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Research report

The efficacy and pattern of use of a computer-assisted programme for the treatment of anxiety: A naturalistic study using mixed methods in primary care in Spain

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ABSTRACT

Background: Naturalistic studies to assess the efficacy and pattern of use of computer-delivered psychotherapy programmes in real daily clinical conditions are infrequent. Anxiety disorders are the most common mental disorders, and many of them do not receive adequate management, especially in primary care settings. The objective of this study is to assess the efficacy of an internet-delivered programme for anxiety in primary care.

Methods: Multicentre, naturalistic study. Patients with generalised anxiety disorder were recruited ($N=229$). The generalised anxiety disorder 7-item scale (GAD-7) was the only outcome measured. Qualitative methods were used to analyse patient–therapist interactions.

Results: Only 13.5% of patients completed the programme. Analysis per intent-to-treat using Last Observation Carried Forward showed a significant GAD-7 decrease post-treatment (-2.17: SD$=4.77$; $p=0.001$) (Cohen's $d=0.43$) with a correlation between the number of sessions and decrease in anxiety (Rho$=-0.34$, $p=0.001$). The analysis per protocol showed significantly decreased GAD-7 (-4.13; SD$=6.82$; $p=0.002$) ($d=0.80$). Withdrawal was related to low programme friendliness, lack of a partner, and higher education. Only 17.47% of the patients consulted their therapists. Facilitators were patient demand for information and sufficient time. Barriers were lack of motivation and lack of connection with the programme.

Limitations: The main limitations of this study included the use of an open trial design, the lack of follow-up, and the inclusion of only one outcome (GAD-7).

Conclusions: To our knowledge, this is the first study with computer-delivered psychotherapy (CDP) on GAD. CDP for anxiety is efficacious in naturalistic environments. Specific facilitators and barriers should be considered.

1. Introduction

Anxiety disorders are the most common mental disorders, with a 1-year prevalence of 12% in the adult population and a lifetime prevalence of 5% (Kessler et al., 2009). In a clinical setting, generalised anxiety disorder (GAD) prevalence has been estimated at 7.3% in primary care and up to 13% in psychiatric outpatient clinics (Caballero et al., 2009). The diagnostic criteria for GAD, as described in the Diagnostic and Statistical Manual of Mental

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Disorders 5th ed. (DSM-V), include excessive worry for a duration of at least 6 months associated with at least three of the following additional symptoms: restlessness, muscle tension, sleep disturbance, irritability, difficulty concentrating, and fatigue (American Psychiatric Association, 2013). The impact of GAD on the patient's daily life (e.g., loss of well-being, utilisation of healthcare resources), particularly on functionality, is assumed to be considerable (Bereza et al., 2009).

Although evidence-based pharmacological (Hidalgo et al., 2007) and psychological treatments (Hoyer and Gloster, 2009) exist, detection and treatment by family doctors is low, and many patients with anxiety do not receive adequate management, especially in primary care settings (Wittchen et al., 2002). These reasons convinced international health authorities to search for new, cost-effective treatment alternatives for anxiety (Wittchen et al., 2002).

"Computer-Delivered Psychotherapy" (CDP) has been defined as any psychotherapy programme that uses patient input to make decisions regarding treatment (Marks and Cavanagh, 2009). This approach excludes videoconferences, self-help programmes exclusively based on bibliotherapy, chats, and help groups. Patients receive therapy through their computers at home, and the sessions are usually short (20–30 min.) and attended on a weekly basis. The treatment lasts 3–6 months (Marks and Cavanagh, 2009). There is evidence of the effectiveness of CDP for many psychiatric disorders, including anxiety (Cuijpers et al., 2009), and cost-effectiveness studies on CDP for anxiety have revealed satisfactory results (Christensen et al., 2014). CDP is considered effective enough to be recommended not only at the primary care level but also in mental health services. In these specialised settings, CDP is recommended as a self-help first step for the treatment of depression and anxiety before treatment by a psychologist or psychiatrist (Learmonth and Rai, 2008).

The development of approaches toward the successful adaptation and dissemination of CDP programmes developed and evaluated in a research environment to the heterogeneous and complex health services of different countries remains a key challenge. Naturalistic studies to assess the efficacy and pattern of use of these programmes in real daily clinical conditions are compulsory but infrequent (Cavanagh et al., 2006). The main objective of this study was to assess the efficacy of a low-intensity, internet-delivered psychotherapy programme for the treatment of anxiety in primary care settings in Spain through a naturalistic study. The secondary objective was to evaluate the pattern of use of these programmes by patients from a primary care setting, including the assessment of barriers and facilitators using qualitative methods (Andersson and Titov, 2014).

2. Methods

2.1. Design

This study was a multicentre, open, uncontrolled, naturalistic study set in a primary care setting.

2.2. Setting and study sample

Patients were recruited from primary health care centres in the Spanish region of Aragón by general practitioners (GPs) working in these primary care centres until the required sample was obtained, although no quotas of patients were assigned for any centre. Forty-three general practitioners from 16 health centres in the province of Zaragoza, along with 2 in Huesca and 1 in Teruel, participated in the study. The patients were mainly female (34/47 = 79.06%) and middle-aged (mean: 43.2 years, SD = 3.8). The median number of patients recruited by each GP was 4 (range = 1–10).

Patients considered for inclusion were those aged 18–65 years, able to understand and read Spanish, and having probable anxiety according to GAD-7 criteria (Spitzer et al., 2006), access to the internet at home, and an email address. Exclusion criteria included any psychological treatment during the previous year, ongoing psychopharmacological treatment (occasional small doses of benzodiazepines were allowed), depression, or any other severe psychiatric disorder within Axis I (alcohol/substance abuse or dependence, psychotic disorders, or dementia) based on clinical criteria. According to GPower (Faul et al., 2007), for achieve a power of 80% (alpha = 0.05), only 34 participants were required to detect a moderate effect size on the primary outcome measure (GAD-7). However, a much larger sample size ($N = 200$) was selected based on similar CDP studies (Klein et al., 2011) because a high attrition rate (85–90%) was expected. This approach was necessary to ensure a minimum sample size for the analysis "per protocol".

2.3. Recruitment

Participants were recruited in primary care settings by participating GPs among patients fulfilling the study criteria. When a GP identified a potential participant, he/she explained the characteristics of the study to the patient. If the patient was interested in participating, he/she signed informed consent and received a handout describing the study and log-in information to enter to the programme. Recruitment was performed in a consecutive manner until the total sample size was reached. The programme was offered free of charge.

2.4. Intervention

The programme "Defeating anxiety" (Venciendo la ansiedad) (https://www.venciendolaansiedad.com) is an internet-delivered, multimedia, interactive, self-help programme for the treatment of anxiety, developed by our research group and by Adalia Farma based on similar programmes for the treatment of anxiety that have been developed and assessed in other countries and demonstrated to be effective (Titov et al., 2010). The programme also follows the Spanish clinical guidelines for the treatment of anxiety in primary care settings (Guía de práctica clínica, 2008).

The treatment protocol is composed of 8 therapeutic modules, with an estimated duration of 30–45 min each, including training in various psychological techniques that allow the individual to learn and practice adaptive strategies to cope with anxiety and daily problems. Each module includes exercises and videos to practice these techniques. These modules are sequential, moving step-by-step throughout the programme. The duration of the programme can vary among users, but the estimated duration for most people is 3 months. The content of the programme is as follows:

- M1. *Welcome to the programme.* Baseline assessment. Introduction to CDP. Description of the contents of the programme and the importance of following the tasks and practicing the recommendations.
- M2: *Knowledge of anxiety.* What is anxiety? The symptoms and treatment of anxiety. The utility of pharmacological treatment and complementary medicines. Healthy habits for preventing anxiety.
- M3: *A relaxing life.* Learning relaxation techniques, correct breathing, and approaches to develop more relaxing life patterns.