FACULDADE DE MEDICINA
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MESTRADO INTEGRADO EM MEDICINA

2014/2015

Ana Luís Marques Pinto de Faria

Cognitive behavioral therapy in obsessive-compulsive disorder: a comparison between individual and group approaches

março, 2015

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Mestrado Integrado em Medicina

Área: Psiquiatria e Saúde Mental

Tipologia: Monografia

Trabalho efetuado sob a Orientação de:

Dr. Ricardo Moreira

Trabalho organizado de acordo com as normas da revista:

Journal of Obsessive-Compulsive and Related Disorders

março, 2015

FMUP

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Cognitive behavioral therapy in obsessive-compulsive disorder: a comparison between individual and group approaches

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Patch Adams, 1998

A todos aqueles que me acompanharam neste percurso de aprendizagem. Sem a minha família, o Pedro, as alheiras, as quatro das cinco, os RUAH e a turma 1, nada teria o mesmo sabor. Quero continuar a crescer com vocês ao meu lado!

Um agradecimento especial ao Dr. Ricardo Moreira pela orientação neste trabalho e por ter aberto algumas das portas do conhecimento em Psiquiatria.

Cognitive behavioral therapy in obsessive-compulsive disorder: a comparison between individual and group approaches

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Abstract: Introduction: Cognitive behavioral therapy (CBT) is a psychological treatment for obsessive-compulsive disorders (OCD), which can be developed individually or within a group. The aim of this study is to compare these two types of CBT (individual *vs.* group), reviewing the literature about this subject. Methods: A systematic review was performed to search for studies that compare individual and group CBT and their results were summarized and discussed. Results: Six articles were included in this study. The Yale-Brown Obsessive Compulsive Scale (Y-BOCS) score was the primary outcome chosen to compare results, because it was used in all of the selected studies. Other variables were taken into account to discuss and achieve conclusions: CBT duration, group sizes, number of therapists in each group, follow-up and studies limitations. Conclusions: Both individual and group CBT are effective psychological treatments for OCD, reducing obsessive-compulsive, anxiety and depressive symptoms. In the majority of the studies included in this review, there are no statistically significant differences between these two types of CBT, although slightly better results are reported for individual treatment and more cost-effective outcomes are associated with group CBT.

Key-words: Obsessive-compulsive disorder, Cognitive Behavioral Therapy, Group, Individual

Introduction:

Obsessive-compulsive disorder (OCD) “is characterized by the presence of obsessions and/or compulsions. Obsessions are recurrent and persistent thoughts,

urges, or images that are experienced as intrusive and unwanted, whereas compulsions are repetitive behaviors or mental acts that an individual feels driven to perform in response to an obsession or according to rules that must be applied rigidly. (…) The obsessions or compulsions are time-consuming or cause clinically significant distress or impairment in social, occupational, or other important areas of functioning" (American Psychiatric Association, 2013).

Lifetime prevalence for OCD is between 2.3 and 3.8 % in general population (McEvoy et al., 2011; Ruscio et al., 2010; Subramaniam et al., 2012). This condition is one of the ten leading causes of disability in the world (World Health Organization, 2001).

The average age of onset for OCD is around 20 years, according to epidemiological data (Ruscio et al., 2010; Subramaniam et al., 2012). Seeking for help is commonly delayed and some studies have shown a treatment gap of approximately 60 % among patients with OCD (Kohn et al., 2004).

Obsessive-compulsive disorders are debilitating conditions and patients report a decrease in quality of life, since they experience impairment in different areas of functioning, such as family and/or social life and work (Huppert et al., 2009; Olatunji et al., 2007). OCD can become a chronic disease when untreated, especially due to treatment gap, its early onset and the association with other comorbid mental illnesses, such as affective and other anxiety disorders (Kessler et al., 2005; Millet et al., 2004). These facts are crucial to understand the importance of OCD treatments.

There are different kinds of treatment for OCD, including psychotherapy, pharmacotherapy and the combination of both. In patients with severe OCD resistant to these treatments, Deep Brain Stimulation is an alternative (Koran et al., 2007).

Regarding psychotherapy, CBT with Exposure and Response Prevention has great empirical support and showed better outcomes for OCD treatment than the

results achieved in placebo or waitlist groups, confirming the effectiveness of this type of therapy (Abramowitz et al., 2002; Eddy et al., 2004; NICE, 2006).

This article aims to review the current literature regarding the comparison between group and individual CBT.

Methods:

Search methods:

The search for studies was done using Medline and Web of Science databases and was based on the following keywords: OCD, CBT, individual, group. The query for Medline search was: (((OCD[Title/Abstract]) AND individual[Title/Abstract]) AND group[Title/Abstract]) AND (CBT OR therapy[Title/Abstract]). For Web of Science, the search was based on the query: "Title: (OCD OR obsessive compulsive) AND Title: (cognitive behavioral therapy) AND Topic: (group) AND Topic: (individual)". The studies referred on the articles found by this search were also reviewed.

Inclusion and exclusion criteria:

The inclusion criteria comprised several items: a) studies comparing individual and group CBT; b) participants with 18 years old or above; c) diagnostic of OCD done using DSM-III or more recent editions; d) studies available in English or Spanish. Follow-up articles regarding to studies meeting the above criteria were also included in these review results.

Studies where the same patient received both individual and group therapy were excluded from this review.

Primary outcome:

Studies were compared using Yale-Brown Obsessive Compulsive Scale (Y-BOCS) as the primary outcome, since it was used in all the selected articles. This scale is a 10-item clinical-rated scale, which includes, among others, life interference, time spent and distress related to OCD symptoms. There are separate subtotal values associated with obsessions and with compulsions. The total range, which was used in this analyses, varies from 0 to 40 and each item is rated from 0 (no symptoms) to 4 (extreme symptoms) (Goodman et al., 1989).

Quality of studies - methods:

Individually, the studies quality was assessed using *Cochrane Collaboration Depression, Anxiety and Neurosis Group (CCDAN) quality rating scale*, which was developed specifically for psychiatric studies and includes 23 items, such as objective establishment, study design, sample demographics and presentation of results and conclusions. The articles are evaluated with a final score from 0 to 46, allowing further comparisons between them (Moncrieff et al., 2001).

Results:

Studies selection:

31 articles were found in Medline database and 10 in Web of Science, until November 2014, using the queries presented in the Methods section. The article selection process is presented in Figure 1.

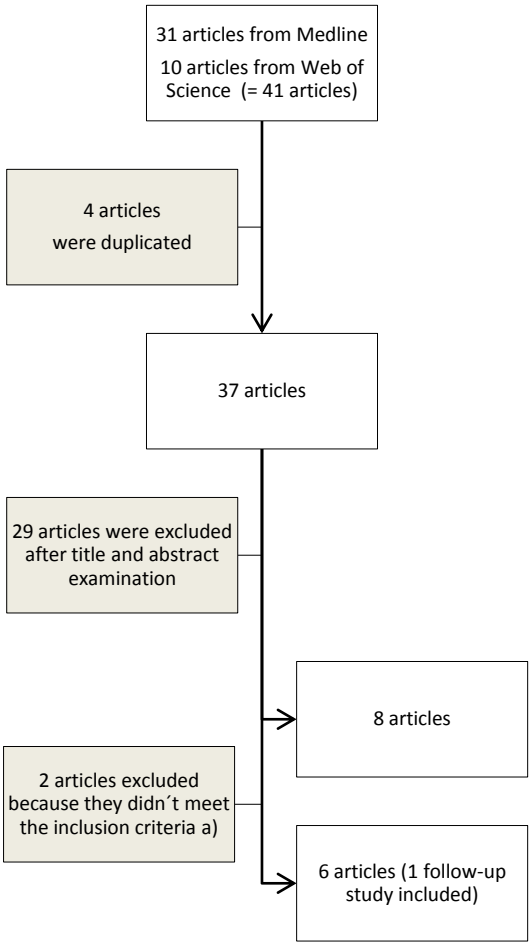

Figure 1 – Studies selection

After the first article selection step, there were 8 potential articles to use in this review. Two of them did not meet the inclusion criteria *a) studies comparing individual and group CBT*. From the last 6 selected articles, there was 1 follow-up, which was also included since it was related to a study that met the inclusion criteria.

Quality of studies - results:

The quality of the selected studies was assessed using CCDAN quality rating scale. All the studies had a score of 24 and above. The individual evaluation of quality is available in Table 1.

Included studies characterization:

Table 1: Characterization of the included studies

Reference	N	N allocated in each group; N received treatment	Age (mean)	Exclusion criteria	Duration of OCD (mean, years)	CBT duration	Group size (G)	N of therapists (G)	N drop-outs	Follow-up	Y-BOCS pre-post treatment change (mean)	Y-BOCS pre treatment-follow up (mean)	CCDAN (0-46)	Limitations (described in the article)
Jónsson et al., 2011	110	(G): 55; 47 (I): 55; 46	(G): 32.7 (I): 32.7	Organic brain disease, current psychotic episode, bipolar affective disorder, cluster A personality disorder, unstable medication dosage (3 months before)	(G): 18.9 (I): 17.6	15 sessions (G): 2 hours each (I): 1 hour each	6	2	(G): 6 [PT] + 4 [DT] (I): 5 [PT] + 9 [DT]	6 and 12 M	(G): 26.19→18.83 (I): 26.72→18.35	6 M: (G): 26.19→18.45 (I): 26.72→18.74 12 M: (G): 26.19→18.70 (I): 26.72→18.20	36	No control group; changes in medication for 22.5 % of individuals
Cabedo et al., 2010	42	(G): 24 (I): 18	(G): 37.14 (I): 30.44	Not described	(G): 13.1 ± 12.7 (I): 4.81 ± 3.55	(G): 16 sessions (2 hours each) (I): 18 sessions (1 hour each)	7, 6 or 5	1 therapist + 1 co-therapist	(G): 3 (I): 2	12 M	(G): 25.00→10.64 (I): 25.81→8.31	12 M (G): 25.00→11.14 (I): 25.81→6.56	30	OCD heterogeneity has not been considered; different treatment duration for both groups; therapist from two different countries
Jaurrieta et al., 2008a	57	(G): 19 (I): 19 (C): 19	(G): 23.3 (I): 24.2 (C): 22.9	Severe OCD (Y-BOCS > 36), personality disorder, suicidal ideation, substance abuse, psychotic disorder, bipolar disorder, other severe mental disorder	Age of onset: (G): 17.2 (6.01) (I): 20.3 (7.65) (C): 18.9 (5.9)	20 sessions (G): 90 min each (I): 45 min each (C): wait list	9 and 10	1 therapist + 1 co-therapist	10; Probability of dropout 31.6 % (I) and 15.8 % (G)	In the follow-up article	(G): 24.6→19.8 (I): 25.2→15.8 (C): 24.8→24.6	-	38	Small sample; patients with personality disorders not included; the randomized design created differences between groups; preliminary results
Jaurrieta et al., 2008b	28	-							8; risk of dropping	1 and 3 M (not analyzed)	-	6 M: (G): 24.6→16.8 (I): 25.2→11.2	-	Small sample size; drop-out rate;

(Follow-up study)									out statistically similar (I)and(G)	6 and 12 M		12 M: (G): 24.6→13.7 (I): 25.2→10.0		personality disorders excluded
Anderson et al., 2007	63	(G): 25 (I): 21 (C): 17	(G): 34.6 (I): 32.2 (C): 34.4	Undergoing concurrent psychological treatment for OCD; current diagnosis of schizophrenia, intellectual disability or organic mental disorder; medication dosage unstable in the 3 M prior to assessment	(G): 16.1 (14.3) (I): 11.4 (9.0) (C): 13.6 (7.1)	11 sessions (G): 2 hours each (I): 1 hour each	5	2	(G): 2 [PT] + 3 [DT] (I): 4 [DT] (C): 0	1 M	(G): 25.4→18.1 (I): 24.0→16.7	(G): 25.4→17.1 (I): 24.0→14.2	30	Brief follow-up (due to funding limitations); different number of treatment hours in each group; inclusion of participants with many secondary comorbid problems
Fals-Stewart et al., 1993	93	(G): 30 (I): 31 (C): 32	30.5	Axis II diagnosis, major depression diagnosis + BDI > 22	12.7 ± 7.7	24 sessions (G): 2 hours each (I): 1 hour each	10	1	(G): 1 [DT] (I): 3 [DT]	6 M	(G): 22.1→12.0 (I): 20.2→12.1 (C): 19.9→18.1	(G): 21.1→ 14.0 (I): 20.2→12.9	24	Only subjects with mild to moderate OCD symptom severity

N: number of individuals
Y-BOCS: Yale-Brown Obsessive Compulsive Scale
(G): Group CBT
(I): Individual CBT
(C): Control group
[PT]: Prior to treatment start
[DT]: During treatment
M: months
BDI: Beck Depression Inventory score

Discussion:

Both individual and group CBT created a significantly impact in reducing anxiety, depressive and obsessive-compulsive symptoms, compared with control groups and presented large and durable treatment outcomes (Anderson & Rees, 2007; Fals-Stewart et al., 1993; Jaurrieta et al., 2008a).

Most of the selected studies did not reach a statistically significant difference between the two types of CBT. Fals-Stewart and colleagues (1993) found that individual CBT led to a faster symptom improvement, compared to group CBT. Despite these findings, they also concluded that, over time, both CBT types were equally effective. Anderson and Rees (2007) concluded that, at brief follow-up, group and individual CBT were equivalent, as no statistically significant improvement was found in individual CBT compared with the results for group mode, although individual CBT could be associated with a faster response. Jaurrieta et al. (2008), in both the controlled pilot study and the follow-up article, reported the following conclusions: individual CBT was more effective than group treatment at post-treatment assessment. However, this was not proven in the 6 and 12 months follow-up analysis, since there were no significant differences between symptom improvement in individual and group therapy. Cabedo et al. (2010) concluded that there were no significant differences between group and individual CBT, at the two assessment periods. They refer that, with these results, group CBT had proven to be a promising new tool for OCD treatment. Jónsson et al. (2011), in the more recent comparative study in this matter, indicated that both individual and group CBT have similar outcomes, at all assessment points. With these results, it is possible to observe that, in the majority of times, there are no significant differences between group and individual treatments.

Although it is important to compare these results regarding to the improvement of symptoms, it is also vital to compare the two models of treatment concerning other areas. One of these potential comparable areas is the drop-out rate. In the majority of the selected articles, the drop-outs were higher in the individual CBT group (although the difference was almost never

statistically significant). In post-treatment assessment of Jaurrieta et al. (2008a) study, it can be observed that the patients treated with individual CBT were twice more likely to drop out, compared with the ones receiving group treatment. There are some possible reasons for this to happen: (1) patients involved in a group could be more motivated to attend sessions and follow-up assessments since they knew they were going to see other group members (and this could also be plausible for augmenting the motivation to complete assignments/homework); (2) there could be created a cohesion between patients attending group sessions, which improves both motivation and compliance; (3) the drop-out rates could be higher in individual CBT since patients could have felt a faster symptomatic improvement, leading to giving up the treatment as it was effective. Jaurrieta et al. (2008b), in their follow-up studies, also refer that the drop-out rates at follow-up were higher in women than in men. This is a subject that can be studied in further investigation. In some studies, the drop-out rates are almost the same between the two groups. It could be possible that the referred positive highlights of group CBT can compensate the fact that individual treatment can be more appealing, since the personal time with a therapist is higher.

This leads to the last discussion area, which is the therapy time per patient. Patients attending individual sessions have more time working with a therapist. In all the studies selected for this review, the mean of time per patient in group CBT was 8.12 hours and in individual CBT was 16.6 hours (more than double). The group number of subjects was as high as 10. It is possible to manage a group using only one therapist, which leads to reduction of the costs, but it becomes more difficult than with the help of another therapist or co-therapist. The presence of two or more individuals in charge of group therapy also allows training for new therapists in this specific area. Since there are necessary fewer therapists per patient in group CBT, this type of treatment is more cost-effective than the individual one. Although, there are some therapists that report that it is a more challenging mode of therapy because they have to access different needs for all the subjects in the group.

This systematic review compares results collected from different articles, discussing selected outcomes. Nevertheless, there are some limitations to the present study: (1) one of the

inclusion criteria consisted in the use of comparative studies, which restricted the number of selected articles; (2) there was a language limitation that probably affected the studies inclusion process; (3) other outcomes could be potentially comparable (namely other scales such as OCI-R - Obsessive Compulsive Inventory-Revised; BDI-II - Becks Depression Inventory; BAI - Becks Anxiety Inventory); (4) a meta-analysis was not used in this study and it might lead to richer conclusions.

Conclusion:

The issue addressed in this review is an important one, given that there is a need to find more effective modes of treatment for OCD patients.

This systematic review allows a better view about individual and group CBT and their effectiveness. In the majority of the studies included, there are no statistically significant differences between these two types of CBT, although slightly better results are reported for individual treatment. Secondary outcomes for the two models were compared, which favor group CBT, proven to be more cost-effective.

This review highlights the need for new studies, comparing group and individual CBT, with control groups, larger number of subjects (and including description of sample demographics), longer follow-up periods, and having in consideration the heterogeneity of OCD as a variable. It is important to review the previous studies limitations in order to progress in the further ones.

Bibliography:

Abramowitz, J. S., Franklin, M. E., & Foa, E. B. (2002). Empirical status of cognitive-behavioral therapy for obsessive-compulsive disorder: a meta-analytic review. *Rom J Cogn Behav Psycother, 2:89-104*.

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, DC.

Anderson, R. A., & Rees, C. S. (2007). Group versus individual cognitive-behavioural treatment for obsessive-compulsive disorder: a controlled trial. *Behav Res Ther, 45*(1), 123-137.

Cabedo, E., Belloch, A., Carrio, C., Larsson, C., Fernandez-Alvarez, H., & Garcia, F. (2010). Group versus individual cognitive treatment for obsessive-compulsive disorder: Changes in severity at post-treatment and one-year follow-up. *Behav Cogn Psychother, 38*(2), 227-232.

Eddy, K. T., Dutra, L., Bradley, R., & Westen, D. (2004). A multidimensional meta-analysis of psychotherapy and pharmacotherapy for obsessive-compulsive disorder. *Clin Psychol Rev, 24*(8), 1011-1030.

Fals-Stewart, W., Marks, A. P., & Schafer, J. (1993). A comparison of behavioral group therapy and individual behavior therapy in treating obsessive-compulsive disorder. *J Nerv Ment Dis, 181*(3), 189-193.

Goodman, W. K., Price, L. H., Rasmussen, S. A., Mazure, C., Fleischmann, R. L., Hill, C. L., Heninger, G. R., & Charney, D. S. (1989). The Yale-Brown Obsessive Compulsive Scale. I. Development, use, and reliability. *Arch Gen Psychiatry, 46*(11), 1006-1011.

Huppert, J. D., Simpson, H. B., Nissenson, K. J., Liebowitz, M. R., & Foa, E. B. (2009). Quality of life and functional impairment in obsessive-compulsive disorder: a comparison of patients with and without comorbidity, patients in remission, and healthy controls. *Depress Anxiety, 26*(1), 39-45.

Jaurrieta, N., Jimenez-Murcia, S., Menchon, J. M., Del Pino Alonso, M., Segalas, C., Alvarez-Moya, E. M., Labad, J., Granero, R., & Vallejo, J. (2008a). Individual versus group

cognitive-behavioral treatment for obsessive-compulsive disorder: a controlled pilot study. *Psychother Res, 18*(5), 604-614.

Jaurrieta, N., Jimenez-Murcia, S., Alonso, P., Granero, R., Segalas, C., Labad, J., & Menchon, J. M. (2008b). Individual versus group cognitive behavioral treatment for obsessive-compulsive disorder: follow up. *Psychiatry Clin Neurosci, 62*(6), 697-704.

Jónsson, H., Hougaard, E., & Bennedsen, B. E. (2011). Randomized comparative study of group versus individual cognitive behavioural therapy for obsessive compulsive disorder. *Acta Psychiatr Scand, 123*(5), 387-397.

Kessler, R. C., Chiu, W. T., Demler, O., Merikangas, K. R., & Walters, E. E. (2005). Prevalence, severity, and comorbidity of 12-month DSM-IV disorders in the National Comorbidity Survey Replication. *Arch Gen Psychiatry, 62*(6), 617-627.

Kohn, R., Saxena, S., Levav, I., & Saraceno, B. (2004). The treatment gap inmental health care. *Bull World Health Organ, 82(11):858–66*.

Koran, L. M., Hanna, G. L., Hollander, E., Nestadt, G., & Simpson, H. B. (2007). Practice guideline for the treatment of patients with obsessive-compulsive disorder. *Am J Psychiatry, 164*(7 Suppl), 5-53.

McEvoy, P. M., Grove, R., & Slade, T. (2011). Epidemiology of anxiety disorders in the Australian general population: findings of the 2007 Australian National Survey of Mental Health and Wellbeing. *Aust N Z J Psychiatry, 45*(11), 957-967.

Millet, B., Kochman, F., & Gallarda, T. (2004). Phenomenological and comorbid features associated in obsessive-compulsive disorder: influence of age of onset. *J Affect Disord, 79(1–3):241–6*.

Moncrieff, J., Churchill, R., Drummond, D. C., & McGuire, H. (2001). Development of a quality assessment instrument for trials of treatments for depression and neurosis. *Int J Methods Psychiatr Res, 10:126–133*.

NICE. (2006) *Obsessive-Compulsive Disorder: Core Interventions in the Treatment of Obsessive-Compulsive Disorder and Body Dysmorphic Disorder*. Leicester (UK).

Olatunji, B. O., Cisler, J. M., & Tolin, D. F. (2007). Quality of life in the anxiety disorders: a meta-analytic review. *Clin Psychol Rev, 27*(5), 572-581.

Ruscio, A. M., Stein, D. J., Chiu, W. T., & Kessler, R. C. (2010). The epidemiology of obsessive–compulsive disorder in the National Comorbidity Survey Replication. *Mol Psychiatry, 15:53–63*.

Subramaniam, M., Abdin, E., Vaingankar, J. A., & Chong, S. A. (2012). Obsessive-compulsive disorder: prevalence, correlates, help-seeking and quality of life in a multiracial Asian population. *Soc Psychiatry Psychiatr Epidemiol, 47(12):2035–43*.

World Health Organization. (2001). The world health report 2001. Mental health: New understanding, new hope. Geneva: World Health Organization.

Appendices:

I. Highlights

1. A systematic review comparing group and individual CBT was developed
2. Both individual and group CBT are effective psychological treatment for OCD
3. Majority of studies shown no statistically significant differences between the two
4. Slightly better results reported for individual CBT
5. More cost-effective outcomes associated with group CBT

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