

Negative Reinforcement, Obsessive-Compulsive Disorder (OCD), and Exposure and Response Prevention (ERP) Strategies: A Narrative Review of Literature

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ABSTRACT

Clinical evidence has increasingly shown that Obsessive-Compulsive Disorder (OCD) can be effectively treated through psychotherapeutic interventions. Considering that there currently is a high diversity of psychotherapeutic interventions, how can health professionals decide on which strategies to use? What are the characteristics of the strategies effectively applied to treat OCD? The aim of the present review of clinical reports was to provide an overview of strategies employed in the psychotherapeutic treatment of OCD. The bibliographic research carried out through the Online Library of Knowledge (B-on) allowed for the identification of 23 publications that met the inclusion criteria for the present narrative review of the literature. Results revealed that amongst several strategies derived from the cognitive-behavioural model of learning, Exposure and Response Prevention (ERP) strategies applied in order to extinguish behaviours shaped by negative reinforcement directed many health professionals' attention.

Keywords: Negative reinforcement; Obsessive-compulsive disorder (OCD); Exposure and response prevention (ERP); Cognitive-behavioural model of learning; Narrative review of literature

INTRODUCTION

Obsessive-Compulsive Disorder (OCD)

All human beings have intrusive thoughts. These kinds of thoughts are often seen as nuisance and may present significant problems in one's daily life. Some intrusive thoughts are called obsessions and are associated with OCD which affects 1% to 3% of the population regardless of ethnicity, context or socioeconomic status [1]. While obsessions consist of repeated intrusive thoughts, impulses or images that cause distress, compulsions consist of ritualistic behaviours [2] or mental acts that serve to alleviate one's suffering [3, 4]. Symptoms tend to appear during childhood or adolescence [1, 5] and to persist throughout adulthood in more than 40% of the cases [6].

Family Adaptation

It has been noticed that parental figures or other family members tend to act in order to try to alleviate the patient's symptoms [7] through changing family activities or routines or allowing the patient to emit behaviours that serve the function of removing the presence of some aversive stimulus that disturbs the individual, for instance, letting children to sleep in their parents' beds in order to remove some kind of fear that ghosts a child [8, 9], thus shaping and maintaining the individual's behaviours through a process of negative reinforcement [2, 10, 11, 12].

Negative Reinforcement

According to the cognitive-behavioural model of learning which also comprises the principles of operant conditioning, when an individual behaves in a certain way and contingent on that behaviour an aversive stimulus is subtracted, taking off or away, withdrawn or disappears and no longer is present, that consequence has the effect of increasing the probability that such behaviours will be emitted again in the future (negative reinforcement) in a similar situation. In other words, if a given behaviour is adaptive and reduces the individual's sufferings, then that particular or similar behaviour will be frequently encountered, considering that it is followed by the removal of an unwished-for consequence such as fear of something. The weakening in force or intensity of an aversive stimulus provides reinforcement to that behaviour, because that behaviour brings relieve, comfort, granting the individual some freedom from some burden, harm, or distress [2].

The coexistence of two or more related medical conditions

OCD spectrum disorders (including body dysmorphic disorder, accumulation disorder, hypochondria, obsessive-compulsive personality disorder, trichotillomania, and skin picking disorder) often co-occur with OCD and aggregate within families [13]. Other disorders such as anxiety, depressive or bipolar, tic disorder, attention deficit/hyperactivity disorder, disorders characterised by impulsivity (e.g., oppositional defiant disorder), schizophrenia or schizoaffective disorder, eating disorders (e.g., anorexia nervosa and bulimia nervosa) and Tourette's syndrome are also frequent in patients with OCD [3]. It has been reported [1] that substance use disorders co-occur at relatively high rates in some epidemiological samples of OCD with prevalence in clinical cohorts generally not high.

Impact and treatment

OCD is associated with ongoing impairments in social, academic and family functioning [14], and absenteeism from work [15]. These patients' quality of life and that of their caregivers tend to be very low [1, 16, 17]. The first-line treatment for OCD consists of cognitive-behavioural therapy (CBT) with Exposure and Response Prevention (ERP) strategies receiving the most significant endorsement [2, 18, 19, 20]. Several studies have incorporated cognitive components, such as cognitive restructuring or self-instructional training, to evaluate possible additional benefits to ERP [21]. Other studies following differing psychotherapeutic approaches in the psychotherapeutic treatment of OCD have reported efficient results.

Objective

The aim of this study was to investigate the strategies reported by health professionals in the psychotherapeutic treatment of OCD and through a review of clinical reports it was intended: a) To recover the available knowledge about the psychotherapeutic strategies used in the

treatment of OCD; b) To synthesise the available knowledge recovered; and c) To determine the characteristics of these reported psychotherapeutic treatments.

METHOD

Participants

This review of clinical reports gathered 20 original papers. The sum of these papers' samples resulted in a total of 1701 individuals, of which 1563 (91.89%) were diagnosed with OCD and 138 (8.11%) were in Control Groups. With regard to gender, 987 (58.02%) were female and 714 (41.98%) were male. The average age ranged between 10.33 and 46.06 years of age.

Materials and Procedure

For the development of the present narrative review, clinical reports published in journals indexed in the Online Library of Knowledge (B-on) were reviewed through the following steps:

Step 1

The electronic search in B-on was carried out on November 17, 2019 (at 16:14 hours), using the Google Chrome Internet browser (version 84.0.4147.105) connected to the service Virtual Private Network (VPN). On the database's homepage, the researcher's session was started and the option "Research Service" was selected. Then, the "Advanced Search" tool was chosen, which allowed for the combination of terms and the application of limits determined beforehand. On this second page, the terms "OCD" (first text field) and "Psychotherapy" (second text field) were introduced and in the Search modes and expanders section, the option "Apply related words" was selected. The search was limited to full text articles published between 2014 and 2019 in academic journals in English language.

Step 2

Analyses of title and abstract for each of the clinical reports identified by the electronic search were carried out. Empirical studies, studies that presented a quantitative, qualitative or mixed methodology, studies on the effects of psychotherapeutic interventions on the cognitive, emotional or behavioural functioning of individuals suffering from OCD (and the coexistence of two or more related medical conditions, i.e., comorbidity, if any), studies on the effects of psychotherapeutic interventions on the neural fields and brain areas of individuals diagnosed with OCD, and pilot studies were adopted as inclusion criteria. As exclusion criteria the following were applied: Lack of relationship with the topic of interest, repeated publications, systematic literature reviews, meta-analyses, dissertations and theses, editorials, comments, symposia, communications, letters, studies unavailable for viewing, case studies, non-empirical studies, studies not included in scientific journals, studies that were in a language other than English, poorly detailed studies, opinions, study corrections, studies that only addressed diagnostic criteria, studies that addressed the psychometric properties of psychological instruments, studies that only focused on the diagnosis of OCD, studies comparing interventions, studies on the effectiveness of treatments such as biological, chemical, through the Internet and other technologies, studies on the damage in the neural fields and brain areas which did not refer to psychotherapy, studies that focused only on the effects of psychotherapy on the physiological symptoms, studies that only referred to barriers, risk and protective factors, symptoms and prevalence, and studies performed with animals.

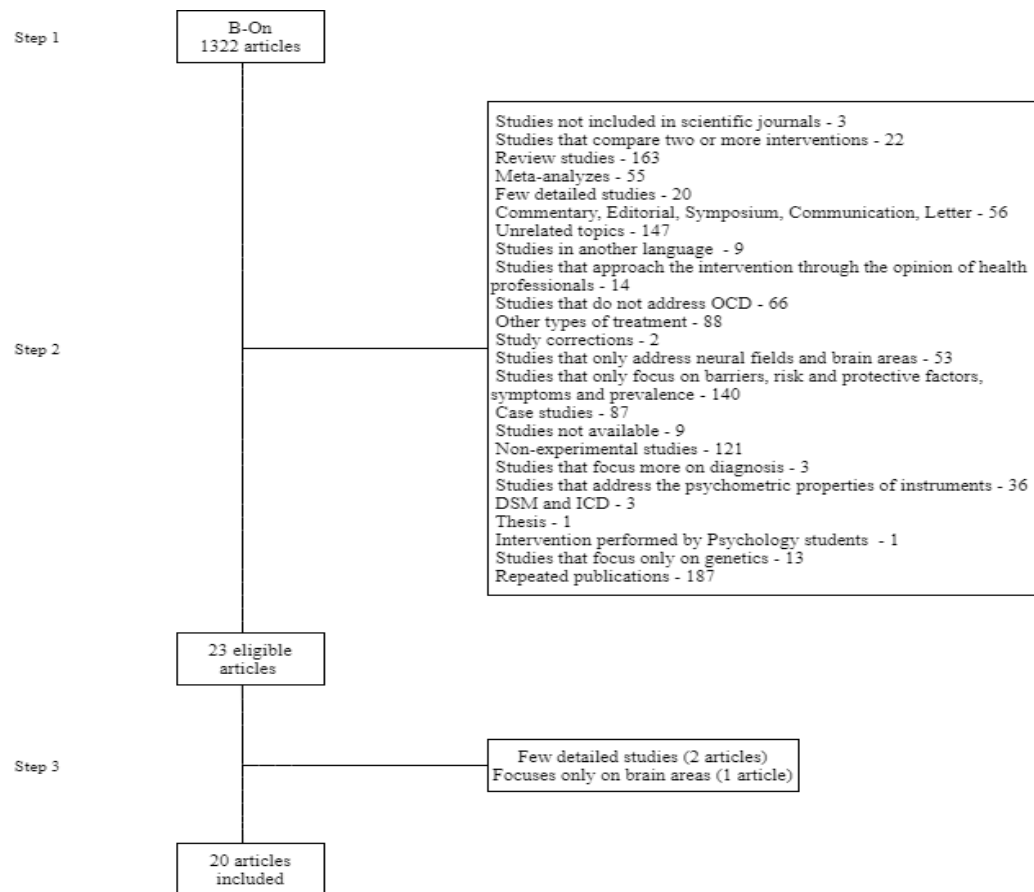


Figure 1. Flowchart illustrating the selection process

Step 3

All of the clinical reports eligible for inclusion in this review of clinical reports were read in full and a careful analyses of the information described in each of them were performed: (a) authors and year of publication, (b) objective of the study, (c) sample size, (d) clinical characteristics of the subjects (gender, groups, age and any comorbidity), (e) type of intervention used, and (f) main results.

RESULTS

Patients' characteristics

The review process described in the previous sections identified a total of 23 studies, two of which were excluded due to the existence of poorly detailed information about the participants and also another article due to the fact that it focused exclusively on brain areas. Table 1 shows the general characteristics of the individuals, their symptoms and specific comorbid conditions (when provided).

Table 1. General characteristics of patients with OCD

Clinical Report Reference Number	Number of patients	Groups Sex (F, M)	Average Age	Comorbidity
[23]	24	EG-12 individuals (7 F, 5 M) CG-12 individuals (6 F, 6 M)	EG-30.12 years CG-29.46 years	No comorbidity
[31]	172	83 F, 89 M	15.45 years	MDNOTS-82; ADHD-36; MDD-36; ASD-20; GAD-19; SAD-17; TC 15; ED-7; PD-6; LD-5; AN-4; SUD-4; Other-18
[32]	44	22 F, 22 M	33.73 years	No comorbidity
[34]	90	51 F, 39 M	32.7 years	GAD-27; DD-20; BD-1; PD-14; TS-2; SP-4; SOCP-11; BDD-1; IAD-2; AN-1; NB-2; ADHD-1
[27]	37	28 F, 9 M	32.13 years	No comorbidity
[35]	3	1 F, 2 M	10.33 years	No comorbidity
[36]	13	7 F, 6 M	40.38 years	MDD-2; BDD-1; D-4; GAD-2
[37]	342	237 F, 105 M	34.1 years	AD-57; AFD-47
[24]	103	EG-61 individuals CG-42 individuals (69 F, 34 M)	42.6 years	PD-70; DD-18; AD-53; OCDRD-27; TD-8
[33]	65	46 F, 19 M	32.10 years	GAD-17; DD-17; PD-12; SAD-8; PTSD-3; Other-SP, NB, AN, AD, IAD, T, ADHD
[30]	278	IN-187 individuals (119 F, 68 M) OU-91 individuals (59 F, 32 M)	IN-34.24 years OU-29.90 years	No comorbidity
[38]	36	EG-18 individuals (9F, 9 M) CG-18 individuals (8F, 10 M)	EG-40.53 years CG-46.06 years	SAD-18; MDD-7; GAD-4; PD-4; AA-1; ED-1

[29]	44	EG-22 individuals (10 F, 12 M) CG-22 individuals (10 F, 12 M)	EG-30.95 years CG-29.52 years	No comorbidity
[39]	27	6 F, 21 M	29.67 years	GAD-5; MDD-4; D-3; SOCP-2; H-1; SP-1; OCPD-6; APD-4; HPD-1; DPD-1
[40]	10	5 F, 5 M	35.26 years	Moderate MDD-5; Severe MDD-2; TS-1; I-1; APD-2; OCPD-1; PPD-1; DPD-1; NPD-1
[22]	24	EG-12 individuals (7 F, 5 M) CG-12 individuals (6 F, 6 M)	EG-30.12 years CG-29.46 years	No comorbidity
[26]	56	22 F, 34 M	35.93 years	OCPD-20; DPD-7; APD-5; BPD-2; NPD-2; PPD-1; SPD-1; DD-7; ED-1
[25]	40	EG-20 individuals (7 F, 13 M) CG-20 individuals (7 F, 13 M)	GE-30.35 years GC-30.55 years	No comorbidity
[28]	269	138 F, 131 M	12.8 years	AD-52; DD-10; ADHD-24; ODD/PC-10; TD-49
[41]	24	EG-12 individuals (8 F, 4 M) CG-12 individuals (9 F, 3 M)	EG-35.8 years CG-30.33 years	GAD-4; SAD-3; MDD-1

Abbreviations: EG-Experimental Group; F-Female; M-Male; CG-Control Group; MDNOTS-Mood Disorder Not Otherwise Specified; ADHD-Attention Deficit Hyperactivity Disorder; MDD-Major Depressive Disorder; ASD-Autism Spectrum Disorder; GAD-Generalized Anxiety Disorder; SAD-Social Anxiety Disorder; TD-Tic Disorder; ED-Eating Disorder; PD-Panic Disorder; LD-Learning Disorder; AN-Anorexia Nervosa; SUD-Substance Use Disorder; DD-Depressive Disorder; BD-Bipolar Disorder; TS-Tourette's Syndrome; SP-Specific Phobia; SOCP-Social Phobia; BDD-Body Dimorphic Disorder; IAD-Illness Anxiety Disorder; NB-Nervous Bulimia; D-Dysthymia; AD-Anxiety Disorder; AFD-Affective Disorder; OCDRD-Obsessive-Compulsive Disorder and Related Disorders; PTSD-Post-Traumatic Stress Disorder; T-Trichotillomania; IN-Inpatients; OU-Outpatients; AA-Alcohol Abuse; H-Hypochondria; OCPD-Obsessive-Compulsive Personality

Disorder; APD-Avoidant Personality Disorder; HPD-Histrionic Personality Disorder; DPD-Dependent Personality Disorder; I-Insomnia; PPD-Paranoid Personality Disorder; NPD-Narcissistic Personality Disorder; BPD-Borderline Personality Disorder; SPD-Schizotypal Personality Disorder; ODD-Oppositional Defiant Disorder; PC-Conduct Disorder

Psychotherapeutic strategies

Table 2 presents the specific strategies applied during the psychotherapeutic treatment of OCD and their main effects. From the analyses of Table 2, one can see that several reports described the use of cognitive-behavioural therapy to treat their patients [22, 23, 24, 25, 26, 27, 28, 29]. The main strategy applied in the eight clinical reports consisted of psychoeducation, thought registering, cognitive restructuring, ERP, review of the therapeutic process and relapse prevention. Regarding the duration of these interventions, it varied between five and 16 weekly sessions. Individuals undergoing these treatments reported a significant decrease in OCD symptoms after treatment. Clinical Report Reference Numbers 24 and 27 also reported a reduction in patients' depressive and anxiety symptoms. In addition to reducing the symptoms of OCD, alterations in the structure, neurochemistry and brain functions were revealed in some of the clinical reports. Clinical Report Reference Number 23, for instance, reported a significant decrease in the volume of the thalamus on both sides as well as a significant increase in the volume of the left orbit frontal cortex, and morphometric changes in the pituitary gland were not verified. Clinical Report Reference Number 29 reported that, after psychotherapeutic treatment, patients suffering from OCD exhibited greater brain activity in the right orbit frontal cortex, bilateral middle frontal cortex, right precuneus, left cerebellum, and vermis. A reduction in the brain's activity was found in the bilateral caudate, in the right calcarine sulcus, in the right posterior cingulate cortex, and in the right middle temporal cortex. CBT also increased the proportion of N-acetyl-aspartate (a marker of neuronal integrity), as reported by Clinical Report Reference Number 22. Clinical Report Reference Number 25 reported that these psychotherapeutic strategies led to a decrease in degree centrality in the left dorsolateral prefrontal cortex and to the normalisation of resting-state functional connectivity between this cortex and the right orbit frontal cortex. Alterations in the centre of the intrinsic functional network in the cortico-striatum-thalamus-cortical circuitry were verified as well as an increase in the degree of centrality in the occipital gyrus, and Clinical Report Reference Number 24 reported performance improvements in all cognitive domains (i.e., executive functions, performance IQ, learning and memory, organisation and late recovery) after three months of treatment.

Clinical Reports Reference Numbers 30 and 31 reported the use of ERP, psychoeducation, cognitive restructuring, and grounds for and against the occurrence of the feared results. The intervention reported in Clinical Report Reference Number 30 lasted three weeks, while Clinical Report Reference Number 31 reported a 26.5 hours per week. A significant reduction in OCD symptoms as well as depressive symptoms was reported. Clinical Report Reference Number 32 employed metacognitive training for four weekly sessions (90 minutes each) with psychoeducation and perfectionism and intolerance to uncertainty (1st module), thought-action fusion and thought control (2nd module), threat overestimation and exaggerated sense of responsibility (3rd module), biased attention and biased cognitive networks (4th module) exercises. Individuals received written summaries and additional exercises to facilitate their transfer of knowledge into their everyday lives. Improvements in the monitoring and control of obsessions and compulsions throughout the treatment as well as symptoms reduction were

reported. Clinical Report Reference Numbers 33 and 34 applied the Bergen 4-Day Treatment with psychoeducation, ERP, brief group meetings, LET strategies (teaching patients to actively address the cause of anxiety or discomfort, rather than avoiding it), summary of sessions, and planning of ERP for the coming weeks. Three hours on the first day and eight to ten hours on the second and third days. A significant reduction in OCD symptoms (91% of the 90 participants) and significant changes in symptoms of depression and generalised anxiety were reported [33, 34].

Acceptance and Commitment Therapy was reported by Clinical Report Reference Number [35] focusing on strategies such as psychoeducation, obsessions and behaviours registering, use of metaphors, and mindfulness exercises. In addition, acceptance exercises and cognitive diffusion were also used. Intervention was applied during nine weekly sessions for 50 minutes each. At the end of treatment, patients reported reductions in the frequency of obsessions as well as in psychological inflexibility for both individuals and parental figures. Clinical Report Reference Number [36] applied imagery rescripting which lasted for six weekly sessions. In an initial phase of the treatment, a review of the aversive memory and exploration of affective experiences and associated meanings was carried out. Afterwards, the aversive memory was reviewed again, but from the perspective of a healthy adult. Finally, a review of the aversive memory and exploration of the healthy adult's intervention as well as of unmet emotional needs were performed. A reduction in symptoms of OCD was seen in 92% of patients. One month after treatment, these improvements were maintained in twelve patients and after three months in eleven. Clinical Report Reference Number [37] used a multimodal treatment package that combined behavioural, cognitive, and metacognitive elements. In this type of psychotherapeutic intervention, lasting three weeks, ERP was implemented, with participants having to practice a minimum of three exercises per day (one accompanied by the therapist, one partially assisted and one without assistance). Guided discovery was also used in this study being carried out through Socratic questioning and the identification and modification of dysfunctional cognitive beliefs. Finally, the intervention also focused on implementing detached mindfulness (i.e., becoming aware of thoughts that arise in the mind, but not trying to suppress or control them), postponing worries, and challenging metacognitive beliefs. Patients reported a reduction in obsessive-compulsive symptoms as well as in their metacognitive and cognitive beliefs.

Mindfulness-based cognitive therapy appears in Clinical Report Reference Number [38] in eight weekly sessions (of two hours each) and the sessions focused on psychoeducation, discussion and awareness of the symptoms of OCD. In addition, participants received an audio recording of guided mindfulness exercises and were instructed in formal meditation practice for 20 to 25 minutes a day. For homework, individuals had to record the details of the formal meditation. At the end of treatment, patients diagnosed with OCD reported decreases in OCD symptoms, depression and anxiety as well as obsessive beliefs. They also reported an increase in self-compassion and mindfulness skills. Clinical Report Reference Number [39] reported mindfulness integrated cognitive-behavioural therapy which lasted between 12 and 16 sessions (90 minutes each) and focused mainly on psychoeducation, cognitive restructuring of obsessive beliefs, cognitive assessments and negative automatic thoughts, and mindfulness strategies. After applying the intervention, participants reported a significant reduction in OCD symptoms as well as anxiety and depressive symptoms. These results were maintained three months after treatment. Clinical Report Reference Number 40 applied an intervention called

STERP, which consisted of combining schema therapy and ERP through psychoeducation, ERP, construction of an individual's schemata, imagery rescripting, and ergotherapy. Individual sessions lasted 12 weeks (two sessions of 50 minutes each) and group sessions took place once a week (90 minutes). With regard to the results of this intervention, significant improvements were found in severe to moderate symptoms of OCD as well as in depressive symptoms and in the patients' general adaptive functioning.

Finally, Clinical Report Reference Number [41] developed a cognitive-behavioural module to improve maladaptive beliefs about memory in individuals diagnosed with OCD. This module, which involved two one-hour weekly sessions, focused on psychoeducation, discussion of patients' beliefs about their memory capacity, gathering information about their checking-out procedure, that is, behaviours of inspecting or verifying (homework) and discussion of participants' memory capabilities. An exercise was also performed in which participants received a light switch and were asked to use it four times a week to assess whether they had any memory failures after use. Subjects undergoing this module exhibited a significant decrease in maladaptive beliefs about memory and symptom verification from pre- to post-intervention. Furthermore, they also exhibited an improvement in recall performance on a measure of visuospatial memory.

Table 2. Specific strategies used in the psychotherapeutic treatment of OCD and their main effects

Clinical Report Reference Number	Specific Strategies	Main effects
[23]	a) Psychoeducation* b) ERP	a) Significant decrease in OCD symptoms. b) Significant decrease in thalamus volume on both sides. c) Significant increase in the volume of the orbitofrontal cortex on the left side. d) No morphometric changes were found in the pituitary gland.
[31]	a) Construction of anxiety situations hierarchies b) ERP c) Cognitive restructuring d) Psychoeducation*	a) Significant reduction in symptoms and intensity of OCD. These improvements were maintained 1.5 years after treatment. b) Reduction of depressive symptoms. A year and a half later, these were in the minimum range.
[32]	a) Psychoeducation* b) Introduction of the different modules	a) Improved monitoring and control of obsessions and compulsions. b) Reduction of symptoms of OCD.
[34]	a) Psychoeducation* b) ERP c) LET Strategy	a) Clinically significant reduction in OCD symptoms in 91% of 90 patients. b) 68% of patients were in remission at the three-month follow-up.

[27]	a) Psychoeducation* b) Thought registering c) Cognitive restructuring d) ERP	Reduction of compulsive symptoms, as well as depression and anxiety symptoms in patients with OCD.
[35]	a) Psychoeducation* b) Obsessions and behaviours registering c) Use of metaphors d) Mindfulness and acceptance strategies e) Cognitive disfusion	a) Reductions in the frequency of obsessions b) Reductions in psychological inflexibility for both patients and parental figures
[36]	a) Review of aversive memory and exploration of affective experiences and associated meanings	Reduction of OCD symptoms in 92% of patients These improvements were maintained in 12 patients at one month and in 11 participants at 3 months of follow-up
[37]	a) ERP b) Socratic questioning c) Detached Mindfulness	Reduction of obsessive-compulsive symptoms, as well as metacognitive and cognitive beliefs
[24]	a) Psychoeducation* b) Cognitive restructuring c) ERP	a) Significant difference in obsessive-compulsive symptoms, anxiety and depression between treated patients and the control group, favouring the experimental group b) No significant difference was found in neuropsychological measures after 3 months of treatment c) No differences were found between treatment responders and nonresponders on all neuropsychological outcome measures
[33]	a) Psychoeducation* b) ERP c) LET Strategy	a) Reduction of symptoms of OCD Clinical and long-term effects were maintained b) Significant changes in symptoms of depression and generalized anxiety were also found
[30]	a) Psychoeducation* b) ERP	a) Significant reductions in symptoms of OCD and depression b) Increased obsessive-compulsive symptoms from post-treatment to the 3-month follow-up, followed by stability in symptom severity between 3 and 6 months

[38]	a) Psychoeducation* b) Guided mindfulness exercises and formal meditation practice	The experimental group reported decreases in symptoms of OCD, depression, anxiety and obsessive beliefs, along with increases in self-pity and mindfulness skills
[29]	a) Psychoeducation* b) Construction of an anxiety hierarchy and imaginative c) ERP	a) Patients with OCD exhibited higher brain activity in the right orbitofrontal cortex, bilateral middle frontal cortex, right precuneus, left cerebellum and vermis, as well as lower brain activity in the bilateral caudate, right calcarine sulcus, right posterior cingulate cortex, and right middle temporal cortex b) Improvement of OCD symptoms
[39]	a) Psychoeducation* b) Cognitive restructuring c) Mindfulness strategies	a) Significant reduction in OCD, anxiety and depressive symptoms b) There was no worsening of obsessive symptoms from post-assessment to the three-month follow-up c) The intervention had a significant effect on anxiety and depression status and trait
[40]	a) Psychoeducation* b) Construction of the fear hierarchy c) ERP d) Imagery rescripting e) Ergotherapy	a) Significant improvements in severe to moderate symptoms of OCD b) Significant improvements in depressive symptoms and general adaptive functioning c) Results were stable at the 6-month follow-up
[22]	a) Psychoeducation* b) Organisation of symptoms hierarchies c) ERP exercises	a) Significant decrease in OCD symptoms b) Increased proportion of N-acetyl-aspartate
[26]	a) Psychoeducation* b) ERP exercises	a) Patients with more severe obsessive-compulsive symptoms and comorbid OCPD had greater changes in symptoms after treatment b) The same was not true for depressive symptoms
[25]	a) Psychoeducation* b) Cognitive restructuring c) Construction of an anxiety hierarchy d) ERP	a) Improvement in clinical symptoms of patients with OCD b) Decreased degree centrality in the left dorsolateral prefrontal cortex c) Normalization of resting-state functional connectivity between this cortex and the right orbitofrontal cortex in patients with OCD d) Changes in the intrinsic functional network centres in the cortico-striatum-thalamus-cortical circuit in patients with OCD

		e) The degree of centrality in the occipital gyrus decreased at baseline and increased after treatment with CBT in patients with OCD
[28]	a) Psychoeducation*, hierarchy of symptoms and externalization of OCD b) ERP	Significant decrease in OCD symptoms throughout treatment
[41]	a) Psychoeducation* b) Discuss participants' beliefs about their memory capacity and gather information about their checks	a) Significant decreases in maladaptive beliefs about memory and symptom verification from pre to post intervention b) Improved recall performance on a measure of visuospatial memory

Abbreviations: ERP-Exposure and Response Prevention; LET-“LEan into The anxiety”; OCPD-Obsessive-Compulsive Personality Disorder; CBT-Cognitive-Behavioural Therapy
***Psychoeducation means imparting to the patients some instrumental knowledge on, for instance, OCD and the specific psychotherapeutic strategies proposed as part of their treatment**

DISCUSSION

What are the psychotherapeutic strategies adopted by health professionals for the treatment of OCD? Data obtained for this review of clinical reports pointed to a diversity of strategies with particular emphasis on imparting to the patients some instrumental knowledge on, for instance, OCD and the specific psychotherapeutic strategies proposed as part of their treatment, building hierarchies of feared stimuli, and exposure and ERP exercises. During the psychotherapeutic process, patients were helped to organise, following a hierarchy, the various objects, activities or situations that tended to elicit anxiety, being then exposed to them later on through ERP exercises. Such exercises serve the function of reducing anxiety through habituation to feared stimuli where exposure involves activating fear and minimising behaviours that aim at reducing anxiety through dysfunctional actions (e.g., avoidance), thus preventing the recurrence of behaviours maintained by negative reinforcement [2, 42]. At the end of the process, patients are elucidated about exactly what to do in case the symptoms begin to reappear in the future. The present narrative review of the literature disclosed that health professionals are inclined to favour psychoeducation plus behavioural strategies, namely ERP, for the management of OCD [18, 43].

CONCLUSION

Health professionals tend to design psychotherapeutic interventions that include strategies derived from the cognitive-behavioural model of learning, that is, strategies deduced considering this model's central principles, main elements, basic concepts, and main characteristics. Exposure and Response Prevention (ERP) strategies, for instance, aim at extinguishing poorly adjusted behaviours that cause OCD patients to act obsessively, on the one

hand, and, on the other hand, at providing opportunities for the patients to act in order to experience and verify for themselves that the feared consequences are not realistic thus becoming aware of things as they really are. Such strategies provide differential reinforcement where the patient is positively reinforced when behaving in a certain way, extinguishing compulsions or avoidant behaviours that were shaped by negative reinforcement. In other words, positive reinforcement of certain behaviours, on the one hand, and extinction of other behaviours, on the other hand, results in behavioural changes which develop well-disposed effects on the patients' symptoms and well-being. Changes in behaviours give rise to changes in symptoms that give rise to changes in cognitions, according to the cognitive-behavioural model of learning [2].

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