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Short report

Long-term outcomes of trauma-focused treatment in psychosis

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Summary

We present 12-month follow-up results for a randomised controlled trial of prolonged exposure and eye movement desensitisation and reprocessing (EMDR) therapy in 85 (78.8%) participants with psychotic disorder and comorbid post-traumatic stress disorder (PTSD). Positive effects on clinician-rated PTSD, self-rated PTSD, depression, paranoid-referential thinking and remission from schizophrenia were maintained up to 12-month follow-up. Negative post-traumatic cognitions declined in prolonged exposure and were stable in EMDR. A significant decline in social functioning was found, whereas reductions in interference of PTSD symptoms with social functioning were maintained. These results support that current PTSD guidelines apply to individuals with psychosis.

Declaration of interest

M.v.d.G. and D.v.d.B. receive income for published books on psychotic disorders and for the training of postdoctoral professionals in the treatment of psychotic disorders. A.d.J. receives income for published books on EMDR therapy and for the training of postdoctoral professionals in this method. A.v.M. receives income for published book chapters on PTSD and for the training of postdoctoral professionals in prolonged exposure. C.d.R. receives income for the training of postdoctoral professionals in EMDR therapy.

The importance of both trauma and post-traumatic stress disorder (PTSD) in psychosis are increasingly acknowledged. The available data suggest that trauma-focused treatments (TFTs) with direct trauma memory processing are particularly effective in reducing PTSD symptoms in patients with psychosis.[1–3] A large randomised controlled trial (RCT) found TFT to be effective and safe in patients with both psychosis and PTSD.[4,5] Furthermore, TFT had neutral to positive effects on symptoms of psychosis, depression and social functioning.[6] In this RCT, two different TFTs, prolonged exposure therapy and eye movement desensitisation and reprocessing therapy (EMDR), were compared with waiting list for TFT at baseline, post-treatment, and at 6-month follow-up. Compared with the waiting list for TFT, both prolonged exposure and EMDR significantly decreased clinician-rated PTSD symptoms, self-rated PTSD symptoms, negative post-traumatic cognitions and paranoid-referential thinking. In both TFT conditions, significantly more participants achieved remission from schizophrenia. Only prolonged exposure was found to significantly reduce the severity of depression symptoms. In comparison to the waiting list for TFT, there were no significant effects for prolonged exposure and EMDR on social functioning and voice hearing. Effects observed at post-treatment were generally maintained until 6-month follow-up. In this short report, we present the 12-month follow-up outcomes for prolonged exposure and EMDR on PTSD, depression, social functioning and psychosis.

Method

In this single-blind RCT with three arms, participants ($n = 155$) that met both criteria for a lifetime psychotic disorder (61.3% schizophrenia and 29.0% schizoaffective disorder) and full criteria for PTSD received eight sessions of TFT (i.e. prolonged exposure or EMDR), or remained on the waiting list for TFT. All participants received treatment-as-usual for psychosis. Participants in the waiting list condition received their TFT of choice after the 6-month follow-up assessment, since we considered it unethical to withhold treatment for longer than 6 months. The prolonged exposure and EMDR groups were also assessed at 12-month follow-up. This trial was set up in accordance with the Consolidated Standards of Reporting Trials guidelines and received ethical approval from the medical ethics committee of the VU University Medical Center in Amsterdam and was registered at isrctn.com (ISRCTN79584912). See van den Berg *et al*[4] and de Bont *et al*[7] for full details of the trial. At 12-month follow-up, 43 (81.1%) participants in the prolonged exposure condition and 42 (76.4%) participants in the EMDR condition completed all assessments and were included in the analyses.

For this report, we compared the 12-month follow-up outcomes for prolonged exposure and EMDR with 6-month outcomes to test whether the effects endured in the long term. We also tested whether there were significant differences between prolonged exposure and EMDR at 12-month follow-up. Continuous outcomes (severity of clinician-rated PTSD,[8] self-rated PTSD,[9] negative post-traumatic cognitions,[10] depression,[11] social functioning[12] and paranoid thinking[13]) were analysed with paired sample *t*-tests (changes between the 6-month and 12-month follow-up) and independent sample *t*-tests (differences between prolonged exposure and EMDR at 12-month follow-up). Total scores for voice hearing (Auditory Hallucinations Rating Scale) and delusions (Delusions Rating Scale; DRS) on the Psychotic Symptom Rating Scales (PSYRATS)[14] were not normally distributed because of an excess of zero scores (i.e. participants without active voices or delusions at a certain time point) and were analysed with the Wilcoxon signed-rank test and the Mann-Whitney *U*-test. Remission from schizophrenia status (dichotomous) on the Structured Clinical Interview for Symptoms of Remission,[15] was analysed with McNemar's test and χ^2 test for independence. All analyses were repeated with last-observation-carried-forward (LOCF) as sensitivity analysis. Scientists have to balance the decision of whether to adjust for multiple testing (to reduce the chance of type 1 errors, but at the expense of increasing the chance of type 2 errors) on the specific context and research question (e.g. see work by Rothmann[16]). In this study, we primarily wanted to test whether treatment effects endured in the long term, an effect that is generally observed in RCTs testing prolonged exposure or EMDR. In this context, we believe type 2 errors are more undesirable than type 1 errors, and therefore did not adjust for multiple testing.

Results

Supplementary Fig. 1 (available at https://doi.org/10.1192/bjp.2017.30) presents the mean observed scores. There were no significant changes in severity of clinician-rated PTSD symptoms in prolonged exposure ($t[42] = 0.59$, $P = 0.559$) or EMDR ($t[38] = 0.38$, $P = 0.707$) between the 6-month and 12-month follow-up, or in self-rated PTSD symptoms (prolonged exposure: $t[43] = -0.66$, $P = 0.514$; EMDR: $t[38] = -0.15$, $P = 0.879$). There were significant further reductions in severity of post-traumatic cognitions in prolonged exposure between the 6-month and 12-month follow-up ($t[41] =$

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2.14, $P = 0.038$), but not in EMDR ($t[38] = 0.36$, $P = 0.722$). No changes in depression symptoms were observed in prolonged exposure ($t[41] = 0.40$, $P = 0.689$) or EMDR ($t[38] = 1.26$, $P = 0.217$). There was a significant decrease in level of social functioning in both PE ($t[41] = 4.31$, $p < 0.001$) and EMDR ($t[38] = 2.08$, $P = 0.044$) between the 6-month and 12-month follow-up. There were no significant changes in severity of paranoid thinking in prolonged exposure ($t[41] = -1.22$, $P = 0.231$) or EMDR ($t[38] = 1.35$, $P = 0.184$). For all participants, there were no changes in the Auditory Hallucinations Rating Scale total score in prolonged exposure ($z = -1.81$, $P = 0.071$) or EMDR ($z = -0.54$, $P = 0.586$), or in delusions on the DRS between the 6-month and 12-month follow-up (prolonged exposure: $z = -1.06$, $P = 0.287$; EMDR: $z = -0.26$, $P = 0.794$). Also, no changes were found in the number of participants in remission from schizophrenia in prolonged exposure ($P = 0.388$) or EMDR ($P = 0.999$).

Analyses for differences between prolonged exposure and EMDR at 12-month follow-up yielded no significant results for any of the outcome variables. The outcomes of the LOCF sensitivity analyses were similar to the original results; the only difference was that, in the LOCF analyses, there was a significant decrease in the DRS total score in both prolonged exposure ($z = -3.36$, $P = 0.001$) and EMDR ($z = -2.43$, $P = 0.015$).

Discussion

Prolonged exposure and EMDR were previously found to be effective, safe and feasible in patients with psychosis and comorbid PTSD without the use of stabilising psychotherapeutic interventions.[4–6] The present study shows that these effects remained at 12-month follow-up. More specifically, there were no differences between the 6-month and 12-month follow-up in clinician-rated PTSD, self-rated PTSD, depression, paranoid-referential thinking, voice hearing, delusions or the number of participants in remission from schizophrenia. Negative post-traumatic cognitions declined further in prolonged exposure, but not in EMDR. At 12-month follow-up, there were no differences between prolonged exposure and EMDR on any of the outcomes. Although replication of our findings is necessary, these results appear to suggest that TFT with direct trauma memory processing has long-term neutral to positive effects on symptoms of PTSD, depression and psychosis.

It is difficult to interpret the observed decline in social functioning in the context of clear improvements in symptoms. This is in contrast to the fact that the presence of PTSD symptoms in psychosis has been found to be associated with lower levels of social functioning.[17] Interestingly, there were significant reductions in interference of PTSD symptoms with social functioning from baseline to 6-month follow-up on the Clinician-Administered PTSD Scale (items 20–22) compared with the waiting list for TFT in both prolonged exposure ($t[136] = -2.73$, $P = 0.007$) and EMDR ($t[136] = -3.50$, $P = 0.001$); moreover, these effects endured throughout the 12-month follow-up (prolonged exposure: $t[42] = 1.39$, $P = 0.170$; EMDR: $t[38] = -1.08$, $P = 0.285$). This suggests that, in this severely traumatised sample with severe and complex (and often neglected) symptom profiles (and problems in many domains of life), many factors other than PTSD may influence social functioning. Therefore, interventions on other maintaining factors are probably necessary to support further recovery. It should also be noted that we used a very short and global assessment of social functioning, which might limit the reliability and validity. Similarly, the PSYRATS (the measure used for voice hearing and delusions) is problematic, since it starts with a dichotomous question about the presence of voices or delusions.[6] Therefore, future studies should test the effects of TFT on social functioning and symptoms of psychosis in everyday life using finer-tuned measures, e.g. the experience sampling method.[18] Longer follow-up periods are also desirable, but pose ethical problems.

We conclude that TFT has long-term positive effects on symptoms of PTSD, depression and psychosis in people with severe psychotic disorders, and that there seems to be no reason to exclude individuals with psychosis from TFT. Although replication of these findings and more research on the long-term effects on social functioning is required, these findings provide further support for the notion that the current guidelines for PTSD also apply to individuals with psychosis.

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Supplementary material

Supplementary material is available online at https://doi.org/10.1192/bjp.2017.30.

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