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Research report

Effects of cognitive psychotherapy on the biological rhythm of patients with depression

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ABSTRACT

Background: Stability between internal and external biological regulators are essential to stable mood states. However, the literature needs studies investigating the effect of brief psychotherapies in the biological rhythm regularization.
Objective: To verify the capacity regulation of biological rhythms in two models of brief psychotherapy for the remission of depressive symptoms.
Methods: We conducted a randomized clinical trial with young adults aged 18–29 years old who met diagnostic criteria for depression according to the Structured Clinical Interview for DSM (SCID). In order to evaluate the biological rhythm the Biological Rhythm of assessment in Neuropsychiatry (BRIAN) interview was used; whereas the severity of depression was assessed by the Hamilton Depression Rating Scale (HDRS). The psychotherapy models consisted of two cognitive psychotherapies: Cognitive Narrative Therapy (CNT) and Cognitive-Behavioral Therapy (CBT).
Results: The sample consisted of 97 randomized into two models of brief psychotherapy. The patients regulated the biological rhythm from baseline to post-intervention ($p=.001$) and follow up ($p=.003$). We also found a positive moderate correlation between biological rhythm regularization and remission of the depressive symptoms ($r=.594$; $p<.001$).
Conclusion: The two models of brief psychotherapies were effective in the remission of depressive symptoms as well as the regulation of biological rhythms in the follow-up of 6 months.
Limitations: We did not assess genetic, hormonal and neurochemical factors. Also, we did not include patients in pharmaceutical treatment, and with severe symptomatology.

1. Introduction

Depression is one of the most common psychiatric disorders and is a significant public health concern in developed countries (Hasin et al., 2005; Kim et al., 2007). Depression affects 16.8% of the Brazilian population and according to World Health Organization (WHO) it will be the second major cause of disability in adults (Andrade et al., 2002; Ayuso-Mateos et al., 2001; Hasin et al., 2005; Kim et al., 2007; Vasiliadis et al., 2007). In the past decades, studies show associations between mood disorders and alterations in the biologic rhythm (Boivin, 2000; Wirz-Justice, 2006).

Sleep–wake cycle, appetite and social rhythm are frequently dysfunctional in depressive disorder. It is important to highlight that most of those symptoms have a regular 24 h biological cycle, like sleep, hunger, focus and mood (Boivin, 2000). Abnormalities observed in the biological rhythm, in depressed patients, suggest that there might be alterations in the physiology of the circadian cycle involved in the etiology of depression.

The human biological rhythm expresses itself through all physiological and/or behavioral expression that has a regular periodicity, such as hormonal secretion, menstrual cycle, and eating pattern. The biological rhythm is the result of the interaction between endogenous markers of time (e.g. hormones), and exogenous (e.g. temperature). The exogenous markers that set the biological clock such as light, exercise, eating pattern, and social factors are called Zeitgebers (synchronizers) (Schimitt et al., 2010).

The probability of a mood disorder recurrence episode is higher when the markers of the biological rhythm are dysfunctional (Giglio et al., 2009). There are only a few instruments that assess the biological rhythm in a fast and effective manner. Giglio et al. (2009) developed the Biological Rhythms Interview of Assessment in Neuropsychiatry (BRIAN) that assesses the level of difficulty the individual has to keep for biological rhythm stability. BRIAN is a

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valid, reliable, standardized test to assess the biological rhythm. It also provides results that are easily interpreted in research and clinical practices.

Brief psychotherapies, especially cognitive therapies, are effective in the treatment of depressive symptoms (DeRubeis, 2001; Bockting et al., 2011; Stice et al., 2010). Although, the effectiveness of brief psychotherapy has been consistently demonstrated in the literature, the biological rhythm has not been investigated as an important marker of the depressive symptomatology (DeRubeis, 2001; Bockting et al., 2011; Stice et al., 2010). Moreover, this is the first study to investigate the effect of cognitive psychotherapy in the regulation of the biological rhythm. Thus, the purpose of the study is to investigate the regulatory effect of the biological rhythm in patients on brief cognitive psychotherapy for the remission of depressive symptoms.

2. Method

2.1. Study design

This randomized clinical trial assesses the effectiveness of brief psychotherapy models in the regulation of the biological rhythm and remission of the depressive symptoms. Evaluations were conducted at baseline, post-intervention and then again at six-months follow up.

2.2. Participants

The sample was selected by convenience. Local media advertised the research and posters were placed in schools, universities, and health centers. Those interested in participating were assessed in the University Hospital of São Francisco de Paula.

Inclusion criterion for participating in the study was: (a) age range of 18–29 years, (b) depression disorder diagnosed by the Structured clinical Interview for DSM (SCID). SCID translation and adaptation to Portuguese showed good reliability with Kappa coefficient of.87 for mood disorders (Del-Ben et al., 2001).

Patient flow charting is described in Fig. 1. The individuals that were in current psychiatric or psychological treatment, or had bipolar disorder diagnosed were excluded from the study. Also, individuals with suicide risk, or that met criteria for psychoactive substances abuse, were referred to other treatment facilities.

2.3. Enrollment

Patients were enrolled from June 2010 to June 2012. Post-intervention assessments were conducted from August 2010 to August 2012 and 6 months follow-up from March 2011 to February 2012.

All ethical procedures established by the National Health Council, Resolution number 196, October of 1996 were followed.

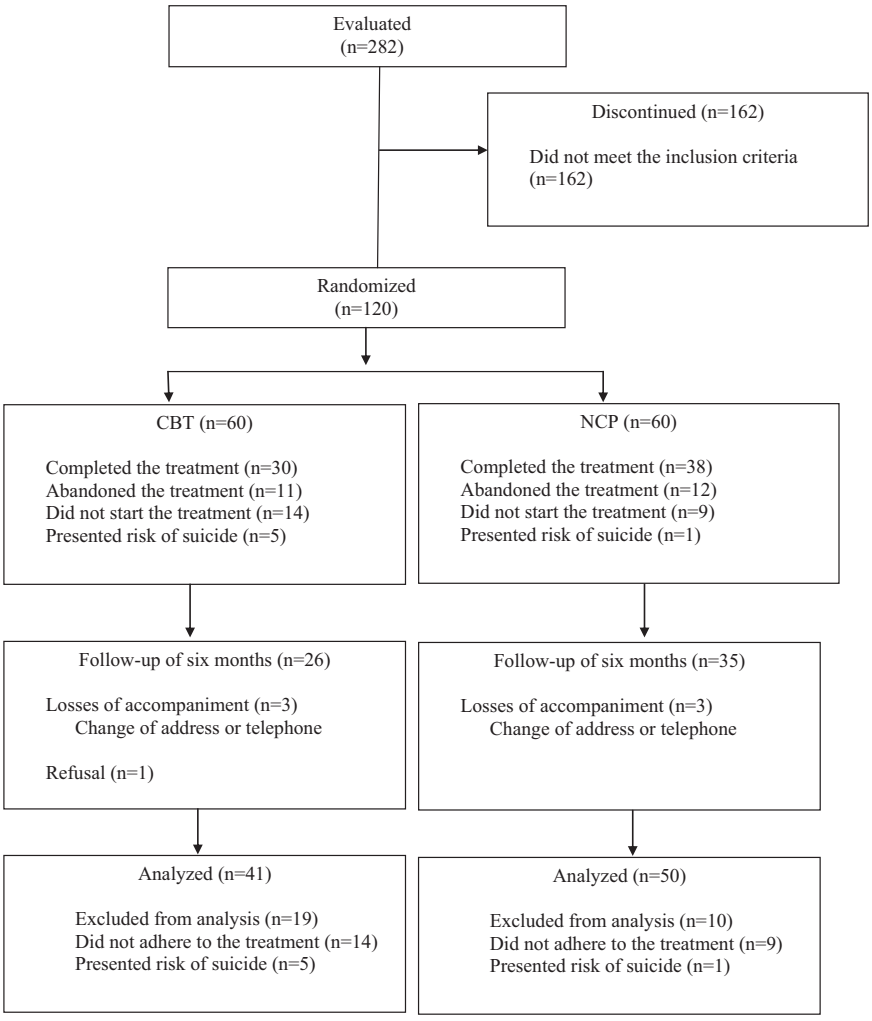

Fig. 1. Patient flow chart.