

The trauma of first episode psychosis: the role of cognitive mediation

Chris Jackson, Claire Knott, Amanda Skeate, Max Birchwood

Objective: First episode psychosis can be a distressing and traumatic event which has been linked to comorbid symptomatology, including anxiety, depression and PTSD symptoms (intrusions, avoidance, etc.).

However, the link between events surrounding a first episode psychosis (i.e. police involvement, admission, use of Mental Health Act, etc.) and PTSD symptoms remains unproven. In the PTSD literature, attention has now turned to the patient's appraisal of the traumatic event as a key mediator. In this study we aim to evaluate the diagnostic status of first episode psychosis as a PTSD-triggering event and to determine the extent to which cognitive factors such as appraisals and coping mechanisms can mediate the expression of PTSD (traumatic) symptomatology.

Method: Approximately 1.5 years after their first episode of psychosis, patients were assessed for traumatic symptoms, conformity to DSM-IV criteria for posttraumatic stress disorder (PTSD), and their appraisals of the traumatic events and coping strategies. Psychotic symptomatology was also measured.

Results: 31% of the sample of 35 patients who agreed to participate reported symptoms consistent with a diagnosis of PTSD. Although no relationship was found between PTSD (traumatic) symptoms and potentially traumatic aspects of the first episode (including place of treatment, detention under the MHA etc.), intrusions and avoidance were positively related to retrospective appraisals of stressfulness of the ward (i.e. the more stressful they rated it the greater the number of PTSD symptoms) and the patient's coping style (sealers were less likely to report intrusive re-experiencing but more likely to report avoidance).

Conclusions: The results call into question whether it is possible to make claims for a simple causal link between psychosis and PTSD. Instead patients' appraisals of potentially traumatic events and their coping styles may mediate the traumatic impact of a first episode of psychosis.

Key words: appraisals, first episode psychosis, PTSD, recovery style, trauma.

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Over the past few years a number of studies have suggested that the diagnosis and experience of psychosis can be a devastating and traumatic event; indeed it has

Chris Jackson, Senior Research Fellow and Consultant Clinical Psychologist (Correspondence); Claire Knott, Research Assistant; Amanda Skeate, Research Fellow and Clinical Psychologist; Max Birchwood, Service Director and Research Professor

University of Birmingham and Early Intervention Service, Harry Watton House, 97 Church Lane, Aston, Birmingham, B6 5UG, UK. Email: chris.jackson@bsmht.nhs.uk

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been argued that a significant number of patients fulfil the criteria for posttraumatic stress disorder (PTSD) [1–4]. These studies claim that between a third and a half of patients with psychosis can become so traumatized by the experience, that they meet DSM-IV or ICD-10 criteria for a diagnosis of PTSD. Only Meyer *et al.* [5] using a Finnish inpatient sample, found a significantly lower rate at 11%.

While both anecdotal [6] and empirical evidence [7] attest to the traumatic nature of psychosis, there is less support for its diagnostic status as a PTSD triggering

event [8]. In order to fulfil the DSM-IV criteria for a diagnosis of PTSD, an identifiable stressor which is potentially life-threatening needs to be defined and the content of the symptoms should refer to the stressor [9]. Posttraumatic stress disorder-type symptoms (intrusive re-experiencing, avoidance, hyper-arousal, etc.) on their own, without a connection to the stressor (Criterion A in DSM-IV) would not qualify for a PTSD diagnosis [10]. (They may, however, be indicative of other comorbid emotional disorders such as depression or anxiety which can overlap with PTSD [11].) According to DSM-IV [12], to qualify for a diagnosis of PTSD, the patient must have experienced an event defined by Criterion A:

The person has been exposed to a traumatic event in which both of the following are present: (1) the person experienced, witnessed, or was confronted with an event or events that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others; (2) the person's response involved intense fear, helplessness, or horror. (pp. 427–428)

Criterion A has recently been criticized for being too restrictive [13] and not acknowledging the psychological impact of events such as psychosis [1] and interpersonal trauma such as childhood abuse [14] which are not themselves life-threatening, but traumatic nonetheless. In Criterion A, the emphasis is clearly placed upon threats to physical and not psychological integrity. Given that the candidate traumas associated with psychosis are related either to the content of the psychotic symptoms [4], the pathways to care (e.g. police involvement, use of Mental Health Act, etc.; [2]), or experience of treatment, it is likely that the current operational definitions of PTSD will miss these potentially traumatic stressors entirely. It is still unknown at this stage whether, apart from the diagnosis itself, non-life-threatening, objective events such as police involvement, compulsory admission and so on are actually related to the PTSD (traumatic) symptoms often observed in psychotic populations.

There is some evidence that this link may be tenuous. Priebe *et al.* [3] found no relationship between PTSD symptoms in 105 community care patients suffering from multiple episode schizophrenia and a history of involuntary admissions; nor did Frame and Morrison [4]. This would be important to establish because as pointed out above, it is difficult to make a case even for meeting the current criteria for PTSD diagnosis if there is no link between the PTSD type symptoms and the 'objective' psychosis related events which are assumed to form part of the trauma.

Current models of PTSD place at their heart the role of psychological appraisals of traumatic events and coping

mechanisms [15,16] as there are often large individual differences in response to the same traumas. In relation to psychosis, we have little knowledge about the mediating effects on traumatic symptoms of the appraisal of psychosis and the objective events (e.g. the degree to which the patient appraised an admission to hospital as stressful and how she or he coped with it).

Finally, there has been some debate as to the most appropriate methods of sampling: Most studies, with the exception of McGorry *et al.* [2], have used multiple episode samples. This may be problematic because it confounds the impact of diagnosis and how it is appraised with the impact of multiple episodes of psychosis.

Mueser *et al.* [17], found high rates of PTSD (43%) in 275 patients with long psychiatric histories which were linked directly to multiple trauma events such as assault. This suggests that there may be a cumulative impact of psychosis-related 'traumatic' events. Furthermore, for some groups (i.e. dual diagnosis of psychosis and substance misuse), the experience of everyday trauma may be even higher [18]. In view of reports that non-psychosis-related trauma can be significantly lower in first admission samples than multiple episode samples [19], a first episode psychosis cohort was used in the present study to explore the impact of the diagnosis, the pathway to care and the experience of treatment. In the only prospective study to date, McGorry *et al.* [2] reported a PTSD rate of 35%, 11 months after the first episode.

The aims of the present study were therefore threefold: (i) to establish the incidence of traumatic symptoms (intrusions, avoidance etc.) in a sample of young people with a first episode of psychosis (FEP), receiving help from a community-based early intervention service which draws from a diverse multicultural, inner-city population base in the UK; (ii) to test the hypothesized link between objectively measurable and identifiable stressors such as police involvement, involuntary admission and so on and the presence of PTSD symptoms; (iii) to determine whether traumatic symptoms which may follow an FEP are mediated by coping style (e.g. sealing over versus integration) and patients' appraisals of the potency of their trauma.

Method

Participants

Patients with a first episode of nonaffective psychosis conforming to broad ICD-10 criteria (F20, F22, F23, F25) were approached to take part in the study. These were incident cases from the inner city of Birmingham, UK, managed by protocol in a community-based early psychosis assertive outreach service. There were no exclusion criteria. All patients were assessed at intake using the PANSS [20] and were interviewed for the study on average 18 months after their first episode.

Instruments

Diagnosing PTSD

Patients were interviewed using a modified version of the PTSD scale [21] as used by McGorry *et al.* [2]. This is a 15 item measure with questions linked directly to DSM-IV criteria for PTSD but excluding the need for fulfilment of Criteria A. (i.e. exposure to an event or events that involved actual or threatened death or serious injury or the threat to the physical integrity of self or others). It has demonstrated reliability and validity and can be used to establish 'caseness' by comparing symptoms with the relevant DSM-IV criteria (i.e. B, C and D). Post-traumatic stress disorder symptoms were assessed with respect to the overall experience of the first episode of psychosis and its treatment. This was to allow the client's subjective experiences of the onset of psychosis to be taken into account.

PTSD and related symptoms

Impact of Events Scale (IES) [22] can be tailored to any specific life event and seeks to measure posttraumatic phenomena on two dimensions: (i) intrusive re-experiencing of the event, ideas, images, feelings and dreams; and (ii) avoidance of situations, thoughts and feelings that remind the person of the event. In this instance, the event in question (i.e. a first episode of psychosis) was cued in memory by asking patients to think back to their 'breakdown', 'illness' or psychotic symptoms (depending on their own frame of reference) and providing them with an approximate date. As for the PTSD diagnosis discussed above, intrusions and avoidance on the IES were assessed for the overall experience of the first episode of psychosis and its management to allow for subjective appraisals of the traumatic determinants (i.e. symptoms, treatment etc.). This 15 item scale is scored from 0 to 5 indicating the extent to which each item was experienced in the preceding 7 days. The IES has been shown to have good test-retest reliability and construct validity [22] and is widely used in research in PTSD.

The Hospital Anxiety and Depression Scale (HADS) [23] is a 14 item self-report scale, originally developed for use in populations with physical health problems. It has also been used with patients with schizophrenia [24] and gives a score for both depression and anxiety (i.e. range 0–21 for each subscale).

Symptoms, trauma and coping with psychosis

The Hospital Experiences Questionnaire [2] is a semistructured interview adapted for use in the present study. It includes open and closed questions about admission to a hospital ward and/or home treatment, compulsory detention, police involvement and stressfulness of the experience. In addition to an open question about the circumstances of their 'breakdown or illness', patients are asked to respond to a number of closed questions by: indicating either 'yes' or 'no' ('Did you spend time on a secure ward?'); choosing from a number of options ('Which services were involved in your care?: [a] home treatment, [b] admitted to a psychiatric hospital, [c] both, [d] none'); or by rating on a four point Likert scale ('How stressful was your time spent on the ward? [a] not at all, [b] a little, [c] fairly or [d] extremely').

Recovery Style Questionnaire (RSQ) [25] is a 39 item self-report measure of McGlashan's [26] 'integration' versus 'sealing over' styles

of adaptation to psychotic illness. According to McGlashan *et al.* [27] people who adopt a 'sealing over' recovery style tend to isolate their psychotic experiences; they view them as alienating and incompatible with their life goals and consequently seek to encapsulate them. The individual is disinclined to any investigation of his symptoms. Once free from psychosis, he maintains an awareness of its negative aspects and fails to become emotionally invested with others in an exploration of their experiences. 'Integrators' on the other hand, are characterized by an awareness of the continuity of their mental activity and personality before, during and after the psychotic experience. During 'integration' the psychotic experience is used as a source of information.

The questionnaire can be scored in order to classify which of the two recovery styles the patient is predominantly adopting. Higher scores represent 'sealing over'. Its excellent psychometric properties have now been consistently demonstrated in a number of studies [25,28].

The Psychiatric Assessment Scale (KGV) [29] is a brief rating scale consisting of eight symptom categories: depression, anxiety, hallucinations, delusions, flattened incongruous affect, psychomotor retardation, incoherence and irrelevance of speech and poverty of speech. Patients are assigned a score ranging from 0 (absent) to 4 (severe). It has been widely used in research in psychosis [30,31] and has high retest reliability.

Analysis

Nonparametric Mann–Whitney and χ^2 statistics were used to analyze the relationship between traumatic symptoms, PTSD caseness, and specific event aspects of the first episode. For the purposes of statistical analysis, 'high' or 'low' intrusion and avoidance groups were calculated for the IES by splitting about the medians (intrusion = 12; avoidance = 13) and for the HADS depression and anxiety scales, the 'caseness' scores of = 8 were used to define two groups (depressed versus not depressed; anxious versus not anxious [32]).

Results

Sample

Fifty individuals satisfying inclusion criteria were asked to take part in the study; of these 35 agreed to participate. The mean age of the sample was 25.8 (SD = 5.09, range 18–35) and included 26 men (74%) and nine women (26%). Duration of untreated psychosis (DUP) was calculated using multiple sources according to the protocol of Beiser *et al.* [33] (i.e. from the onset of psychotic symptoms to the start of adequate treatment with neuroleptic medication). The mean DUP was 37.1 weeks (SD = 43.9; median 15 weeks). There were no significant differences ($p > 0.05$) with regard to sex, age and DUP between those participating in the study and those refusing.

Caseness and severity of traumatic symptoms

Using DSM-IV operational criteria, excluding the need to fulfil Criteria A, 31% of the sample were assigned a diagnosis of PTSD approximately 18 months after their first episode of psychosis. Scores on the Impact of Events Scale (IES) revealed a high level of both intrusions (12.7, SD = 8.8) and avoidance (15.0, SD = 9.9) for the entire sample; these means significantly increased for those 31% fulfilling the

above criteria for a PTSD diagnosis (mean intrusions = 21.4, SD = 3.5, mean avoidance = 19.5; SD = 8.8). HADS anxiety, but not depression ratings (Table 1), were significantly higher in the PTSD group ($p < 0.05$). According to a ‘caseness’ cut-off of 8 or above on HADS-anxiety [32], seven (64%) of the PTSD sample could be considered ‘clinically anxious’ (versus 25% for the non-PTSD group), while 45% of both PTSD and non-PTSD diagnosed groups were ‘clinically depressed’.

Note was made of what clients were recalling when they were referring to their intrusive memories and avoidance of those memories on the IES: 46% of the total sample reported that they were thinking back to the time of their ‘breakdown’, 11% to their ‘psychotic’ episode, 17% to ‘the time when they were ill’, 9% to ‘their schizophrenia’ and 17% to a variety of descriptions such as ‘when things got on top of me’.

Candidate traumas and ‘PTSD’ diagnosis

Twenty-two people (63%) reported that the police had been involved in their pathway to care. Five (14%) had been treated solely by a home treatment team, while 22 (63%) had been admitted to the ward of a psychiatric hospital; 13 (37%) had experienced both and seven (20%) had experienced neither. Ten (29%) had been sectioned under the UK Mental Health Act and 14 (40%) had spent time on a secure ward during their first episode. Of those who spent time on a locked secure ward, the average length of stay was 32 days. Of the 22 people who were admitted to a psychiatric ward, 18 (82%) described this time as either ‘fairly’ or ‘extremely stressful’. Overall, in response to a question on the Hospital Experiences Questionnaire [2], 77% of the total sample described their first episode as ‘extremely stressful’.

Traumatic symptomatology (as measured by the IES) was not related to DUP, place of first treatment (home versus ward), police involvement, use of MHA, or admission to a secure ward.

However, participants’ perception of the stressfulness of the admission ward was higher in those with a diagnosis of PTSD ($p < 0.05$) and those re-experiencing a ‘high’ level of intrusions ($p < 0.01$) following their first episode of psychosis. Perceived stressfulness of the ward correlated with IES intrusions ($r = 0.61$, $p = 0.002$) and with IES avoidance ($r = 0.48$, $p = 0.03$).

Trauma symptoms (as measured by the PTSD scale and IES) were not correlated with residual psychotic symptoms rated on the KGV. While psychotic symptoms were in remission for the majority of the sample, there was no correlation between hallucinations and delusions and IES scores for intrusions (hallucinations $r = 0.23$; $p = 0.18$; delusions $r = 0.20$; $p = 0.25$) or avoidance (hallucinations $r = 0.19$; $p = 0.27$; delusions $r = 0.09$; $p = 0.59$).

PTSD, traumatic symptoms and coping style

According to the scoring criteria of Drayton *et al.* [25] and Tait *et al.* [28], nine (26%) of the sample were considered to have a ‘sealing over’ recovery style. The remaining 26 (74%) were classified as ‘integrators’.

Inspection of the means (Table 2) indicates that while ‘sealers’ had less frequent intrusions about their first episode of psychosis than ‘integrators’ on the IES, although this did not quite reach significance at the 5% level ($p = 0.09$), it was found that ‘sealers’, were significantly more likely to adopt cognitive strategies to avoid these intrusions ($t = 2.08$; $p = 0.04$). There were no differences between the two recovery styles with regard to PTSD diagnosis, anxiety or depression.

Table 1. Impact of Events Scale (IES) and Hospital Anxiety and Depression Scale (HADS) for PTSD groups

	Scale range	PTSD (n = 11) Mean (SD)	Non-PTSD (n = 24) Mean (SD)	p
IES				
Intrusion	0–35	21.4 (3.5)	8.7 (7.5)	< 0.001
Avoidance	0–40	19.5 (8.8)	12.9 (9.9)	0.06
Total	0–75	40.9 (9.2)	21.6 (13.2)	< 0.001
HADS				
Depression	0–21	7.4 (4.7)	6.8 (4.4)	NS
Anxiety	0–21	9.5 (5.4)	6.1 (3.4)	< 0.05

Table 2. Trauma and recovery style

	Sealing over n = 9 (26%)	Integrating n = 26 (74%)	t or χ^2	p
PTSD diagnosis	22%	35%	$\chi^2 = 0.48^*$	0.69
Total (IES)	29.0 (16.3)	27.2 (14.9)	t = 0.31	0.76
Intrusion (IES)	9.3 (8.3)	14.2 (8.6)	t = -1.76	0.09
Avoidance (IES)	20.7 (10.2)	13.1 (9.2)	t = 2.08	0.04
Anxiety (HADS)	6.2 (4)	7.5 (4.5)	t = -0.73	0.47
Depression (HADS)	6.7 (5)	7.1 (4.3)	t = -0.26	0.80

Discussion

The study has shown that approximately one-third of patients with a first episode of psychosis fulfil DSM-IV criteria for a diagnosis of PTSD where that diagnosis is made on the basis of DSM-IV Criteria B, C, and D (intrusive re-experiencing, avoidance and increased arousal) but in the absence of Criterion A (life-threatening trauma). This is consistent with the only other study of PTSD in first episode psychosis [2] and indicates that for a significant minority of young patients, a first episode may give rise to traumatic symptoms of considerable severity.

The present study did not indicate, however, that these traumatic symptoms are linked to the presence of any pathway or treatment event, including police involvement, involuntary detention and presence on a secure ward. Nevertheless, it was clear that a first episode of psychosis is distressing and traumatic as, in our sample, the level of distress and perceived stressfulness of the diagnosis and its treatment was high. The levels of intrusive re-experiencing and avoidance in the present study were comparable with non-psychotic traumatized clinical samples at a similar time point. For instance, Joseph *et al.* [34] found intrusion and avoidance scores of 11.2 and 11.8, respectively, for traumatized survivors of the Jupiter Shipping Disaster, 19 months after the event (12.7 and 15.0, respectively, in the present sample). The degree of clinically significant anxiety (64%) and depression (45%) in the PTSD group also confirms the extent of comorbid symptomatology often found in PTSD and first episode samples [11,35,36].

The finding that there is no direct relationship between traumatic symptoms and candidate traumas is consistent with some other studies [2,3]. Frame and Morrison [4] in their letter recently reported that 'experience in hospital' explained only 6% of the variance in PTSD scores in their multiple episode sample.

However, these findings point to the role of psychological mediating factors as described by Ehlers and Clark's [16] model of PTSD. Those who were admitted to hospital and retrospectively perceived their admission as particularly 'stressful', were significantly more likely to meet a diagnosis of PTSD (without Criterion A) and to report higher levels of intrusions. This is consistent with the idea that individual appraisals may be more important than more objective events. Perceived stressfulness of patients' time on the ward correlated specifically with intrusive memories about the first episode of psychosis ($r = 0.61$; $p = 0.002$) and although this finding should be treated with caution in view of the fact that appraisals were made approximately 18 months after the first psychotic episode, this correlation remained

significant even after controlling for time elapsed since first episode ($r = 0.64$; $p = 0.001$). This points to the need for further research into the subjective factors that personalize trauma during a first episode of psychosis. Future research, however, should ideally look into the possibility of assessing appraisals during or just after the first episode (i.e. peri-traumatically) and use a prospective design to test the relationship between appraisals and subsequent PTSD symptomatology over time.

The importance of psychological processes is further highlighted by the link identified between recovery style and severity of traumatic symptoms. The most marked difference between these two recovery styles was the avoidance of intrusions in 'sealers'. Sealers, by definition, avoid thinking about their first episode more than integrators and appear therefore to use sealing strategies to 'ward off' painful memories and thoughts from that time. This supports McGlashan's original hypothesis that 'sealers' are often unable to access memories of their psychotic episode [26]. These findings are consistent with models of assimilation and trauma [37–39] which advocate that some people ward-off unwanted thoughts and images because they anticipate the catastrophic consequences of recollection. Under some circumstances experiences may even become inaccessible to memory retrieval altogether [40].

The present study does not elucidate what factors motivate the warding-off and inhibition of unwanted thoughts in the 'sealing over' group. We have argued elsewhere that sealers are a particularly vulnerable group psychologically [25] and that the onset of psychosis and its implications for future aspirations and identity [36], renders patients unable to deal with the diagnosis. In a recent study [28] we found that 'sealers' have a low level of engagement with services, suggesting perhaps that they may wish to avoid further trauma.

The initial process of 'sealing over' may be adaptive in the short term, acting like an 'emotional brake' during the recovery period following the first episode [8,41] and subsequent psychotic episodes [28]. It may psychologically protect the patient from the perceived negative 'realities' of psychosis and its implications for the self [8,42]. This is consistent with data from our recent study [28] which assessed the recovery style of a cohort of young people with psychosis at three time-points following an acute episode: baseline, 1 month and 6 months. Here it was demonstrated that while the majority of patients could be initially classified as integrators at baseline, as they gained insight and started to emotionally process what had happened to them, the predominant recovery style changed toward sealing within 6 months.

Taking recovery style into account would be important clinically because, while the long-term integration and emotional processing of aspects of the first episode of psychosis should remain a therapeutic goal, results from the present study and the Tait *et al.* [28] study suggest that where 'sealing over' predominates, the patient should not be forced to adopt an 'integrating' coping style if it runs the risk of further traumatizing the individual (see [8] for further discussion).

The sample size in this study was modest and our findings must remain preliminary. It is possible that some non-participants refused to take part because they were reluctant to discuss their psychosis and therefore were adopting an avoidant, sealing style (the numbers of sealers was low). This problem bedevils all research into PTSD and trauma which tends to exclude those cases demonstrating the most extreme avoidant symptoms [43].

Overall, the present study adds weight to the argument that a first episode of psychosis can for some be a distressing and traumatic life event. It does not support the contention, however, that a 'phenomenologically pure' PTSD syndrome is evident in large numbers in such samples. Instead it suggests that there is likely to be an overlap with other comorbid symptoms and symptom groupings [3,8] and that traumatic symptoms are likely to be mediated by psychological factors, particularly coping style and appraisals, along a continuum.

Conclusion

In spite of the high rate of distressing intrusions and other traumatic symptoms observed in the present study, we failed to find any linkage between objectively defined traumatic events surrounding this first episode and PTSD (traumatic) symptoms. This calls into question whether the current operational definition of PTSD in DSM-IV and ICD-10 can be meaningfully applied to the experience of psychosis. The mediating role of patients' appraisals of psychosis, particularly of the events surrounding admission and treatment, and their styles of coping are in line with the cognitive framework put forward by Ehlers and Clark [16]. By adhering to the rigid framework of DSM-IV and ICD-10, we risk overlooking genuine traumatic symptoms and inhibiting theoretical development. In line with Ehlers and Clark [16] we believe that patients may appraise these key experiences as stressful and even life-threatening (e.g. believing that one is at risk of death by a persecutor) and that research in PTSD in psychosis must move away from over-simplified models of 'traumatic event causes PTSD' to consider the role of cognitive mediation.

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