Intensive Short-Term Dynamic Psychotherapy (ISTDP) Associated with Healthcare Reductions in Patients with Functional Seizures

Short Title: HEALTHCARE REDUCTIONS ASSOCIATED WITH ISDTP

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Abstract

Intensive Short-Term Psychodynamic Therapy (ISTDP) has demonstrated promising evidence for the treatment of Functional Neurological Disorders (FND) including functional seizures. The aim of this paper was to further examine the therapeutic effects of a 3-session course of this treatment focusing on its potential to maintain reduced healthcare utility within a group of patients with complex difficulties, across an extended time period, post therapy.

The original study followed a mixed methods case series design and recruited 18 patients from secondary adult mental health care and specialist neurology services. 17 participants completed the intervention and attendance rates were very high (95%). In this follow up study, which was solely focused upon the utilisation of healthcare resources, results showed decreases in all domains, including acute medications, A&E attendances and crisis-line usage when comparing 12 months prior and 12 months post three sessions of ISTDP.

The results provide further support for the use of ISTDP in this group of participants with complex clinical presentations, specifically its capacity to reduce healthcare usage over a period of 12 months post therapy. Further evidence from controlled and randomised studies with larger sample sizes is warranted.

Keywords: Healthcare Utilisation; ISTDP; Functional Seizures

1. Introduction

Functional Seizures (FS) are relatively common in neurology centres, affecting between 12% and 20% of patients attending epilepsy clinics and they are a major cause of disability. This is due in part to their complexity, difficulties establishing a diagnosis [1] and the debilitating and wide-ranging effects that the condition can have on both physical and mental health. There are various documented social consequences for people with FS [2] along with documented educational difficulties [3] and an elevated mortality rate [4].

Goldstein et al [5] noted that most patients with FS also have high comorbidity with psychiatric presentations including anxiety, depression, and PTSD among others. The result of this is very low health related quality of life, often lower than patients diagnosed with epilepsy [6]. Although psychological support is a key element of the provision for patients with FS, this group of patients report that their needs are under-considered [7] and access to individualised care is elusive and insufficient [8,9]. Instead, patients with FS often find themselves relying heavily on a cycle of alternative, temporarily supportive healthcare services such as urgent care services and acute medication [9,10]. This creates unnecessary and burdensome costs for patients and the health system [6,11]

Previous meta-analyses indicated that Short-Term Psychodynamic Psychotherapy is an effective psychological treatment for patients with a range of functional neurological disorders [12,13]. Moreover, recent uncontrolled pilot studies have suggested that one such model, Intensive Short-Term Dynamic Psychotherapy (ISTDP) can contribute to the reduction of healthcare costs and improvement of somatic symptoms and quality of life of patients with FS [14,15,16].

This is the first pilot study to report on outcomes of ISTDP treatment specifically for FS within an NHS setting [16]. The primary aim of this short communication is to detail the longer-term (12 months) outcomes in healthcare utilisation reduction which were not reported in the original published study [16]. The reduction of healthcare utilisation within a 12-month follow-up period is particularly important for patients with FS as they are significant utilisers of healthcare resources [9,10] and research regarding the reduction of service utilisation long-term in NHS settings is scarce.

2. *Materials and Methods*

This brief report is adding follow-up data from an original study published elsewhere [16]. The protocol for this study was pre-registered on the Open Science Framework (https://osf.io/t653z) in February 2021. This pilot study also received full Health Research Authority (HRA) and Health and Care Research Wales (HCRW) approval (290144) by the Cambridge East NHS Research and Ethics Committee.

2.1. ISTDP Therapy

In this study, three sessions of ISTDP were delivered to a small group (N = 18) of patients with FS and significant comorbid mental health difficulties. The treatment was delivered as individual weekly therapy, in an in-person and remote format, within the context of NHS service provision in the COVID-19 pandemic. The first two sessions were 90 minutes in duration and the final session 60 minutes in duration. ISTDP is a brief therapy method designed to increase patients' capacity to regulate and experience complex emotions. The treatment can be employed through a combination of supportive or anxiety reducing techniques, emotion focus and challenging of defensive processes. The aim of the treatment is to support patients in developing healthier mechanisms to deal with emotional stressors.

2.2 Recruitment and Sampling

The patients were recruited from specialist neurology clinics and community mental health services in the National Health Service (NHS) of England. The inclusion criteria were as follows: participants were at least 18 years old, had a confirmed diagnosis of functional seizures, were able to communicate in and understand English, were considered to have capacity to provide informed consent to engage in and had access to telephone, email and the internet. FS diagnosis was established by clinical consensus of the multidisciplinary team referring the patient to the study. The exclusion criteria followed the guidelines from the original pilot study, and included, having an intellectual disability or autism spectrum diagnosis; experiencing acute psychosis; having a diagnosing of epilepsy that had not currently been stabilised by medication; simultaneously engaging in a different psychological therapy and currently being admitted to hospital or understood to be actively suicidal by their clinical team.

2.3 Instruments

In this study, healthcare utilisation was examined across three factors: number of A &E visits, duty emergency phone calls to crisis lines and acute medication usage over the past 12 months. Acute medications were defined as psychiatric medications and painkillers that were used 'when required' (PRN) and thus were not part of a regular prescription schedule. The records for these resources were retrieved from NHS databases and clinical records of the participants. Two research assistants collated this data from participants medical records into an encrypted database. Further information regarding procedure of the study can be found in the original study [16].

2.4 Statistical Analysis

Data were analysed using SPSS statistical software (Version 22.0). Paired sample T-tests were undertaken to compare pre and post healthcare utilisation. Statistical significance was established at <0.5 and effect sizes were analysed using Cohen's D.

3. Results

A total of 18 participants were recruited and 17 completed the intervention. One participant decided not to commence the psychological intervention as they were struggling with several life and social stressors at the time. Socio-demographic characteristics are detailed in Table 1.

Healthcare utilisation was examined for all participants who started the intervention (N = 17) and focussed on a two-year period; 12 months prior to commencing therapy sessions and 12 months following the completion of therapy sessions.

The data shows that healthcare usage on all domains examined decreased when comparing 12 months before and 12 months after three sessions of ISTDP. Comparisons of acute medication, show that the amount of prescription reduced significantly when comparing 12 months pre intervention (*M* = 9, *SD* = 10.12), to 12 months after the completion of treatment (*M* = 4.11*, SD* = 6.50*)* [t(16) = -2.45, p = .02] and the effect size of this decrease was moderate (*Cohen's d* = .56). Participants' use of mental health duty and emergency phone lines also decreased when pre-treatment (*M*= 4.58*, SD* = 7.73) was compared to post

treatment (*M*= 1.41*, SD* = 2.26) and the effect size of this change was also moderate (*Cohen's d* = .62) and trended towards statistical significant [t(16) = -2.03, p =.059]. Finally, A&E hospital attendances also decreased significantly when pre-treatment scores (*M* = 1.23*; SD* = 1.82), and post-treatment scores were examined (*M*= 0.47; *SD*= 1.00) [t(16) = -2.19, p = .04] reflecting a moderate effect size (*Cohen's d* = .54)

When examining individual scores, 14 participants (82%) experienced a decrease in all their healthcare utilisation measures. On the contrary, 4 participants (18%) experienced a partial increase in one category; two participants experienced an increase in acute medication prescription and two in A&E attendances.

4. *Discussion*

This brief communication was developed to provide longer-term follow-up data regarding healthcare utilisation reduction in a population of secondary care patients with functional seizures who received a course of three sessions of ISTDP. Comparing the 1-year pre-treatment period to 1-year post-treatment period, participants who received this psychological intervention experienced a notable decrease in their utilisation of healthcare resources. The reduction of healthcare usage is promising given that this is a group of patients who often receive expensive and ineffective healthcare support [11]. The results are concordant with other studies examining the effect of ISTDP in reducing healthcare utilisation in patients with Functional Seizures (FS) [14]. One potential reason for the promising results of this psychological intervention is its focus on emotional processing and emotional experiencing. It is hypothesized that ISTDP allows participants to understand and gain a sense of agency over their emotions and bodily sensations, which can then in turn reduce the levels of heightened anxiety and peripheral nervous system dysregulation which can contribute to crises and overuse of crises resources. Future studies exploring the mechanisms of change of this therapy for this group of patients is warranted. A particular strength of the study is the complexity and heterogeneity of the sample, with most participants having multiple psychiatric and physical health diagnoses as well as multiple prescribed medications.

Finally, findings from this pilot study need to be interpreted cautiously. Although most patients experienced a reduction in healthcare utilisation, a small number of patients experienced brief increases in healthcare resources. Moreover, this is a non-blind and non-randomised pilot study with no control group and therefore other factors could have contributed to the decrease of healthcare usage. Most patients remained under the care of health services upon completion of the study and thus may have received other forms of support or psychological interventions in the 12 months post-therapy period. In fact, one patient of the current sample continued a longer course of ISTDP treatment (20 sessions) although his health utilisation was always low in the 12 months prior to treatment and thus did not eschew the results. However, it is noteworthy that these patients were already open to these services at the time of recruitment and had been accessing support for at least 12 months prior. The small sample size and the fact that a single therapist participated in the trial are limitations to the generalisability of the results.

Overall, the results are encouraging, and they are further confirmed by the qualitative experiences of the participants of the study, which have been published elsewhere [16]. It is recommended that this method is implemented with FS in larger controlled trials to replicate the current findings.

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Statement of Ethics

This pilot study received full Health Research Authority (HRA) and Health and Care Research Wales (HCRW) approval (290144) by the Cambridge East NHS Research and Ethics Committee. Written consent was sought from participants prior to enrolling in the study.

Author Contributions

Malda-Castillo, J. (lead author):

Conception and design of the study; drafted manuscript; performed analysis.

Howell, B. (Research assistant):

Contributed to the collection of data and analysis, and aided in drafting sections of manuscript

Perez-Algorta, G.

Performed statistical analysis, contributed analysis tools and offered interpretation of results

Russell, L., Town, J., Abbass, A., Valavanis, S:

Contributions to the write up of the article manuscript drafts, changes made, and support of final version.

Conflict of Interest Statement

The authors have no conflicts of interest to declare.

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Data Availability Statement

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

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Figure. 1. 12 months pre and post healthcare utilization

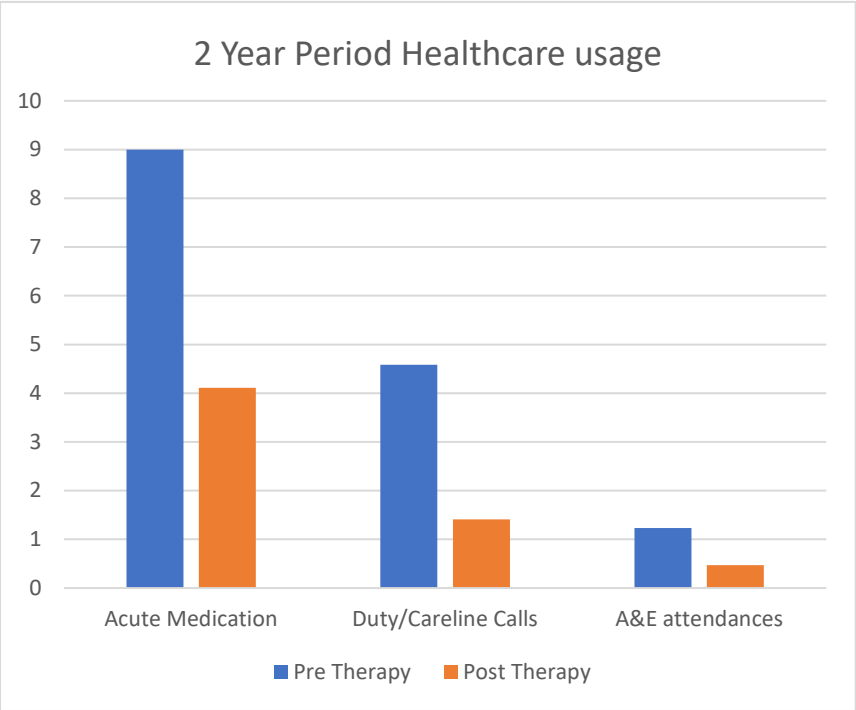

Table.1. Participant's socio-demographic characteristics

Characteristics (n=18)	**Descriptive**
Age,	
Range	22-60 years
Mean (SD)	37.7 (11.9)
Gender, F*emale n (%)*	16 (89)
Ethnicity, *White British n (%)*	18 (100)
Employment, *n (%), Unemployed n (%)*	15 (83)
On benefits, *Yes n (%)*	16 (89)
Mental health diagnoses	
Depression/low mood n (%)	11 (61)
PTSD n (%)	4 (22)
EUPD n (%)	7 (39)
≥2MH Diagnosis, n (%)	15 (83)
Chronic Health Condition, n (%)	15 (83)
Functional Neurological Disorders (not inc. functional seizures) n (%)	8 (44)
Organic epilepsy n (%)	4 (22)
Gastrointestinal medically unexplained symptoms n (%)	4 (22)
Other chronic conditions n (%)	15 (83)
Suicide Attempts, *Mean (SD)*	1.7 (1.7)
≥ 2Psychiatric Medication, n (%)	10 (55)
≥ 2Prior psychological treatments, n (%)	7 (38)
Years Neuro Treatment, *Mean (SD)*	4.2 (6.2)
Years MH Treatment, *Mean (SD)*	3.1 (3.7)