

Short report

Impact of childhood trauma on risk of relapse requiring psychiatric hospital admission for psychosis

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Summary

Relapse in psychosis typically necessitates admission to hospital placing a significant financial burden on the health service. Exposure to childhood trauma is associated with an increased risk of psychosis, however, the extent to which this influences relapse is unclear. This report summarises current research investigating the influence of childhood trauma on relapse requiring psychiatric hospital admission for psychosis. Seven studies were included; two revealed a positive association between childhood trauma and relapse

admission, two studies found a negative relationship and three found no significant difference. Inconsistent current evidence suggests a need for further research in this area.

Declaration of interest

None.

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Rate of relapse among individuals with psychosis is high¹ and typically necessitates admission to hospital or intensive intervention from a community crisis team. Service cost for individuals who relapse is four times greater than for those who do not.² Hence, preventing relapse of psychosis is an urgent challenge for any health service. Severe and victimising childhood trauma may lead to worse long-term outcome of psychotic illness³ and, thus, more frequent relapses, although the evidence is equivocal.⁴ This report summarises available research investigating the influence of childhood trauma on relapse requiring admission to a psychiatric hospital in patients with psychosis. Childhood trauma is defined as including physical, sexual or emotional abuse, or physical or emotional neglect. Relapse has ordinarily been identified as a change in symptom severity or functioning and has been indexed using clinical rating instruments. For the purpose of this report, we have defined relapse as indicating hospital admission only and not changes in symptom severity or functioning. As an outcome measure, hospital admission is a clear, objective and reliable measure that has high face validity, is less vulnerable to bias and comparable across studies, and has implications for utilisation of healthcare resources.

Method

A more detailed description of the methods can be found in online supplement DS1. Relevant studies were identified by searching four electronic databases in February 2015 using search terms derived from those used in previous literature.⁵ Three researchers (N.P., E.F., E.K.) followed a four-phase protocol to identify relevant studies (see online Fig. DS1 and online supplement DS2). Studies were included if they examined outcome as relapse/episode of illness resulting in psychiatric hospital admission and included adults diagnosed with affective or non-affective psychosis, who had experienced childhood trauma. Quality and methodological robustness (see online Table DS1), were examined using an amended quality assessment tool.⁶

Results

A final set of seven studies published between 2005 and 2013 matched the inclusion and exclusion criteria.^{7–13} They reported on a total sample of 946 participants, mostly diagnosed with an affective psychotic disorder with almost half reporting having

experienced childhood trauma. Largely, relapse requiring psychiatric hospital admission for psychosis data were gathered by screening clinical records, and childhood trauma data were collected retrospectively using standardised self-report measures (see online Table DS3). Two studies^{9,13} used observer-rated interviews, which extract fine-grained information on childhood trauma (such as timing/severity) and can therefore offer a more precise measurement of the bearing of stressful life experiences on an individual than self-report measures. The average quality score among the seven included studies was 8.7 out of a possible 16 (median 9; range 4–11). Only one study⁸ scored above the threshold suggested for methodological robustness ($\geq 70\%$ of total quality score). Studies were limited by modest sample size, lack of valid data collection methods and lack of adjustment for confounders. Additional material relating to the results is available in online supplement DS3.

No consistent pattern demonstrating the influence of childhood trauma on relapse requiring psychiatric hospital admission for psychosis emerged (Table DS3). Two studies^{7,9} reported a significant difference in relapse requiring psychiatric hospital admission in psychosis between patients with a pre-existing disorder with or without a history of childhood trauma, with the former having more admissions to hospital. Both studies included individuals who had been unwell for at least 15 years on average. However, Alvarez *et al*⁷ reported this effect as significant only in patients with bipolar affective disorder, not in those with schizophrenia and schizoaffective disorder, despite the latter constituting the major proportion (61%) of participants included in the study.

Two studies^{8,11} reported a negative relationship between childhood trauma and relapse requiring psychiatric hospital admission for psychosis. However, Conus *et al* noted that individuals with a history of childhood sexual or physical abuse were more likely to disengage from treatment ($P=0.017$).¹¹ Interestingly, this group were the only sample with early psychosis included in this report. Larsson *et al* also reported a significant non-linear association between total childhood trauma (d.f. = 8.73, $P=0.038$) and sexual abuse (d.f. = 2.8, $P=0.009$) and psychotic episodes. However, whether the psychotic episodes described resulted in psychiatric hospital admission was not specified.

Three studies^{10,12,13} did not find a significant difference in relapse requiring psychiatric hospital admission between individuals with a history of childhood trauma and those without. Garno and colleagues did note increased past-year rapid cycling in individuals with a history of childhood emotional abuse, physical abuse and emotional neglect in patients with bipolar disorder, but

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did not specify whether rapid cycling resulted in hospital admission.¹⁰ Brown *et al* found that individuals with a history of any type of childhood abuse were more likely to be admitted to psychiatric hospital involuntarily at index episode (i.e. time of recruitment into the study) compared with those with no abuse ($P = 0.029$, $OR = 2.37$, $95\% CI 1.10-5.14$).¹³ However, a significant difference in the number of admissions to hospital or number of days spent in hospital in the past 5 years was not revealed between those with a history of childhood abuse and those without. The sample included in Brown *et al* overlapped with another study¹⁴ identified through reference screening, however the latter included a smaller sample size and thus was excluded from this report.

Discussion

These results suggest that evidence of the effect of childhood trauma on risk of relapse of psychotic illness is limited, thus supporting a recent review and meta-analysis investigating the effects of trauma on the persistence of psychotic symptoms.¹⁵ Overall, the evidence does not support a consistent pattern of effect of childhood trauma on risk of admission to hospital, most likely related to heterogeneity in methodology and outcomes of interest in the studies included. Studies that demonstrated a significant association between childhood trauma and relapse requiring psychiatric hospital admission for psychosis included chronic samples, suggesting that stage of illness may have an impact on outcome. Length of follow-up period, for the two studies^{11,13} that reported a follow-up period, did not appear to have an effect on the findings (see Table DS3).

All of the studies included in the report scored poorly when assessed for methodological quality. Overall, the main limitations (see also online supplement DS4) of the reviewed studies include: (a) small and heterogeneous samples, which limit the exploration of dose-response relationships, prevent comparisons and the ability to control for potential confounding effects; (b) diverse methodologies, making it difficult to compare and draw conclusions; (c) use of retrospective methods to collect childhood trauma data, which are particularly challenging in patients with psychosis because of the risk of poor event-recall; and (d) lack of adequate consideration of potential confounders, particularly those relevant to relapse, such as cannabis use. Heterogeneity among the studies included in this report precluded any quantitative synthesis and estimation of a pooled effect size of the association between childhood trauma and relapse requiring psychiatric hospital admission.

It is important to note that this report is limited by the restrictive criteria for the outcome of interest, that is, relapse defined as psychiatric hospital admission, as opposed to symptom severity and/or functional decline. Hospital admission figures, which may be influenced by factors other than relapse, may not be representative of the actual number of individuals with psychosis who experience relapse. However, measurement of hospital admissions is perhaps more reliable, objective and comparable across studies in comparison with measurements based upon the recording of change in symptom severity. Exclusion of additional types of childhood trauma (such as bullying/parental loss) may also limit the generalisability of these findings. Despite these weaknesses, the current report suggests that there is little evidence available to suggest a discernible effect of childhood trauma on relapse requiring psychiatric hospital admission for psychosis and highlights the need for more research. This may imply that for some individuals, social or environmental factors have less bearing on the natural path of their illness or may merely reflect that childhood trauma history is not routinely recorded in clinical practice,¹⁶ particularly to the extent that other risk factors for poor outcome are.¹⁷

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References

- Robinson D, Woerner M, Alvir J, Bilder R, Goldman R, Geisler S, et al. Predictors of relapse following response from a first episode of schizophrenia or schizoaffective disorder. *Arch Gen Psychiatry* 1999; **56**: 241-7.
- Almond S, Knapp M, Francois C, Toumi M, Brugha T. Relapse in schizophrenia: costs, clinical outcomes and quality of life. *Br J Psychiatry* 2004; **184**: 346-51.
- Neria Y, Bromet EJ, Carlson GA, Naz B. Assaultive trauma and illness course in psychotic bipolar disorder: findings from the Suffolk county mental health project. *Acta Psychiatr Scand* 2005; **111**: 380-3.
- Greenfield SF, Strakowski SM, Tohen M, Batson SC, Kolbrener ML. Childhood abuse in first-episode psychosis. *Br J Psychiatry* 1994; **164**: 831-4.
- Varese F, Smeets F, Drukker M, Lievever R, Lataster T, Viechtbauer W, et al. Childhood adversities increase the risk of psychosis: a meta-analysis of patient-control, prospective and cross-sectional cohort studies. *Schizophr Bull* 2012; **38**: 661-71.
- Beards S, Gayer-Anderson C, Borges S, Dewey ME, Fisher HL, Morgan C. Life events and psychosis: a review and meta-analysis. *Schizophr Bull* 2013; **39**: 740-7.
- Alvarez MJ, Roura P, Oses A, Foguet Q, Sola J, Arrufat FX. Prevalence and clinical impact of childhood trauma in patients with severe mental disorders. *J Nerv Ment Dis* 2011; **199**: 156-61.
- Larsson S, Aas M, Klungsoyr O, Agartz I, Mork E, Steen NE, et al. Patterns of childhood adverse events are associated with clinical characteristics of bipolar disorder. *BMC Psychiatry* 2013; **13**: 97.
- Schenkel LS, Spaulding WD, DiLillo D, Silverstein SM. Histories of childhood maltreatment in schizophrenia: relationships with premorbid functioning, symptomatology, and cognitive deficits. *Schizophr Res* 2005; **76**: 273-86.
- Garno JL, Goldberg JF, Ramirez PM, Ritzler BA. Impact of childhood abuse on the clinical course of bipolar disorder. *Br J Psychiatry* 2005; **186**: 121-5.
- Conus P, Cotton S, Schimmelmann BG, Berk M, Daglas R, McGorry PD, et al. Pretreatment and outcome correlates of past sexual and physical trauma in 118 bipolar I disorder patients with a first episode of psychotic mania. *Bipolar Disord* 2010; **12**: 244-52.
- Cutajar MC, Mullen PE, Oglhoff JR, Thomas SD, Wells DL, Spataro J. Schizophrenia and other psychotic disorders in a cohort of sexually abused children. *Arch Gen Psychiatry* 2010; **67**: 1114-9.
- Brown GR, McBride L, Bauer MS, Williford WO. Impact of childhood abuse on the course of bipolar disorder: a replication study in U.S. veterans. *J Affect Disord* 2005; **89**: 57-67.
- Bauer MS, Shea N, McBride L, Gavin C. Predictors of service utilization in veterans with bipolar disorder: a prospective study. *J Affect Disord*. 1997; **44**: 159-68.
- Trotta A, Murray RM, Fisher HL. The impact of childhood adversity on the persistence of psychotic symptoms: a systematic review and meta-analysis. *Psychol Med* 2015; **45**: 2481-98.
- Read J, Hammersley P, Rudegeair T. Why, when and how to ask about childhood abuse. *Adv Psychiatr Treat* 2007; **13**: 101-10.
- Schoeler T, Monk A, Sami MB, Klamerus E, Foglia E, Brown R, et al. Continued versus discontinued cannabis in patients with psychosis: a systematic review and meta-analysis. *Lancet Psychiatry* 2016; **3**: 215-25.

