How effective are psychological therapies for the treatment of functional dissociative seizures: A series of meta-analyses on seizure- and psychosocial-outcomes.

Background

Psychological interventions, such as Cognitive Behavioural Therapy (CBT), Psychodynamic psychotherapy, Acceptance and Commitment Therapy (ACT) and Dialectical Behavioural Therapy (DBT), are the most recommended treatment for adults presenting with functional / dissociative seizures (FDS; also known as psychogenic non-epileptic seizures or non-epileptic attacks). Although several trials have been published in this area, there is still uncertainty regarding: (1) how effective psychological treatments are for FDS; (2) what treatment conditions are most conducive to treatment effectiveness (i.e., group vs individual therapy, the use of different therapeutic modalities); (3) who is more likely to benefit from therapy; (4) how durable are clinical improvements following treatment completion; and (5) which outcome measures are most sensitive to treatment-related change (i.e., seizure-related outcomes vs non-seizure related outcomes). We set out to answer these questions via a systematic review of the evidence and a series of meta-analytic analyses.

Methods

Analyses were reported following PRISMA guidelines for systematic reviews and meta-analyses. We performed a systematic search of four electronic databases (CINAHL, PsychINFO, Medline, and Cochrane Reviews) to identify relevant articles in February 2022, which was repeated in 2023 to allow for additional analyses. Studies must have included adults with FDS receiving any form of psychological therapy and where self-reported outcome measures were employed to measure treatment effectiveness. Missing data, when required, was requested from primary study authors. Risk of bias was assessed using the Cochrane Collaboration tool for assessing risk of bias (ROB-2). This assesses domains of randomisation, allocation, blinding of participants and personnel, blinding of outcome assessment, attrition bias, incomplete outcome data and selective reporting. The quality of evidence was further assessed using the Grading of Recommendations Assessment, Development, and Evaluation (GRADE) approach. This considers publication bias, inconsistency, imprecision, and indirectness of treatment estimate effects. Findings were narratively synthesised, focusing on sample characteristics, methodology, and treatment. All analyses were conducted using R using the *metafor* package.

Results

Analyses were separated into two reviews focusing upon treatment effects for (i) non-seizure-related outcomes (i.e., depression, anxiety, health-related quality of life, etc.), and seizure-related outcomes (i.e., seizure frequency, seizure severity). Both reviews concerned outcomes for the acute treatment period (pre-, and post-treatment comparison), while the seizure review also included follow-up outcomes (pre-treatment and follow-up) comparison).

Non-seizure outcomes: Data from 898 individuals with FDS across 32 studies were included. This included 171 treatment effects. The mean effect size for psychological interventions was moderate (*d*=0.51). Moderator analyses indicated significant differences between treatment conditions. Measures of functioning (*d*=0.78, i.e., global functioning ratings, work/social adjustment scales) outperformed measures of mental health (*d*=0.52) or health-related quality of life (*d*=0.32). Longer treatments (≥14 sessions) (*d*=1.36) and behavioural treatments (*d*=1.3) also demonstrated superior outcomes. Age, gender, and risk of bias were not significant predictors of outcome.

Seizure outcomes:Data from 1300 individuals across 44 studies were included. There was sufficient data to meta-analyse treatment-related change for seizure frequency (improvement, freedom), however, this was not the case for other seizure-related outcomes (duration, clusters, severity). At the end of treatment, 40% of participants reported seizure freedom and 36% for follow-up. Improvement in seizure frequency (≥50% improvement in frequency) was reported by 66% of patients following treatment and 75% at follow-up. For group-level data that reported the mean and SD, seizure frequency improved during the treatment phase (moderate effect size, *d*=0.53). For group-level data that reported the median, seizure frequency was reduced by 6.5 seizures per month. Moderator variables were explored for seizure freedom. The only moderator that was found to be significant was the treatment setting, with outpatient therapy showing larger rates of seizure freedom than tele-therapy.

Most studies were assessed as medium risk of bias, with the fewest number of studies identified as low risk. Meta-analyses were either graded as “low” or” very low” due to inconsistency across results, treatment comparisons and some imprecision.

Conclusions

This body of work represents the most comprehensive review of the data collected investigating psychological interventions for adults with FDS. The findings suggest that psychological treatments are associated with improvements in seizure-related and non-seizure-related patient-reported outcomes. Treatment appears to be most effective for the reduction, as opposed to the cessation, of seizure frequency in this clinical group. While several moderator analyses could be performed, these findings should be interpreted with caution recognising the limited amount of data that could be included and the observational nature of analyses. Indeed, while there is a considerable number of trials, the variability in research methodologies and the reporting of findings hindered some attempts at collating the results. Results have clear implications for clinical practice, policy, and future research, including the need to perform a meta-analysis on the outcome of treatment on non-seizure-related variables at follow-up.

References

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