



Long-term healthcare cost reduction with Intensive Short-term Dynamic Psychotherapy in a tertiary psychiatric service



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ABSTRACT

Objective: To evaluate whether a mixed population of patients treated with Intensive Short-term Dynamic Psychotherapy (ISTDP) would exhibit reduced healthcare costs in long-term follow-up.

Methods: A quasi-experimental design was employed in which data on pre- and post-treatment healthcare cost were compared for all ISTDP cases treated in a tertiary care service over a nine year period. Observed cost changes were compared with those of a control group of patients referred but never treated. Physician and hospital costs were compared to treatment cost estimates and normal population cost figures.

Results: 1082 patients were included; 890 treated cases for a broad range of somatic and psychiatric disorders and 192 controls. The treatment averaged 7.3 sessions and measures of symptoms and interpersonal problems significantly improved. The average cost reduction per treated case was \$12,628 over 3 follow-up years: this compared favorably with the estimated treatment cost of \$708 per patient. Significant differences were seen between groups for follow-up hospital costs.

Conclusions: ISTDP in this setting appears to facilitate reductions in healthcare costs, supporting the notion that brief dynamic psychotherapy provided in a tertiary setting can be beneficial to health care systems overall.

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1. Introduction

Adverse childhood experiences (ACE) result in increased rates of the spectrum of psychiatric disorders as well as medically explained and unexplained symptoms (Felitti et al., 1998; Anda et al., 2006). These problems are understandable byproducts of strong unprocessed emotions coupled with deficits in emotion regulation (Felitti et al., 1998; Anda et al., 2006). Owing in part to these deficits, many patients with ACE have treatment-resistant, recurrent psychiatric and physical disorders that result in excess health system costs (Chartier et al., 2010; Nanni et al., 2012). This has led to calls for development of “intensive and alternative” treatments addressing treatment resistance in these individuals (Nanni et al., 2012).

Psychotherapy, as a collection of treatments, focuses on improving psychological strengths and overriding the effects of early adversity. Along with strong evidence of its effectiveness there is emerging data that those who receive psychotherapy are less likely to use medical services (American Psychological Association, 2013). Lazar (2010) recently reviewed the evidence for the cost-effectiveness of diverse psychotherapeutic models for depressive, anxiety, personality and psychotic disorders; they described a range of studies of mixed interventions with a relative few measuring long-term cost-effectiveness. They summarize only a limited number of studies mixed patient sample data (pp. 15–17). Chiles (1999) meta-analyzed 91 studies of medical cost offset of a range of psychological interventions and found a mean 20–30% reduction in hospital costs averaging \$1759 (Year 1993 US dollars). Further research continues to be called for to investigate the healthcare-related cost-effectiveness of psychotherapy.

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A few studies of diverse short-term psychodynamic psychotherapy (STPP) models have studied health service cost reduction in mixed samples. Guthrie et al. (1999) found that 8 sessions of brief psychodynamic-interpersonal therapy brought health service cost reduction with treatment cost recovered by 6 months after treating a high-utilizing mixed patient sample. Abbass (2003) reviewed available STPP cost effectiveness studies up to 2003 and reported a persistent 40% hospital and doctor cost reduction in a mixed outpatient sample after 14.9 treatment sessions, equaling the treatment cost. Kraft et al. (2006) studied the medical cost reduction of 33.6 treatment sessions (mostly psychodynamic therapy) applied to a diverse mixed patient group and found a statistically non-significant 26.3% reduction. Likewise, Sattel and colleagues (2012) did not note significant reductions in physician service use after a short course of STPP for mixed patients with multisomatoform disorders and later reported a 50% chance the treatment was cost effective at a certain cost per QALY (Chernyak et al., 2014).

Intensive Short-term Dynamic Psychotherapy (ISTDP, Davanloo, 2000) is a form of STPP designed to address ACE-related emotional contributors in diverse treatment-resistant (Abbass, 2006; Abbass et al., 2008a, 2013; Hajkowski and Buller, 2012; Solbakken and Abbass, 2013) and high service use (Abbass et al., 2009a) populations (Town and Driessen, 2013). A recent review of 13 studies including some cost related measures suggested ISTDP may reduce health service costs (Abbass and Katzman, 2013). However, this evidence is variably limited by small samples, lack of controls, limited follow-up and the fact that treatment was delivered by expert therapists thereby limiting generalizability.

2. Methods

2.1. Objective

The objective of this study was to further existing research by examining whether brief individual psychotherapy provided to tertiary populations by therapists with a range of skill levels results in sustained reductions in health service costs. Secondly we examined whether any observed changes differ from those of an untreated comparison group.

2.2. Setting

Nova Scotia is a province on the Atlantic seaboard of Canada with a population of just under one million. Halifax is the major metropolitan center. Under the Canada Health Act, all Canadian residents are entitled to inpatient or outpatient care that is free at the point of delivery. Individuals receive treatment at publicly funded facilities, or are seen by private specialists or general practitioners who bill the provincial health plan. There are no private hospital beds to date.

The Centre for Emotions and Health is a tertiary psychotherapy service at Dalhousie University located in the Queen Elizabeth II Health Science Centre in Halifax. This service receives referrals from the emergency department, family practice offices, medical-surgical specialties and secondary and tertiary mental health services. It is a teaching and research service using the ISTDP model to detect and treat emotional contributors to medically unexplained symptoms, anxiety disorders, mood disorders, personality disorders and psychotic disorders.

2.3. Design

We used a quasi-experimental design in which within group pre-versus- post, year-by-year cost data could be compared. Physician and hospital costs were then compared to treatment

costs estimates and normal population cost figures. Secondly, we compared healthcare cost differences and year-by-year data between cases and a control group of all patients who were referred to the service, but never seen.

2.4. Participants & procedures

We included treated cases and controls from between March 30, 1999 and March 30, 2007 to allow determination of pre- and post-treatment intervals and follow-up intervals. All patients had to be from the province of Nova Scotia with valid Nova Scotia health card numbers so they would have service use recorded in the provincial health care registry. We included all patients who had trials of ISTDP, including therapy by professionals with various levels of expertise.

As a parallel comparison group, we included all patients referred to, but never seen on the service. To avoid selection bias, all such patients were included regardless of reason for non-attendance or any other referral characteristic. At baseline, both referred patient groups were deemed appropriate for a psychotherapeutic assessment and consented to a referral to the Centre for Emotions and Health. The rationale for choosing this control was that these patients would have had a similar pre-referral experience as treated cases in which a health professional spoke with them about possible psychological contributors to their problems and gained their consent to attend a specialized psychotherapy assessment. To adjust for average time passage from referral to the end of ISTDP treatment, the period of time from referral to 6 months after referral was considered the “intervention time” for controls.

The study was approved by the local hospital ethics review board and registered in Clinical trials.gov as identifier number NCT01924715.

For each treated patient, health card numbers, dates of treatment, demographics, clinically derived diagnoses and self-report outcome measure results were entered into a spreadsheet by a research assistant. Number of hours and type of training the therapist had along with ratings of treatment fidelity were also entered (see below). Likewise, health card numbers of controls and their dates of referral were entered into a spreadsheet by a research assistant. All identifiers were removed and provincial health card numbers were encrypted and sent to the Population Health Research Unit (PHRU), a unit with access to provincial in-patient and physician billing databases, for data extraction and analysis. These cover both hospital separations, as well as billing data from private specialists and general practitioners.

Health Canada and the Public Health Agency of Canada have both used administrative data-sets for chronic disease surveillance (Kisely et al., 2009). Although these data were collected for billing, rather than surveillance, studies using these data-sets for disease surveillance have shown acceptable accuracy over time and against other measures (Kisely et al., 2009; Williams and Young, 1996).

2.5. Measures

For all participants, mean hospital costs and physician costs were extracted from the PHRU databases for 1 year prior to referral and 1, 2 and 3 years afterwards. This database also yielded age, gender, income, place of residence (urban versus rural) and primary diagnoses made by physicians in the year before referral. To eliminate the effects of cost variation over time, PHRU provided 2007-equivalent cost values for all physician services and hospital stays based on diagnosis and procedure codes. These were compared with mean physician billings for the Nova Scotian population (Nova Scotia Department of Health (2008)) and Canadian population

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