Psychiatry Research 216 (2014) 60–66

Contents lists available at ScienceDirect

Psychiatry Research

journal homepage: www.elsevier.com/locate/psychres

An online intervention for reducing depressive symptoms: Secondary benefits for self-esteem, empowerment and quality of life

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ARTICLE INFO

Article history:
Received 10 December 2013
Accepted 27 January 2014
Available online 3 February 2014

Keywords:
Internet
Self-esteem
Empowerment
Quality of life
Depression

ABSTRACT

Internet-based interventions are increasingly recognized as effective for the treatment and prevention of depression; however, there is a paucity of research investigating potential secondary benefits. From a consumer perspective, improvements in indicators of wellbeing such as perceived quality of life may represent the most important outcomes for evaluating the effectiveness of an intervention. This study investigated the 'secondary' benefits for self-esteem, empowerment, quality of life and perceived social support of two 12-week online depression interventions when delivered alone and in combination. Participants comprised 298 adults displaying elevated psychological distress. Participants were randomised to receive: an Internet Support Group (ISG); an automated Internet psycho-educational training program for depression; a combination of these conditions; or a control website. Analyses were performed on an intent-to-treat basis. Following the automated training program immediate improvements were shown in participants' self-esteem and empowerment relative to control participants. Improvements in perceived quality of life were reported 6-months following the completion of the intervention when combined with an ISG. These findings provide initial evidence for the effectiveness of this online intervention for improving individual wellbeing beyond the primary aim of the treatment. However, further research is required to investigate the mechanisms underlying improvement in these secondary outcomes.

1. Introduction

Despite the high current and lifetime prevalence of depression (Slade et al., 2009), many people with the condition do not receive treatment (Burgess et al., 2009). This reflects the lack of accessibility and availability of services, the stigma associated with seeking treatment for a mental health condition (Australian Institute of Health and Welfare, 2005; Barney et al., 2006) and a belief in self-reliance (Gulliver et al., 2010). As such, self-help methods delivered via the Internet are increasingly being recognized as an effective avenue for the delivery of psychological interventions for the treatment and prevention of mental health conditions (Bennett and Glasgow, 2009). Internet interventions can address some of the barriers associated with help seeking for common mental disorders, and enable access to evidence-based treatments when local health services are unavailable, or when waiting lists for treatment are unavoidable (Griffiths et al., 2006; Muñoz, 2010). While evidence for the efficacy of Internet interventions in reducing or preventing depressive symptoms is growing (e.g., Christensen et al., 2006; Farrer et al., 2012; Griffiths et al., 2004, 2012), there is a paucity of research investigating the secondary benefits which may be obtained through participation.

Some evidence suggests that like traditional face-to-face treatments, the secondary benefits (e.g., increased empowerment, quality of life, self-esteem) which may be gained from programs delivered online, particularly those which involve a support group, may positively impact an individual's confidence, perceived loneliness and isolation, and positive self-image, and that they may promote an individual's sense of empowerment (Barak et al., 2008; Houston et al., 2002; Powell et al., 2003). The impact of interventions on these general indicators of wellbeing is particularly important. Specifically, subjective quality of life as an indicator of satisfaction with overall health and everyday life is often more salient to an individual than the symptoms of a mental illness such as depression. Accordingly, changes in perceived well-being may have more impact than specific symptom change on an individual's ongoing use of an intervention

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http://dx.doi.org/10.1016/j.psychres.2014.01.041
0165-1781

(McKenna and Whalley, 1998). Distinct from measures of depression, indicators of self-esteem provide an overall evaluation of one's self-worth (Greenberger et al., 2003). Low self-esteem has frequently been linked to the presence of depressive symptoms as either a correlate or risk factor (Roberts and Gamble, 2001; Roberts et al., 1995). Research has found that depression symptoms can be reduced through interventions which build self-esteem (Dishman et al., 2006). Similarly, empowerment, broadly conceptualized as encompassing self-worth, self-efficacy and perceptions of power and control over one's life (Rogers et al., 1997) is also central to treatment efficacy. A sense of power and control relating to health can significantly impact an individual's experience of illness and access to treatment services with a reduced need for formal care opening the avenue for the use of Internet-based health services (Forkner-Dunn, 2003; Neuhauser, 2003). From a consumer perspective, the development and strengthening of psychological resources, such as empowerment and self-esteem, may represent the most important 'outcomes' of Internet interventions due to their potential on-going contribution to participants' well-being and quality of life and the implications for how an individual copes with future events or episodes of ill health. Indeed in considering the effectiveness of any intervention, it is appropriate to examine beyond immediate symptoms to the broader impacts on the health and well-being of the individual.

The current study sought to extend the previous evaluation of the WellBeing trial (Griffiths et al., 2010a, 2012). The latter examined the effect on depression of an online automated training program (e-couch) and an Internet Support Group (ISG) when delivered alone and in combination. The online interventions were effective in reducing depressive symptoms relative to an attention control condition (HealthWatch). The current study aimed to investigate if the interventions were also associated with secondary benefits to participants' subjective well-being, namely improved self-esteem, empowerment, quality of life and social support, and reduced loneliness.

While developed as interventions targeting depressive symptoms, both e-couch and the ISG have the potential to offer these 'secondary' benefits. The online psychological intervention application contained consumer information about the diagnosis, epidemiology and treatment of depression in combination with online versions of cognitive behavior therapy; interpersonal therapy; applied relaxation; and physical activity modules. In particular, both improved literacy and physical activity interventions have demonstrated to impact self-esteem (Dishman et al., 2006). The ISG was a closed, moderated bulletin board purpose built for the trial. Each week forums or topics were introduced or opened to participants for discussion (Griffiths et al., 2010a). Topics included discussion of 'causes and triggers' and the 'views on antidepressants and connecting with others' as well as 'alternative and lifestyle approaches' for feeling better, 'improving your self-esteem' and avenues for sharing creative endeavors, jokes and positive things that happened during the day. The attention control condition (HealthWatch) to which these interventions were compared, comprised each week of a series of questions on a topic related to depression and general well-being, and information on topics related to well-being, but that contained minimal information about interventions for depression or stress (Griffiths et al., 2010a).

It was anticipated that both interventions, alone and in combination, would have positive impacts on self-esteem, empowerment and quality of life. Furthermore, it was hypothesized that participation in the ISG would be associated with increased social support and reduced loneliness.

2. Methods

The trial was approved by The Australian National University Human Research Ethics Committee (Protocol 2007/2259) and registered with the Controlled Clinical Trials registry (ISRCTN65657330). As the complete WellBeing trial protocol has been published previously (Griffiths et al., 2010a, 2012) the current paper contains only a brief description of the methodology specific to the present study.

2.1. Participants

The study comprised 298 adults aged 18–65 years recruited between August 2008 and May 2009 via a screening survey posted to 70,000 adults randomly selected from the electoral rolls of eight Australian electoral divisions (4 rural, 4 metropolitan) with moderate to high Internet access. To be eligible for the study, participants were required to have reported a Kessler Psychological Distress (K10) score of more than 22, and have home or work access to the Internet. Respondents were excluded if they reported receiving CBT or treatment from a mental health professional, or if they were participating in a mutual support group or another research project at the lead investigator's (K.G.) research centre. Potential participants were also excluded if they reported current or past experience with or diagnosis of psychosis, schizophrenia or bipolar disorder.

2.2. Measures

The primary outcome for the intervention was depressive symptoms (see previous papers, Griffiths et al., 2010a, 2012). However, the focus of the current paper is on the secondary outcome measures: perceived social support, loneliness, empowerment, self-esteem and quality of life.

2.2.1. Perceived social support

Perceived social support was assessed using the 8-item Medical Outcomes Study Social Support Survey (MOS)/Emotional/informational support subscale (Sherbourne and Stewart, 1991). This subscale which reflects supportive communication between the respondent and others contains items that are suitable for measuring online support. Participants respond to the items on a 5-point scale from 1 (*none of the time*) to 5 (*all of the time*), with higher scores indicating stronger perceived social support. In the current study, the internal reliability of the scale over time was 0.96–0.97 (Cronbach alpha).

2.2.2. Loneliness

The UCLA Loneliness Scale (Russell, 1996) provided a further measure of social support through perceived loneliness. The scale comprises 20 items responded to on a 4-point scale from 1 (*never*) to 4 (*always*). Total scores were obtained by summing item scores, with higher scores indicating greater loneliness. The scale reported good internal consistency in the present study (Cronbach alpha: 0.93–0.95).

2.2.3. Empowerment

Empowerment was assessed using the Power-powerlessness subscale of the Empowerment Scale (Rogers et al., 1997). This 8-item scale assesses respondents' perspectives on life and making decisions and was specifically designed to assess empowerment as defined by mental health service consumers. Participants respond to items on a 4-point scale from 1 (*strongly agree*) to 4 (*strongly disagree*), with higher scores indicating a greater sense of empowerment. Internal reliability in the present study ranged 0.65–0.75 (Cronbach alpha).

2.2.4. Self-esteem

Self-esteem was assessed using the 10-item Rosenberg Self-esteem Scale (Rosenberg, 1989). Respondents rate the items on a 4-point scale from 1 (*strongly agree*) to 4 (*strongly disagree*). Total scores were obtained by reversing the item scores and summing the results such that higher scores indicated a greater level of self-esteem. Internal reliability in the present study ranged 0.87–0.90 (Cronbach alpha).

2.2.5. Quality of life

The EUROHIS QOL 8-item index was used to assess quality of life (Schmidt et al., 2006). Scale items assess how an individual feels about their quality of life, health and other areas of their life on a 5-point scale from 1 (*very poor*) to 5 (*very good*), with higher scores indicating a higher quality of life. Internal reliability in the present study ranged 0.77–0.84 (Cronbach alpha).

2.2.6. Socio-demographic characteristics

Socio-demographic information was obtained at baseline relating to gender (0=male, 1=female), age (centered at 44 years), marital status (0=unpartnered, 1=partnered), and years of education (centered at 14 years).

2.3. Procedure

The study employed a longitudinal RCT design with data collected via self-report questionnaires administered across 4 time points: baseline (one week prior to commencement of the intervention), 3-months (at the conclusion of the intervention period), 6- and 12-months. At the commencement of the study, participants were provided with a user ID and password via automated email.