–33	-
Active coping style, M (SD), range	26.1 (5.1), 13–40	-	-
Passive coping style, M (SD), range	39.0 (6.9), 28–57	-	-
Neuroticism, M (SD), range	5.8 (1.2) 2–8	-	-
COVID-19 related factors			
COVID-19 infection? Yes, % (n)	-	1.2 (1)	-
Mental health impact, M (SD), range	-	2.3 (0.7), 1–4	-
Fear for the virus, M (SD), range	-	2.9 (0.6), 2–5	-
Positive coping, M (SD), range	-	3.6 (0.6), 2–5	-

Note: Statistical tests were based on Wilcoxon Signed Rank tests, at a significance level of 5%.

Abbreviations: BAI, Beck Anxiety Scale; CES-D, Center for Epidemiologics Studies Depression Scale; IQR, interquartile range; Wilcoxon Signed Rank test; M, mean; SD = standard deviation; YMRS, Young Mania Rating Scale.

*$p < 0.05$; $p < 0.01$.

3 | RESULTS

3.1 | Descriptive statistics

3.1.1 | Demographic and clinical characteristics

In the COVID-19 wave, participants had a mean age of 66.1 (SD = 7.2), and 55.6 was female (Table 1). Only one participant (1.2%) was diagnosed with COVID-19 by a medical doctor. Of all participants, 49.4% was living alone, 50.6% had children and 32.1% also had grandchildren. On average, participants had few (hypo) manic symptoms (YMRS score, median = 0, interquartile range [IQR] = 3), low depression scores (CES-D score, median = 8, IQR = 13.8) and low anxiety scores (BAI score, median = 5.5, IQR = 7). All scores were significantly lower than at baseline (YMRS and CES-D $p < 0.01$, BAI $p = 0.02$). In the baseline wave, 41.4% of all participants was euthymic. A comparison between symptomatic participants in the baseline wave and in the COVID-19 wave is presented in Figure 1.

3.1.2 | Social functioning

In the COVID-19 wave, participants had less social participation (median = 16, IQR = 3) than at baseline (median = 24, IQR = 4, $p = <0.01$). Loneliness was moderate during COVID-19, with a median score of 3 (IQR = 4), with no significant difference compared to baseline (median = 3, IQR = 6).

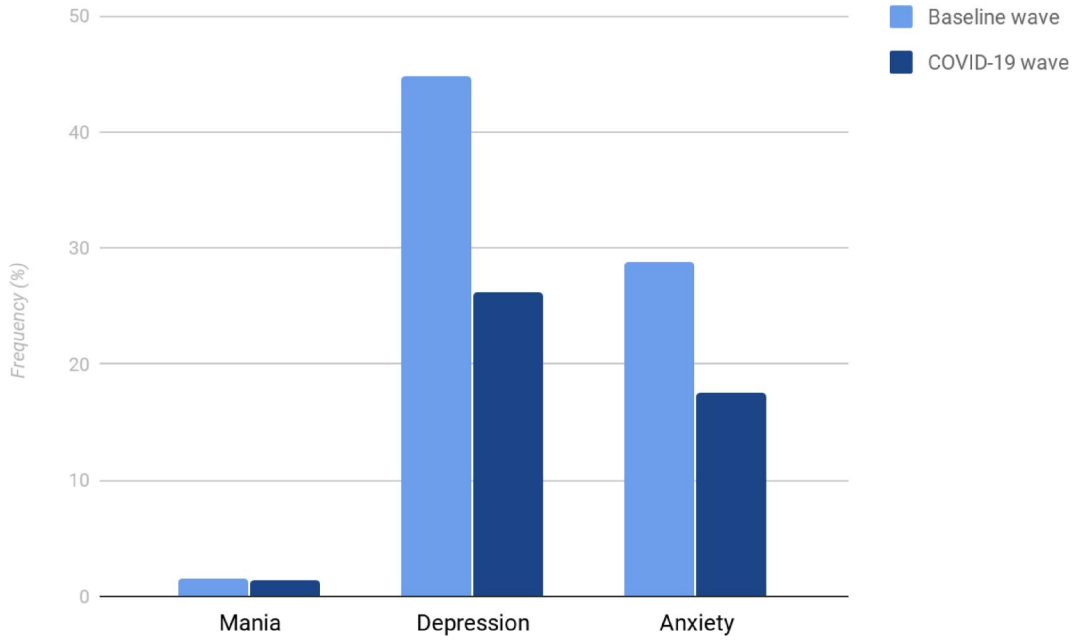

FIGURE 1 Comparison of the frequency of symptomatic participants in the baseline wave and the COVID-19 wave

3.2 | Factors associated with psychiatric symptoms during COVID-19

Not having children ($B = -0.23$, $p = 0.03$), experiencing more loneliness ($B = 0.08$, $p < 0.01$), lower mastery ($B = 0.05$, $p < 0.01$), more passive coping ($B = 0.04$, $p < 0.01$) and higher neuroticism ($B = 0.10$, $p = 0.05$) were significantly associated with more severe depressive symptoms when controlling for age and gender. Regarding the COVID-19 related concerns, a significant association was found between more severe depressive symptoms and a higher perceived mental health impact ($B = 0.39$, $p < 0.01$), more fear for the virus ($B = 0.17$, $p = 0.04$) and less positive coping ($B = -0.41$, $p < 0.01$). Having grandchildren ($B = -0.14$, $p = 0.23$), the difference in social participation ($B = -0.01$, $p = 0.42$) and active coping ($B = -0.01$, $p = 0.24$) were not associated with depressive symptoms when controlling for age and gender.

More feelings of loneliness ($B = -0.04$, $p = 0.03$), lower mastery ($B = 0.04$, $p < 0.01$), more passive coping ($B = .03$, $p < .01$) and higher neuroticism ($B = 0.11$, $p = 0.02$) were significantly associated with more severe anxiety symptoms. Regarding the COVID-19 related factors, a significant association was found between a higher perceived mental health impact ($B = 0.26$, $p < 0.01$), more fear for the virus ($B = 0.17$, $p = 0.04$), less positive coping ($B = -0.26$, $p < 0.01$) and more severe anxiety symptoms. Having children ($B = -0.10$, $p = 0.32$), having grandchildren ($B = -0.02$, $p = 0.88$), difference in social participation ($B = -0.01$, $p = 0.53$) and active coping ($B = -0.02$, $p = 0.05$) were not associated with more severe anxiety symptoms.

3.3 | Euthymic mood versus psychiatric symptoms

Twenty-six participants were symptomatic, defined by CES-D ≥ 16 and/or YMRS ≥12 and/or BAI ≥19. Fifty-five participants were euthymic (Table 2).

Participants in the symptomatic group had significantly higher loneliness scores ($p < 0.01$, OR = 1.49), more passive coping ($p < .01$, $OR = 1.17$) and significantly lower levels of mastery ($p < 0.01$, OR = 1.26). Regarding the COVID-19 related concerns, participants in the symptomatic group also showed higher scores on the perceived mental health impact scale ($p < 0.01$, OR = 6.71), had more fear for the virus ($p < 0.01$, OR = 5.50) and used less positive coping ($p < 0.01$, OR = 0.17). No significant differences were found in age, gender, having children, having grandchildren, living situation, difference in social participation, coping style, and neuroticism.

4 | DISCUSSION

To our knowledge, this is the first study that examined factors associated with psychiatric symptoms in OABD during the COVID-19 pandemic. The aim of this study was to identify factors of vulnerability and resilience in OABD, by investigating the relationship between multiple factors and psychiatric symptoms during COVID-19 measures ordained by the government. We found that our sample experienced fewer psychiatric symptoms during the first months of the COVID-19 outbreak than at baseline. We also found that not having children, more feelings of loneliness, lower mastery, a more

TABLE 2 Differences between the psychiatric symptomatic group and the euthymic group

	Symptomatic		Euthymic			
	M	SD	M	SD	OR	*p*
Age	64.4	7.0	66.8	7.2	0.95	0.15
Gender female, % *n*	57.7	15	54.5	30	1.14	0.79
Children yes, % *n*	53.8	15	49.1	27	0.35	0.18
Grandchildren yes, % *n*	38.6	10	29.1	16	1.52	0.40
Social participation difference, median IQR	7	3.3	7	5	1.03	0.73
Loneliness, median IQR	5	3.3	2	3.5	1.49	<0.01**
Mastery	22.5	4.9	17.5	4.6	1.26	<0.01**
Active coping	24.4	5.7	26.9	4.7	0.91	0.08
Passive coping	43.3	5.9	36.8.8	6.3	1.17	<.01**
Neuroticism	6.1	1.0	5.6	1.2	1.38	0.20
Corona-related variables						
Mental health impact	2.8	0.7	2.1	0.6	6.71	<0.01**
Fear for the virus	3.3	0.6	2.7	0.6	5.50	<0.01**
Positive coping	3.3	0.5	3.8	0.5p	0.17	<0.01**

Note: Statistical tests were based on logistic regressions.

Abbreviations: IQR, interquartile range; M, mean; OR, odds ratio; SD, standard deviation.

*$p < 0.05$; **$p < 0.01$.

passive coping style and higher neuroticism were associated with more severe depressive symptoms during COVID-19 measures. We also found a significant association between more feelings of loneliness, lower mastery, a more passive coping style, higher neuroticism and more severe anxiety symptoms during COVID-19 measures. Regarding the COVID-19 related concerns, we found that a higher perceived mental health impact, more fear for the virus and less positive coping were associated with more severe depressive and anxiety symptoms.

Contrary to our hypothesis, we found that our sample experienced less mental health related symptoms during COVID-19 when compared with measurements at baseline. Due to the actuality of this topic, available literature is sparse. However, when looking at younger adults with a pre-existing affective disorder, it was found that during the COVID-19 outbreak there was a heightened level of depression, anxiety, stress and general distress in the group of adults with a pre-existing affective disorder when compared to those without a mental disorder.[27] They also found that anxiety was even further elevated in respondents with BD compared with those with depressive disorder. More in general, previous studies reported that life events characterized by disruption of daily routines are associated with the onset of depression and mania in adults.[28,29] An explanation for this discrepancy between younger patients and our results in older adults can be found in the maturation-hypothesis, stating that older adults may be less reactive to stressful events. According to the inoculation-hypothesis, it might be easier for older adults to cope with current stressful events, because they may have had to deal with similar stressors earlier in life.[30,31]

An interesting finding in our study was that mania symptoms during the COVID-19 outbreak were relatively low, whereas it could be expected that changes in social rhythms would lead to more mania symptoms. Evidence shows that life events leading to social disruption were associated with the onset of manic but not with depressive episodes.[32] In our sample, we only included older patients and therefore hypothesize that the social rhythms in older patients might be less susceptible for the changes in daily life due to the COVID-19 measures. Overall, healthy older individuals have been repeatedly shown to display higher social rhythm regularity than younger adults.[33,34] Moreover, the social isolation may result in an environment with lesser stressors and thereby reduce the onset of manic symptoms. Older adults are to a lesser extent dependent on external factors, such as a job or a more extensive family life, that determine their daily structure and thus social rhythm. Therefore, we hypothesize that COVID-19 measures do not have an evenly heavy impact on the daily activities of participants in our sample, when compared with the impact of the COVID-19 measures on the lives of younger adults or older patients who do not experience mental disorders. Also, data was collected when the COVID-19 measures were just recently implemented and that an increase in symptoms is expected to occur after a longer period.

More feelings of loneliness were associated with more severe depressive and anxiety symptoms. However, we did not find a difference between euthymic and psychiatric symptomatic participants in quantitative measurements of social functioning, such as social participation, having children, having grandchildren and living situation. This stresses the finding that the quality of social functioning is highly important and is not directly related with the quantity of social functioning, in line with our previous findings.[35]

A higher level of neuroticism and a more passive coping style appeared to be related with more psychiatric symptoms. OABD have more passive coping styles,[36] whereas active coping might prevent patients with BD from becoming more impaired in functioning and having psychiatric symptoms in later stages of the illness.[37] We did not find an association with active coping and the severity of depressive symptoms. This is not in line with previous findings in our cohort, that showed that a more active coping style was associated with less severe depressive symptoms.[38] An explanation for this discrepancy in results could be the fact that we compared current psychiatric symptoms, during the COVID-19 outbreak, with coping styles measured at baseline. It may be that due to the COVID-19 measures, certain coping behaviors like active coping, avoidance and seeking social support, had become unavailable or shifted to a different form. This has clinical implications as baseline passive coping was associated with more severe psychiatric symptoms and active coping may not be possible during the COVID-19 measures. In line with our hypothesis, we found that lower mastery was associated with more mental health related symptoms. When looking at the role of mastery in late-life depression, higher mastery seems to facilitate adaptation under stressful events.[39,40] Moreover, mastery has a strong effect on the course of depression in later life and high mastery was identified as a significant predictor of recovery.[41] Therefore, mastery could be an important target for treatment, when applying cognitive behavioral therapy (CBT) in OABD. Current guidelines emphasize the use of CBT as one of the psychological interventions in the treatment of BD in addition to psycho-education.[42-45]

4.1 | Strengths and limitations

A strong point in our study is that we were able to compare data collected during the COVID-19 measures with data collected pre-COVID. This comparison provides unique information about factors that play a role in psychiatric symptoms in OABD patients. Still, an important limitation of the current study is that we did not collect data during the period between baseline and measurements during the COVID-19 outbreak. For this reason, it cannot be excluded that other factors that occurred during the three years between baseline and measurements during COVID-19, have had an impact on current psychiatric symptoms. The severity of psychiatric symptoms at the time of inclusion at baseline is therefore also of great importance. Most participants were in contact with services since their inclusion at baseline, therefore it cannot be ruled out that the decrease in psychiatric symptoms is caused by enhanced care provision, for example a change in medication use. This also causes that we cannot make statements about the generalizability of our results to the non-

COVID-19 situation. Our measurements were conducted a short period of time after the start of the pandemic, thus it should be stressed that our findings might not reflect the long term effects of the COVID-19 outbreak. We also have to take into account that the sample that we used was relatively small, especially for the number of analyses that we have conducted. This increases the risk that our findings are attributed to chance findings.

Our findings warrant specific clinical implications since we found that the COVID-19 related concerns were highly associated with psychiatric symptoms. Therefore, clinicians need to be aware of the impact of these concerns and these should be regarded as important targets in treatment during the COVID-19 measures. Moreover, psychiatric symptoms can increase because patients are not able to use the most adequate coping strategies due to the restrictions caused by the COVID-19 preventive measures. Repeated assessments to follow the possible development of psychiatric symptoms as a result of the prolonged COVID-19 measures are warranted. Future research may repeat the measures conducted during COVID-19 when the COVID-19 measures are no longer applicable, in order to make statements if the associations that we found are generalizable to the non-COVID-19 situation.

In conclusion, the current study provides unique information about factors of vulnerability and resilience that are associated with psychiatric symptoms in OABD. Whereas earlier studies failed in identifying factors that play a role in the recurrence of these symptoms, this study points out that *loneliness*, lower levels of mastery, passive coping and neuroticism play a significant role in the severity of psychiatric symptoms during the COVID-19 pandemic. Our study also provided important information about the burden of psychiatric symptoms in OABD during COVID-19. These aspects indicate promising targets for psychological interventions aimed at curing and preventing recurrence in OABD and improve quality of life in this growing vulnerable group.

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CONFLICT OF INTEREST

The authors declare that they have no competing interests.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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