Psychotic symptoms in patients with borderline personality disorder: prevalence and clinical management

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Purpose of review
The aim of this article is to review findings on the prevalence, phenomenology and treatment of psychotic features in borderline personality disorder (BPD), and to discuss factors that might be related to their occurrence.

Recent findings
Of patients with BPD about 20–50% report psychotic symptoms. Hallucinations can be similar to those in patients with psychotic disorders in terms of phenomenology, emotional impact, and their persistence over time. Although more research is needed on the exact nature of psychotic phenomena in patients with BPD, terms like pseudo-psychotic or quasi-psychotic are misleading and should be avoided. Childhood trauma might play an important role in the development of psychotic symptoms in patients with BPD, as in other populations. More research is necessary on the role of comorbid disorders, especially posttraumatic stress disorder (PTSD). Atypical antipsychotics seem to be beneficial in some patients; evidence on psychotherapy of psychotic symptoms is sparse.

Summary
Psychotic symptoms, especially hallucinations, seem to be an important feature of BPD. More research on potential mediators and adequate treatment approaches for psychotic symptoms in BPD is needed, and current diagnostic systems might require revision to emphasise psychotic symptoms.

Keywords
borderline personality disorder, hallucination, paranoid ideation, psychotic, trauma

INTRODUCTION

Psychotic features in borderline personality disorder (BPD) are a long known phenomenon. As the name of the disorder signifies, it was originally introduced to describe patients who seemed to be on the border between neurosis and psychosis [1]. Although this concept has later been replaced by an operationalized diagnosis [2], psychotic symptoms have always been considered to be an important feature of BPD (e.g. [3,4,5▪]). Nevertheless, empirical evidence is scarce, partly because of conceptual difficulties. This article reviews the existing findings on the phenomenology and prevalence of psychotic symptoms in BPD. Moreover, we discuss variables potentially related to their appearance and give an overview of studies on their clinical management.

PHENOMENOLOGY AND DEFINITION

Psychotic symptoms in patients with BPD can broadly be divided into perceptual abnormalities and paranoid ideation, but there is currently no consensus on the phenomenology and severity of these experiences [5▪]. Both clinical concepts and current diagnostic systems fail to provide a framework for understanding these phenomena. This seems to be a major obstacle on the way to valid definitions. For instance, the only BPD criterion in DSM-IV [6] related to psychotic symptoms is transient, stress-related paranoid ideation. The criteria therefore do not account for other common

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KEY POINTS

- About 20–50% of patients with borderline personality disorder (BPD) experience psychotic symptoms (hallucinations and paranoid ideation).
- Hallucinations can be similar to those in patients with psychotic disorders in terms of phenomenology, emotional impact, and their persistence over time.
- Terms such as pseudo-psychotic or quasi-psychotic symptoms are misleading and should therefore be avoided.
- It is suggested that the diagnostic category of BPD requires revision to incorporate psychotic symptoms, especially hallucinations.
- Childhood trauma might play an important role in the development of psychotic symptoms in patients with BPD, as in other populations. Mediators of the relationship between childhood trauma and psychotic symptoms could be high sensitivity to stress, and symptoms of Posttraumatic Stress Disorder (PTSD).

symptoms, like hallucinations or longer-lasting paranoid episodes [5▪], and, in the proposed revision of the BPD criteria in DSM-V, even paranoid ideation will no longer be included [7].

A variety of vague terms like 'quasi-psychotic thought' [8] or 'pseudo-hallucinations' [9] have been used to describe paranoid ideation and perceptual abnormalities in BPD.

Since Hagen first introduced the term 'pseudo-hallucinations' in 1868 [10], many attempts have been made to define these phenomena (for reviews see [9,11]). Common definitions suggest that pseudo-hallucinations are recognized as such by the individual, and that they can be distinguished from 'real' hallucinations by their quality and location. 'Pseudo-hallucinations' are usually assumed to be voices or 'inner images with vivid liveliness' which are experienced 'inside of the head', whereas 'true' hallucinations, found in schizophrenia and other psychotic disorders, typically in the form of auditory verbal hallucinations (AVH), are assumed to be perceived as coming from 'outside' of the individual [9,11]. Recent research, however, suggests that the nature of hallucinations in different populations is less clear [12,13▪▪,14,15]. For instance, Copolov *et al.* [15] found that about a third of patients with schizophrenia perceived auditory hallucinations as internal, the same number of patients perceived them as external, and the remaining as coming from both locations. Moreover, no association existed between hearing voices internally and 'insight' into their hallucinatory character. On the contrary, patients with dissociative disorders (e.g. [16]), Posttraumatic Stress Disorder (PTSD) (e.g. [17]), and even individuals without psychiatric disorders (e.g. [18]) experience auditory hallucinations that could be classified as 'true' hallucinations according to their location (i.e. outside the head) and content. Interestingly, the same pattern of brain activation has been found in psychotic and nonpsychotic individuals with AVH [19▪▪]. As a consequence, more research on the phenomenology of AVH in different populations is needed [13▪▪], but it has been argued that the term 'pseudo-hallucinations' should no longer be used, to prevent trivialization and promote adequate diagnosis and treatment of these phenomena [5▪,20].

PREVALENCE AND QUALITY OF PSYCHOTIC SYMPTOMS IN BORDERLINE PERSONALITY DISORDER

Remarkably few empirical studies have examined psychotic symptoms in BPD so far. The existing studies either focused on hallucinations [5▪,21–23], or both hallucinations and paranoid delusions [8,12,24–26]. Two early studies [21,22] found that auditory hallucinations were experienced by 21 and 54% of BPD patients respectively. Yee *et al.* [23] found AVH in 50 out of 171 patients with BPD (29%) using the Symptom-Checklist-90 (SCL-90; [27]) as a screening tool. Kingdon *et al.* [12] reported that 46% of a smaller sample of 33 patients with BPD reported AVH on the Psychotic Symptoms Rating Scale (PSYRATS; [28]), and 29% were found to have experienced paranoid delusions. Rates of psychotic symptoms in nonclinical populations of individuals with BPD, however, could be markedly lower [29].

Two studies using different versions of the Diagnostic Interview for Borderlines (DIB; [30,31]) tried to differentiate between quasi-psychotic and true psychotic symptoms according to the criteria of this instrument [8,25]. Zanarini *et al.* [8] examined 50 patients meeting the criteria for BPD according to DSM-III. Patients with a concomitant psychotic disorder were excluded. Patients' experiences were judged as quasi-psychotic if they were transient (of less than 2 days' duration), circumscribed (affecting not more than two areas of the patients' life), or atypical of psychotic disorders (possibly reality-based or totally fantastic in content). Delusions and hallucinations that were prolonged, bizarre or stereotypic of psychotic disorders (Schneiderian first-rank symptoms or other gross departures from reality) were rated as true psychotic experiences. According to these definitions, 40% of the patients ($N = 20$) reported quasi-psychotic thought, 26% ($N = 13$) reported quasi-hallucinations, and 14%

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($N = 7$) reported having experienced true psychotic thought, i.e. they had experienced a psychotic episode lasting 2 days or more anytime in their life.

Several studies compared the prevalence and quality of psychotic symptoms in patients with BPD with those in other diagnostic groups [5▪,12,25,32]. Kingdon *et al.* [12] administered the PSYRATS to 111 patients, of whom 59 met, in the Structured Clinical Interview for DSM-IV (SCID; [33]), the criteria for schizophrenia, 33 for BPD, and 19 for both disorders. Of patients with BPD only, 29% ($N = 9$) reported paranoid delusions, as compared with almost two-thirds of patients with schizophrenia ($N = 36$; 61%) and with both diagnoses ($N = 12$; 65%). Almost two-thirds (63%) of the sample also described experiencing auditory hallucinations. This was the case in about half (46%) of those with BPD, two-thirds (66%) of those with schizophrenia, and an even higher number (90%) of patients with both diagnoses. The authors found greater distress and more negative content of voices in patients with BPD alone as compared with the other groups; no differences were found with regard to conviction, frequency, or beliefs about the location of the auditory hallucinations.

In a recent study, Slotema *et al.* [5▪] used the PSYRATS to compare the characteristics of AVH in 38 BPD patients with known AVH with those of 51 patients with schizophrenia or schizoaffective disorder, and 66 individuals without a psychiatric diagnosis. Although BPD patients had higher scores on almost all items of the instrument as compared with nonpatients experiencing AVH, BPD patients' AVH did not differ from those of patients with schizophrenia except for the item 'disruption of life', which was rated higher in patients with schizophrenia. In this study, the mean frequency of AVH in BPD patients was at least once per day for several minutes or more, and AVH were experienced inside the head in the majority of patients.

Although the DSM-IV criteria [6] suggest that psychotic symptoms in BPD are transient, studies examining the duration of symptoms came to contradicting results. Miller *et al.* [24] performed a chart review of psychotic symptoms (delusions, auditory, and visual hallucinations) in 92 inpatients with BPD. Twenty-seven percent ($n = 25$) were found to have had psychotic episodes, which typically lasted for many weeks. Similar findings have been reported in several case-series [20,23,26]. In the study by Slotema *et al.* [5▪], BPD patients had experienced AVH for a mean duration of 18 years on a daily basis. When patients' level of distress was assessed (e.g. [5▪,12,23]), BPD patients with prolonged AVH perceived them as highly distressing.

ARE PSYCHOTIC SYMPTOMS RELATED TO COMORBID DISORDERS?

Patients with BPD frequently meet DSM-IV criteria for other mental disorders (e.g. [4]). It has therefore been suggested that comorbid psychotic symptoms could be related to psychiatric comorbidity rather than to BPD *per se*, but empirical evidence on this question is scarce. Two studies reported that longer-lasting psychotic episodes in patients with BPD were related to major depression or substance abuse [8,25]. In a study by Nishizono-Maher *et al.* [25] that compared patients with BPD, depression, or both disorders, psychotic symptoms seemed to be related to depression independently of BPD status. Findings of other studies did not support such a relationship (e.g. [24,34]). Benvenuti *et al.* [34] examined a sample of BPD patients with ($N = 39$) or without ($N = 21$) lifetime mood disorders using the Structured Clinical Interview for Psychotic Spectrum (SCI-PSY; [32]). In patients with comorbid mood disorders, manic features were correlated with different subdomains of the SCI-PSY, but only minor differences between the groups were observed.

Comorbid psychotic disorders could be an obvious explanation for longer-lasting psychotic episodes in patients with BPD. In the study by Kingdon *et al.* [12] 17% of 111 patients who had a diagnosis of BPD or schizophrenia received both diagnoses and bipolar spectrum diagnoses have been found in 6–15% of patients with BPD [35]. Conversely, in populations of patients with schizophrenia spectrum disorders, 5–18% have been shown to meet a diagnosis of BPD [36–38]. Most studies among clinical populations of patients with BPD, however, either explicitly excluded patients with psychotic disorders (e.g. [8,39,40]), or did not provide any information on this potential comorbidity, making inferences about potential relationships with psychotic symptoms difficult.

RELATIONSHIPS WITH CHILDHOOD TRAUMA

Research from populations other than BPD indicates that childhood trauma might play an important role in the later development of psychotic symptoms (for review see [41]). Using data from the National Comorbidity Survey Replication [42], Shevlin *et al.* [43] found that both rape and physical assault in childhood significantly predicted visual and auditory hallucinations later in life. Daalman *et al.* [18] reported that sexual and emotional abuse in childhood was significantly related to auditory hallucinations not only in patients with psychotic disorders but also in nonpsychotic individuals from the community. As for hallucinations, a number of

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well-designed studies robustly demonstrated associations between trauma exposure in childhood and delusional experiences in adulthood [41]. Childhood trauma is highly prevalent in patients with BPD, childhood sexual abuse alone being reported by 40–76% of patients (for review see [44]). Childhood emotional abuse, another type of trauma with a high risk of psychopathology later in life [45], is reported by up to 92% of patients with BPD [12,46,47]. Individuals with BPD experience more different types of childhood trauma, starting earlier in life, and continuing over longer periods of time than comparison groups [48,49]. Although it can be assumed that the same relationships between childhood trauma and psychotic symptoms exist in patients with BPD as in other groups, no studies on this question have been conducted so far.

In patients with BPD psychotic symptoms typically occur in reaction to stressful events (e.g. [20,23,50]). Their occurrence might therefore be moderated by further consequences of childhood trauma, namely high sensitivity to stress, and symptoms of PTSD. PTSD is present in 58–79% of patients with BPD [35,47], and the disorder can itself include psychotic symptoms [51,52], or could promote their appearance by enhancing the burden of stress in the individual concerned [53]. Glaser *et al.* [50] used a structured diary technique to compare relationships between daily-life stress and the occurrence of psychotic experiences in patients with BPD, cluster C personality disorder, psychotic disorders, and healthy controls. Although all patient groups experienced increases in psychotic experiences in relation to stress, patients with BPD displayed the strongest reactivity. Psychotic reactivity to stress was not limited to paranoia but involved a broader range of psychotic experiences, including also hallucinations.

CLINICAL MANAGEMENT OF PSYCHOTIC SYMPTOMS IN BORDERLINE PERSONALITY DISORDER

Clinical definitions of psychotic symptoms in patients with BPD suggest that they are 'transient' or 'pseudo-psychotic' [5▪,20]. Patients can be aware that clinicians have no common language for longer-lasting, more severe psychotic symptoms in BPD [20], and that these symptoms can be considered a diagnostic sign for schizophrenia or other psychotic disorders. In an attempt to avoid being considered 'crazy', patients may underreport psychotic symptoms [23]. Yet, as a prerequisite for adequate treatment planning, there is a need for systematic screening and assessment of psychotic symptoms in patients with BPD. Several instruments developed for psychotic populations have also been used in patients with BPD (e.g. [5▪,12,29,32]) and some have been reported to be reliable and valid also in this diagnostic group (e.g. [32]).

Several studies examined the use of antipsychotics, mainly olanzapine, in the treatment of patients with BPD (e.g. [54–58]). Most of these studies, however, focused on general symptoms of BPD as the main outcome and only a smaller number of trials also examined their efficacy on psychotic symptoms. In case-series and open studies, promising findings with regard to the reduction of psychotic symptoms were reported for clozapine [59–61], olanzapine [62,63], quetiapine [64,65], risperidone [66], palliperidone [67] and aripiprazole [68,69]. In a small controlled study [70] patients in the olanzapine group ($N = 16$) improved significantly more on the paranoia subscale and most other subscales of the SCL-90 as compared with patients receiving placebo ($N = 9$). Findings for the psychoticism subscale were not reported. In a larger study of the same group [71] psychotic symptoms were assessed more specifically using the Zanarini Rating Scale for BPD [72]. After 12 weeks of treatment, significantly greater reductions of the 'paranoid ideation and dissociation' scale compared with a placebo group ($N = 153$) were reported in patients receiving 5–10 mg olanzapine per day ($N = 148$, $M = 6.7$ mg), but not in patients receiving a fixed dose of 2.5 mg per day ($N = 150$). Another randomized controlled trial (RCT) [39] found no significant difference between patients treated for 12 weeks with 2.5–20 mg olanzapine per day ($N = 155$, $M = 7.1$ mg) and a control group ($N = 159$).

In a study by Nickel *et al.* [73] 52 patients with BPD were treated for 8 weeks with aripiprazole ($N = 26$, 15 mg per day) or placebo ($N = 26$). Patients receiving aripiprazole showed significantly greater reductions of almost all subscales of the brief symptom inventory (BSI) [74], including 'paranoid thinking' and 'psychoticism'. A follow-up 18 months later showed that the improvements in the intervention group had further increased over time [68]. In a 12-week placebo-controlled study, no significant effect on psychotic symptoms rated on the Brief Psychiatric Rating Scale (BPRS) [75] was found in 60 BPD patients treated with either 40–200 mg ziprasidone per day ($N = 30$; $M = 84.1$ mg) or placebo [76]. In all four RCTs, patients with psychotic disorders had been excluded. All of these trials, however, share a number of shortcomings. None of them reported the percentage of patients with psychotic symptoms and all used subscales of general instruments rather than assessing psychotic symptoms in more detail. Nevertheless, the existing findings lend some support to the use of atypical

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antipsychotics in BPD patients with psychotic symptoms.

Although pharmacotherapy can be considered a useful adjunct of psychotherapy in patients with BPD, clinicians [77,78] and professional guidelines [79] emphasize the symptomatic nature of relief with medication. Given that psychotic symptoms in patients with BPD are often related to stress and acute emotional crises [20,23,50], it has been suggested that psychotherapy interventions addressing these crises should play a central role in the treatment of psychotic symptoms in BPD. Laddis [78] followed the concept that acute crisis in BPD often results from current perception of dependency and entrapment in a mistrusted relationship. In a pilot study, this author used a short intervention tailored to this hypothesis to treat 32 patients with BPD after admission to a crisis intervention unit. After two days, significantly greater improvements on the BPRS were reported for this group as compared with 26 controls with BPD treated in similar crisis stabilization units.

Patients suffering from both BPD and psychotic disorders seem to be a particularly vulnerable group with complex pathways to care [80] and a worse outcome as compared with patients with psychotic disorders alone [36]. Consequently, efforts have been made to offer specialized integrated treatment services for this group of patients. Gleeson *et al.* [81] evaluated an integrated early intervention program for young patients with co-occurring first-episode psychosis and BPD. In a pilot study, the combination of a specialist first-episode program for psychotic disorders with an early intervention program for BPD in young people ('Helping Young People Early Programme'; [82]) was shown to be well tolerated, feasible and well accepted by patients. No comparable studies have been published for BPD patients with longer-lasting psychotic symptoms not suffering from a psychotic disorder, potentially representing the majority of BPD patients with psychotic symptoms. Given that AVH in this group are similar to those in patients with psychotic disorders in terms of phenomenology and cognitive responses to them [14,83▪], it might be fruitful to adapt cognitive-behavioural approaches for the treatment of persisting 'positive symptoms' in patients with schizophrenia and other psychotic disorders to the needs of patients with BPD [83▪].

CONCLUSION

Psychotic symptoms, especially hallucinations, are highly prevalent in patients with BPD. Recent studies suggest that hallucinations in BPD are similar to those in patients with psychotic disorders in terms of phenomenology, but their emotional impact seems to be even stronger in patients with BPD. Terms like 'pseudo-psychotic' or 'quasi-psychotic' symptoms are therefore misleading and should be avoided. Although symptoms could be called transient in the sense that they are not constantly present during the day, symptoms are present for long periods of time in a significant proportion of patients. Given the high prevalence of childhood trauma in patients with BPD and the relationships between childhood trauma and psychotic symptoms in other diagnostic groups, early life stress should receive more attention as a potential cause of psychotic symptoms in patients with BPD. More research is necessary on the role of psychiatric comorbidity, especially comorbid PTSD, as a cause of psychotic symptoms, or as a mediator between early life stress and psychotic symptoms in this diagnostic group. Atypical antipsychotics are beneficial in the treatment of psychotic symptoms in some patients, but more pharmacological studies focussing explicitly on psychosis in BPD are needed. Psychotic symptoms should be routinely assessed and it could be beneficial to adapt psychotherapy approaches with proven efficacy in other diagnostic groups for use in patients with BPD.

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Conflicts of interest

There are no conflicts of interest.

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Additional references related to this topic can also be found in the Current World Literature section in this issue (p. 132).

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Another recent study on the characteristics of psychotic symptoms in patients with schizophrenia compared with those in BPD patients, including also a group of patients with both diagnoses.

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