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# Impact of the human behaviour map psychotherapeutic model in depressive disorder

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The present study used quantitative methods with pretest and post-test in order to assess the efficacy of human behaviour map (HBM) psychotherapeutic model in the treatment of. For the development of this research and taking into account the goals initially set, a convenience sample of 85 adults from various districts in Portugal were recruited. It was revealed that 83.4% of the participants found the therapeutic intervention effective after five and ten sessions. There is a statistically significant difference  $t(84) = 18.07, p < 0.001$  between the mean degree of depression pretest and post-test concluding thereby that the HBM psychotherapeutic intervention had a significant impact in reducing the degree of patients' depression. The complete remission of depressive is verified on 80% of the sample. Lastly, it was also observed that the HBM intervention is highly efficient and effective in treating depression, having a statistically significant efficacy ( $M = 13.87; X^2 = 0.005$ ), especially in those cases where the initial depression index is more severe before treatment.

Keywords: depression, depressive disorder, human behaviour model, psychotherapy, treatment

## BACKGROUND

In industrialised countries, depression is considered to be one of the most serious public health problems, and it has been classified as the 'disease of the century' by the World Health Organization (Relojo, 2017a). This finding is corroborated by several studies (e.g., Bento, Carreira, & Heitor, 2001; Caldas de Almeida & Xavier (2013); Schotte, Bossche, Doncker, Claes, & Cosyns, 2006). There is, therefore, a need to intervene effectively and efficiently in order to fight this blight. This study aims to evaluate the impact of human behaviour map (HBM) psychotherapeutic intervention in the treatment of depression. Depression causes extremely complex psychological suffering, with well-known impacts on human functioning (Araújo, Coutinho, & Pereira, 2008), interfering in all aspects of daily life, be it professional, social, personal, or economic (Mehta, Mittal, & Swani, 2014).

On a general level, depression is seen as a common mental disorder characterised by sadness, loss of interest, tiredness, lack of concentration, absence of pleasure, mood swings between feelings of guilt and low self-esteem, in addition to sleep disorders (Beck & Alford, 2009). However, the symptoms of depression are multifaceted and vary from person to person (Schotte et al., 2005).

Moreover, it was argued that all the relevance of the delicate and a serious problem that haunts the community with some sort of mental disease, seem to be pushed away from politics and professional groups in a country, small both in size and mentality. Moreover, much was already discussed about this Portuguese characteristic of looking only to 'one's yard' and alienating themselves from the greater good, respect or common interest, no matter the area (great writers took this state of being as a central question in masterworks of Portuguese literature), reality maintains itself. And in reality, mental health, for being at the present moment remains a very little discussed subject both in media and society; it is still taboo and stigmatised. However, it is suggested that a European master's degree could be a valuable complement to national training and qualification structures (Pinto-Coelho, 2017).

Given its severity and the impact that it has on public health, many authors have written about the subject of depression and there is a wide diversity of views on its origin and causes. Therefore, this study addresses the research problem: 'What is the effectiveness and efficiency of the HBM psychotherapeutic intervention model in the treatment of depression?' by using qualitative research methods.

The HBM psychotherapeutic model enables an individual to resolve internal and external emotional conflicts, with the aim of modifying the negative emotional state they find themselves in, helping them achieve the desired psychological and emotional balance (Brás, 2010). To this end, two psychotherapeutic techniques are used: Athenese and Morfese which enable the emotional system of the individual to be shaped, allowing them to release emotions such as distress, fear, sadness, among others, and enabling their depressive or anxious state to be altered.

Athenese, which is made of of a set of psychotherapeutic exercises, consists of using conscious thought as a method of redefinition, helping the individual articulate new strategies for thinking about and understanding reality (Brás, 2010). Morfese is an emotional release technique where a dream is induced, guided by a psychotherapist, during which the participant reaches an intermediate state between sleep and wakefulness. This technique allows the individual to dissociate from past experiences that have troubled them to associate themselves with positive emotions (Brás, 2010). When combined, the techniques lead to an effective change of state, with a clear alteration of the mental representations that previously disturbed the individual.

## METHOD

This study use pretest and post-test quantitative research methods designed to answer the research question: 'What is the effectiveness and efficiency of the HBM psychotherapeutic intervention model of depression?', with the aim of assessing the impact of HBM intervention on depression.

### Measures

A questionnaire made up of two parts was used during this study. The first part related to the sociodemographic data of the individual and the second part to the Beck Depression Inventory (BDI), which is the most widely used and accepted self-assessment depression method in both research and clinical practice (Beck & Steer, 1984; Beck, Steer, & Brown, 1996; Dunn, Sham, & Hand, 1993). It is a self-assessment tool consisting of a Likert scale with 21 items referring to symptoms and cognitive attitudes. Each item is assessed on a scale of 0 (no symptoms) to 3 (severe symptoms), according to how they feel during the last week, with a final score obtained from the sum of all items (the score can range between 0 and 63 points).

The Centre for Cognitive Therapy (Beck, Brown, Steer, Eidelson, & Riskind (1987) recommends the following score for sample of participants with emotional disorders: (i) 0–9: not depressed; (ii) 10–18: mild depression; (iii) 19–29: moderate depression; and, (iv) > 30: severe depression.

In the original studies, the BDI showed good internal consistency ( $\alpha = .81$ ), moderate to high test-retest reliability (from .60 to .90) and good criterion validity based on the differentiation between clinical and non-clinical populations. In this study the internal consistency was  $\alpha = .89$

### Selection criteria

During the development of this research project, and taking into account the objectives defined at the outset, a convenience sample group consisting of 85 participants were assessed, adults of both genders, diagnosed with depressive symptoms, from various parts of Portugal, of which 64.7% were female ( $n = 55$ ) and 35.3% were male ( $n = 30$ ), aged between 18 and 69 ( $M = 41.2$ ;  $SD = 12.99$ ).

In this study, the post-tests were given to 83.4% of the sample group between the 5<sup>th</sup> and 10<sup>th</sup> psychotherapeutic intervention sessions, when the therapeutic objectives were outlined and diagnosis consultation.

### Procedure

An initial evaluation and diagnosis session was held by the psychotherapists at Clinica da Mente, which resulted in an analysis of the clinical cases, identifying the causes of the psychological and emotional disorders of each patient, and outlining an appropriate therapeutic plan for each one.

At the start of the first treatment session, and before any therapeutic intervention, the patients were asked about their availability to participate in the study. They were also informed of the nature of the study, its objectives and methodology, ensuring all ethical and deontological principles, as well as its anonymity and confidentiality. Subsequently, a questionnaire including questions on sociodemographic data and the BDI (pretest) was administered to all the participants.

Intensive HBM therapeutic sessions, with duration of up to two hours, were held weekly, according to the plan outlined in the evaluation session and until the objectives defined at the outset were reached. It is important to note that the duration of the intensive treatment varies and depends on individual needs

and therapeutic goals. In the final treatment session of the intensive phases, the questionnaire was again administered to the patients (post-test).

It is recommended that sessions are conducted to maintain and consolidate the achieved emotional balance over the course of one year, following the intensive treatment sessions (Brás, 2010).

## RESULTS

The data was analysed using SPSS and XLSTAT. Its treatment occurred in two phases. Initially, descriptive statistical techniques were used (frequencies, percentages, medians, averages, and standard deviations) as well as statistical inference analyses of the hypothesis, using the chi-squared independence test ( $X^2$ ) with a type I error probability of 0.05.

In the second phase, the psychometric characteristics of the BDI were analysed: the internal consistency of the inventory was studied by calculating the result accuracy coefficient (Cronbach's alpha) as well as the correlation of each item with the total inventory. Thus, in order to provide an answer to the hypothesis being studied: 'What is the effectiveness and efficiency of the HBM psychotherapeutic intervention model in the treatment of depression?' the researchers analysed whether there was a decrease in the depression index of the patients composing the study's sample group (see Table 1).

Table 1  
Depression Scores by Category in the Pre- and Post-test Samples

Categories	Pretest				Post-test			
	<i>f</i>	%	<i>M</i>	<i>SD</i>	<i>f</i>	%	<i>M</i>	<i>SD</i>
Not depressed	3	3.5	6.3	1.53	68	80	3.5	2.43
Mild depression	12	14.2	14.0	2.73	16	18.8	12.1	2.78
Moderate depression	32	37.6	24.3	3.36	1	1.2	20	0
Severe depression	38	44.7	37.9	7.38	0	0	0	0
Total	85	100	28.3	11.12	85	100	5.3	4.49

$p < 0.001$

At the beginning of the study (i.e., prior to psychotherapeutic intervention), the sample's average index was 28.3, which corresponds to the upper limit of 'moderate depression' category. While at the end of the psychotherapeutic intervention using the HBM model, the mean depression index of the sample was 3.5, corresponding to 'not depressed' category. We can therefore establish that there is a statistically significant difference,  $t(84) = 18.07$ ,  $p < 0.001$ , between the pre- and post-test average degree of depression, and that the psychotherapeutic intervention using the HBM model had a significant impact on reducing the degree of depression in all patients.

In order to make the aforementioned differences in the level of depression more evident (i.e., to show whether there are statistically significant difference between pretest and post-test), we analysed the evolution of pretest and post-test levels of depression in the sample group, categorising their answers on the BDI as 'not depressed' (a score of up to 9 points on the scale); 'mild depression' (a score of between 10 and 18 points); 'moderate depression' (a score of between 19 and 29); and, 'severe depression' (a score of over 30 points in the scale).

In this manner, it was found that before the psychotherapeutic intervention 44.7% of the sample exhibited 'severe depression' indexes ( $M = 37.9$ ,  $SD = 7.38$ ) and 37.6% 'moderate depression' ( $M = 24.3$ ,

$SD=3.36$ ). After psychotherapeutic intervention using the HBM model, 80% of the sample ( $n=68$ ) were 'not depressed' ( $M=3.5$ ,  $SD=2.43$ ) and 18.8% exhibited 'mild depression' indexes ( $M=12.1$ ,  $SD=2.78$ )

On the scatterplot (Figure 1) and the boxplot (Figure 2), we can also assess the causal relationship between the use of the HBM intervention model and the remission of depressive symptoms in 80% of the sample and the almost total decrease of the depression index in the rest of the sample group.

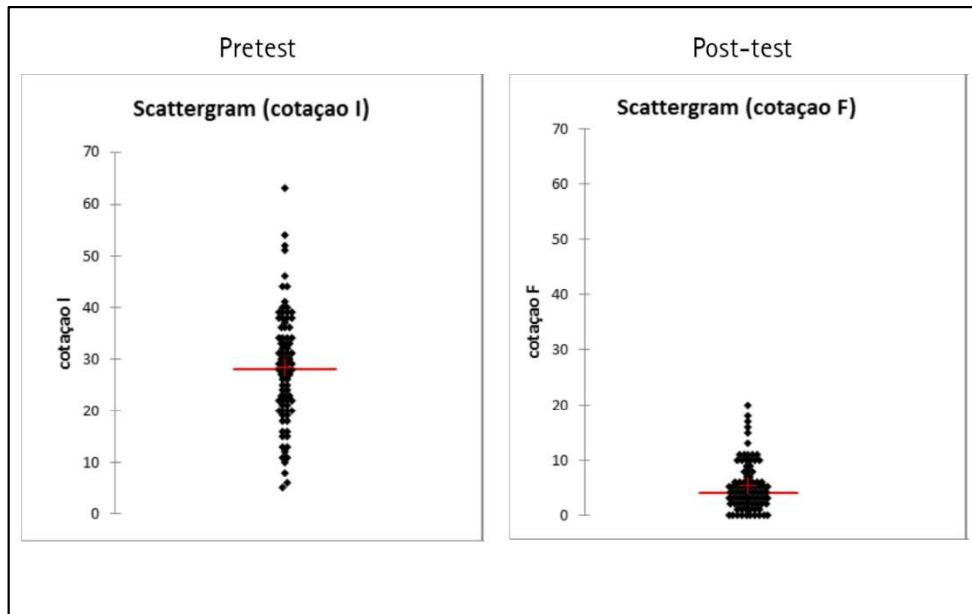


Figure 1. Scatterplot of pretest and post-test.

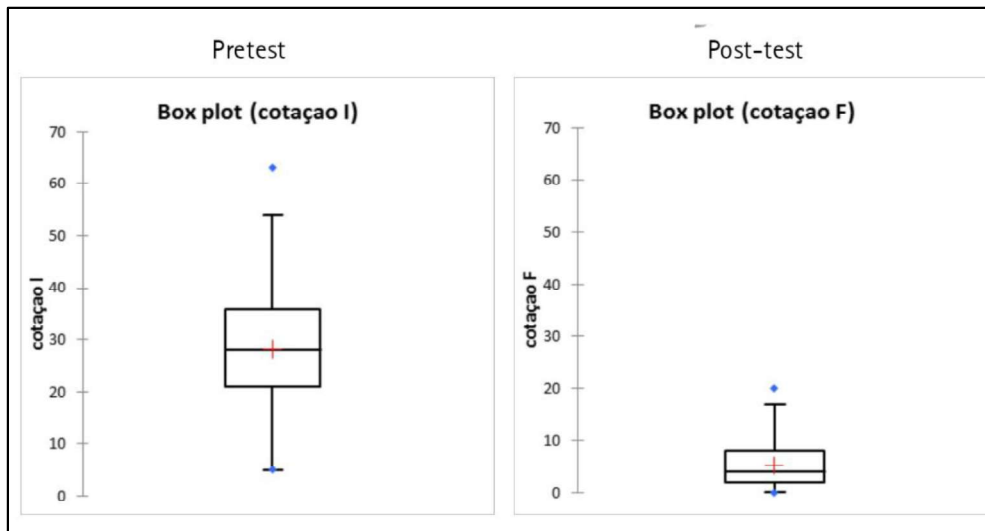


Figure 2. Boxplot for pretest and post-test represented by the Whisker segment.

## Inferential analysis of the level of depression in relation to gender

In order to verify the impact of the sociodemographic variable on the variation of the degree of depression after psychotherapeutic intervention using the HBM model, a statistical inference analysis was carried out using the chi-squared distribution test ( $X^2$ ) for a type I error probability of 0.05. When looking at the number of cases with higher levels of variation (i.e., participants who were initially suffering from 'severe depression' and after the intervention were 'not depressed'), it was established that in all cases where women began psychotherapy with 'severe depression', the psychotherapeutic intervention using the HBM model had a larger impact compared to men who had also begun the intervention with 'severe depression', where it is inferred that the HBM intervention model is highly effective and efficient in the treatment of depression, with a statistically significant effectiveness ( $M=13.87$ ;  $X^2=0.0005$ ), especially cases where the initial degree of depression before the treatment is more severe, and where gender is also a relevant factor in treatment, with women experiencing a more accentuated reduction in the depression index.

## CONCLUSION

There is a statistically significant difference between the pretest and post-test degree of depression, and it can be inferred that psychotherapeutic intervention using the HBM model had a significant impact in reducing the degree of depression in patients, where complete symptom remission was observed in 80% of the sample group.

For 83.4% of the sample group, between five and ten therapeutic intervention sessions were needed for them to overcome their previous depressive state, perceived through quality of life and well-being.

Schestatsky and Fleck (1999) carried out a study in order to test the effectiveness of a cognitive behavioural psychotherapeutic treatment in participants in the acute phase of depression. The results revealed an effectiveness rate of 55.3% in reducing depressive symptoms, where 20 sessions of cognitive behavioural therapy were needed for the participants to overcome their depressive state (i.e., for them to transition from a severe depressive state). A study (Hayes, Beevers, Feldman, Laurenceau, & Pearlman, 2005) was conducted with 29 patients diagnosed with depression, using a differentiated psychotherapy intervention method called the 'Depression Treatment and Wellness Promotion Programme', made up of 24 sessions. The results pointed to a 50% decrease in the symptoms of depression. Costa, Antonio, Soares, & Moreno (2006) describe a controlled trial involving 62 participants with symptoms of depression treated with combined psychodramatic psychotherapy (with the use of drugs) and pharmacological therapy. The psychodramatic therapy was delivered for 4 individual sessions and 24 group therapy sessions. The pharmacological therapy was submitted exclusively to pharmacotherapy. An analysis of the results showed that 20% of patients in the psychodramatic psychotherapy experienced complete remission and 31.62% experienced a reduction in symptoms of depression. No patients in the pharmacological therapy entered into remission, 14.33% experienced decreased symptoms of depression and 30% experienced a worsening of their symptoms of depression.

In the present study, it was noted that in all cases in which women began psychotherapy with 'severe depression', the psychotherapeutic intervention using the HBM model had a greater impact than in men who also began the intervention with a level of 'severe depression'.

We can, therefore, conclude that the HBM intervention model is highly effective and efficient in the treatment of depression, with a significant statistical effectiveness, especially in those cases where the initial depression index is more serious. The conclusion arising from the present study is of particular importance to the construction of a new mental health paradigm, emphasising the relevance of the HBM approach in the treatment of the blight that is depression.



This study contributed to the theoretical and practical body of knowledge on mental health. For instance it will also address the issue of 'psychiatric hegemony' whereby the idea that ruling class values and norms have become naturalised within the scientific research and knowledge-production on mental illness. Over the past 35 years, this process of expert claims-making by mental health professionals has expanded and become a dominant frame of reference which we now use to speak of and understand ourselves and others. It is argued that our behaviour, personalities, and lifestyles are now closely observed and judged under a psychiatric discourse which has become totalising, thus it can be said to have reached 'hegemonic' status (Relajo, 2017b)

In essence, the HBM approach to the treatment of depression should, therefore, be widely disseminated and used by professionals in the field of psychology and, as such, should be taught to psychologists during their initial academic training and/or in continuous training, so that they can diversity and optimise the intervention strategies employed.

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