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Effectiveness of Integrated Model of Psychological Intervention and Cognitive Behavioral Therapy for Obsessive Compulsive Disorder: A Comparative Study

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Background. Current study aims to explore the effectiveness of the integrated model of psychological intervention (technique comprising the combination of Neurolinguistic Programming-NLP and Hypnosis) in comparison to CBT (Cognitive Behavior Therapy) and pharmacotherapy (medication for OCD) to reduce the severity of symptoms of Obsessive Compulsive Disorder. Yale-Brown Obsessive Compulsive Scale (Y-BOCS) was used to screen out the study participant.

Method. The study comprised of 24 participants aged, 20-35 years of both genders (male=12, and female=12).

Results. Findings suggested that the integrated model ($M=2.25$, $SD=.91$) showed better treatment outcomes [$F(2, 397) = 18.49$, $p < .001$] in comparison to those of psychotherapy ($M=3.65$, $SD=1.44$) and pharmacotherapy ($M=6.44$, $SD=1.49$) respectively.

Conclusion. Further comparative studies could be done in future comparing the efficacy of the proposed model with other therapeutic approaches with and without pharmacological treatment.

Keywords. Obsessive compulsive disorder, psychological Intervention, Cognitive Behavioral Therapy, Neuro-linguistic programming, Hypnosis



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Introduction

Obsessive Compulsive disorder (OCD) is a psychological disorder characterized by persistent repetitive, intrusive and irrational thoughts images, or impulses (urges) which are mostly hard to control despite the persistent attempts, followed by compulsive acts to pacify the obsessions for apparently temporary relief (Abrantes et al., 2019). The themes of obsessions are usually related to contamination, harm, hoarding, sexual, somatic and religious preoccupations, while the most common compulsions include washing, checking, repeating, ordering, counting, and hoarding (Abba-Aji et al., 2020).

The exact cause of OCD has still not been identified, however considerable research has commenced in the past two decades to interpret the underlying biological mechanisms of OCD (Alsubaie et al., 2020). The brain images of the patients with OCD show differences in brain function as compared to individuals without OCD indicating a Neuro-biological basis of an imbalance in the neurotransmitters. This disorder is equally prevalent in both adult males and females. This condition is found to be due to a combination of various factors like genetic, environmental, biological, neurological and psychological.

The Obsessive Compulsive Disorder is generally treated through various modes of treatment. The symptoms of OCD can be treated or reduced through drugs i.e. pharmacological and other approaches like psychotherapies and complementary therapies while one of the commonly used psychotherapies to treat symptoms of OCD has been behaviour therapy such as Exposure & Response Prevention (ERP), (Ansari, Mishra, Tripathi, Kar, & Dalal, 2020) which is claimed as one of the strongest treatment regimens (Asghar et al., 2020). People struggling with OCD also use different cognitive patterns e.g. reassurance, rationalization, distractive strategies, thought-stopping and suppression techniques (Chakraborty, & Karmakar, 2020). Some other evidence-based research has also

shown the effectiveness of using cognitive-behavioural therapy (CBT) for the disorder i.e. combination of cognitive & behaviour techniques (Rector et al., 2001). CBT mainly focuses on focusing on cognitive patterns and their relation to emotions and behaviours (Deepthi, Kommu, & Smitha, 2018). Techniques of CBT such as cognitive techniques which aimed at identifying, challenging, and changing dysfunctional beliefs (Fontenelle, & Miguel, 2020). However, studies have indicated that many clinical experts also believe, that the most effective form of CBT for OCD is a combination of exposure, response prevention which is behavior that's refraining from performing rituals, discussion regarding repercussions of dysfunctional beliefs, and relapse prevention. Hardly any evidence from controlled trials has been noted that supports cognitive therapy without exposure and response prevention or behavioral experiments has proven highly effective when the patient is willing to do the work that CBT requires which includes behavioral homework, thought record etc.

However, one of the most recent treatment approaches that have emerged as effective is the combination of complementary therapies such as Hypnosis & Neuro-linguistic Programming (NLP). Hypnosis when merged with CBT with better results as compared to CBT alone while treating different Psychiatric disorder (French, & Lyne, 2020). Milton Erickson, known as the father of hypnosis also effectively applied hypnoanalytical techniques to treat obsessional neurosis (Gottwald et al., 2018). Reframing has been utilized as thought changing technique of hypnosis by inducing trance (Hama, & Ahmed, 2018), while hypnotically induced dissociation was also used for a successful treatment of OCD (Janardhan-Reddy, Sundar, Narayanaswamy, & Math, 2017).

Neuro-Linguistic Programming (NLP), is a systemic imaginative method of psychological intervention along with it being a consolidative cognitive approach (Jaisoorya et al., 2017). Though not sufficient literature is available on NLP as a treatment of OCD effective results have

been found where with the use of NLP, the requirement of general anaesthesia for MRI (Magnetic Resonance Imaging) has been reduced in claustrophobic patients (Kumar, & Somani, 2020). Another study proved the efficacy of NLP with significant improvement in psychological difficulties and perceived quality of life (Lenhard et al., 2017). Despite quick effects (Morein-Zamir, Shapher, Gasull-Camos, Fineberg, & Robbins, 2020), acceptability for NLP has been less, majorly due to its academic prejudices and misunderstandings of NLP as a consolidated tool (Nicolini, Salin-Pascual, Cabrera, & Lanzagorta, 2017).

NLP technique named “Part integration” also known as “Visual Squash” focused on prior learnings and changing them resolving the conflicts, the thought-challenging technique and thought record resolved the core beliefs. Furthermore, self-hypnosis focusing on personalized management hypnosis completes the therapy ensuring the maintenance and relapse prevention and anchoring was set to keep good control of the obsessions and compulsions. Hence the amalgam of all three proved to be the most effective intervention for clients of Obsessive-

Compulsive Disorder when compared to Cognitive Behavior Therapy or pharmacotherapy.

Obsessive Compulsive Disorder-OCD is considered a complex disorder and treatment modalities usually are not available except for medication and a few techniques of psychotherapeutic interventions. This disorder affects mostly the young generation since it shows onset during the early years of life, hence compromising the individual’s mental health and effective functioning. The study aims to attempt to devise and implement a comprehensive mode of psychological treatment that is cost and time-effective. The treatments already available usually are time like CBT or Pharmacological usually cause other side effects for mild and moderate cases, however, the severe cases need medical treatment. This study aims to introduce an effective integrated intervention model that is a combination of complementary therapies and cognitive techniques. Moreover, it aims to draw comparisons between the effectiveness of various modes of treatment. An improvement in OCD symptoms is expected on treatment particularly the Integrated Model indicating better therapeutic outcomes when compared to Cognitive Behavior Therapy alone.

Method

Intervention Groups

1. Group A (Pharmacological Model)

Receiving medication for OCD symptoms (e.g +SSRIs)

2. Group B (CBT Model)

Receiving Cognitive Behavior Therapy only, including

- Thought Challenging
- Homework Assignments
- Any other technique based on the case requirement

3. Group C (Integrated Model of Psychotherapy)

Receiving a combination of techniques from NLP, Hypnosis and CBT

- Part Integration (Technique from NLP)
- Self-hypnosis (Technique from Hypnosis)
- Thought Challenging (Technique from CBT)

Participants

Participants included patients already diagnosed with Obsessive Compulsive Disorder by the respective psychiatrists, ages ranging from 20 to 35 years. The size of the sample was 24 with a preference for an equal gender ratio.

The sample of the study consisted of all individuals who were under psychiatric treatment.

Assessment Measures

The consent from the participants was taken. The demographic sheet was devised to gather basic information about the participants e.g., age, gender, education etc.

The Yale-Brown Obsessive Compulsive Scale.

Y-BOCS was used as the primary measure. This rating scale is designed to rate the severity and type of symptoms in patients with obsessive-compulsive disorder (OCD) and is intended for use as a semi-structured interview. It comprises 19 items out of which only items 1-10 (excluding items 1b and 6b) are used to determine the total score. The total Y-BOCS score is the sum of items 1-10 (excluding 1b and 6b), whereas the obsession and compulsion subtotal-1s are the sums of items 1-5 (excluding 1b) and 6-10 (excluding 6b), respectively (Opakunle, Aloba, Opakunle, Oyewole, & Osokoya, 2017).

Procedure

A total of 24 individuals with equal ratio of both genders, ranging from age 20 to 35 years with the diagnosis of OCD were included. Participants were approached at different psychiatric units of the hospitals from Islamabad and Rawalpindi, already diagnosed by the respective psychiatrists. The participants were further divided into three groups comprising eight participants each. The first group included individuals who were just put on pharmacological treatment alone, the second group with patients who were given CBT and

the third group to which the proposed model was applied. Y-BOCS was administered in all groups to obtain pre and post-intervention severity levels of OCD.

The proposed model comprised of a combination of techniques from NLP, Hypnosis and CBT. In the initial sessions, the Part Integration technique, a technique from Neuro Linguistic Programming was applied to the clients. In the sessions to follow, a thought-challenging technique from another approach was included along with self-hypnosis and anchoring being a part of the developed integrated intervention model. Self-hypnosis and anchoring (resourceful state) were practiced during sessions along with it being a home task of every session. The study comprised three phases. Phase I was the assessment and baseline phase, and phase II was the Intervention phase, which was further distributed into two groups and each group underwent six sessions. Phase III was post-assessment and the last phase was of follow-ups.

Data Analysis

Statistical Package for Social Sciences (SPSS, 25) has been used to analyze the data of the study. Alpha reliability analysis was done to see the psychometric properties of YBOCS during the pre-assessment and post-assessment phases. A paired sample t-test was used to see the difference between the pre-assessment and post-assessment phases of CBT, the Integrated model of psychotherapy and pharmacotherapy. ANOVA was used to see the comparative differences in effectiveness between CBT, the Integrated model of psychotherapy and pharmacotherapy.

Results

Study results revealed that participants of the study after receiving the intervention showed a reduction in psychological symptomatology.

Table 1*Psychometric Properties of Study Major Variables (N =24).*

Measures	<i>k</i>	α	Range		<i>M</i>	<i>SD</i>	<i>Skew.</i>	<i>Kurt.</i>
			<i>Min</i>	<i>Max</i>				
OCD (Pre-phase)	10	.76	23	47	34.5	6.09	-.16	.044
OCD (Post-phase)	10	.78	0	34	15.1	9.74	.40	-.60
Obsessions (Pre-phase)	5	.81	12	24	17.71	3.54	.36	-.45
Obsession (Post-phase)	5	.83	0	16	8.38	4.43	-.24	-.36
Compulsions (Pre-phase)	5	.79	10	23	16.79	3.09	-.56	-.55
Compulsions (Post-phase)	5	.81	0	19	6.79	5.63	.77	-.40

Note: Skew = Skewness; Kurt = Kurtosis.

Results in the table indicate that the psychometric properties of the instrument are sound. The range of skewness and kurtosis is also in normal range. The value of Cronbach's alpha indicates that Yale Obsessive Compulsive Scale is psychometrically a sound instrument.

Table 2*Paired sample t-test analysis between Pre test group and Post test on OCD symptoms (N=24).*

Variable	YBOCSPRE		YBOCSPOST		<i>t</i>	<i>p</i>	95% CI		Cohen's <i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			<i>LL</i>	<i>UL</i>	
OCD	34.50	6.09	15.17	9.74	8.77	.000	14.77	23.89	2.38

Note. YBOCSII Yale Brown Obsessive Compulsive Scale; PRE=Pre-Assessment Phase; POST= Post Assessment Phase; *M*= Mean; *SD*= Standard Deviation; *CL* = confidence interval; *LL* = lower limit, *UL* = upper limit.

Results of Paired-samples t-test indicate that level of OCD symptoms significantly decreased in post assessment phase after receiving intervention as compared to pre assessment phase. The differences in mean values are indicative that individuals presented less stress symptoms in post assessment phase

Table 3*Paired sample t-test analysis between Pre test group and Post test groups on OCD symptoms (N=8).*

Variable	YBOCSPRE		YBOCSPOST		<i>t(df)</i>	<i>p.</i>	95% CI		Cohen's <i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			<i>LL</i>	<i>UL</i>	
CBT	35.38	5.80	12.63	8.99	4.99(6)	0.002	11.98	33.51	3.01
IM	33.75	3.84	8.88	5.76	14.49(6)	0.000	20.81	28.93	2.32
PHARMA	34.38	8.48	24.00	7.48	4.01(6)	0.005	4.26	16.4	2.04

Note. YBOCSII= Yale Brown Obsessive Compulsive Scale; CBT=Cognitive Behavior Therapy; IM= Integrated Model; Pharma=Pharmacological Group; PRE=Pre-Assessment Phase; POST= Post Assessment Phase; *M*= Mean; *SD*= Standard Deviation; *CL* = confidence interval; *LL* = lower limit, *UL* = upper limit.

A paired-sample t-test indicated that the level of OCD symptoms was significantly decreased in the post-assessment phase after intervention as compared to the pre-assessment phase. Statistically, significant differences have been indicated. All intervention groups showed

improvement in pre and post-phases; however, the Integrated model has shown a significant improvement in comparison to the rest.

Table 4

One Way ANOVA to Investigate Differences based on OCD symptoms among patients in Group A (Pharmacological Model), Group B (CBT Model) and Group C (Integrated Model of Psychotherapy) (N = 24).

Variables	Group A (n = 8)		Group B (n = 8)		Group C (n = 8)		F (2,397)	η^2	Post hoc
	M	SD	M	SD	M	SD			
OCD	6.44	1.49	3.65	1.44	2.25	.91	18.49***	.08	1>2>3

*** $p < .001$.

Table 4 shows differences among *patients in Group A* (Pharmacological Model), *Group B* (CBT Model) and *Group C* (Integrated Model of Psychotherapy) regarding OCD symptoms. Results show significant differences based on OCD symptoms [$F(2, 397) = 18.49, p < .001$]. Patients in *Group C* ($M=2.25, SD=.91$) have fewer OCD symptoms than patients in *Group A* ($M=6.44, SD=1.49$) and patients in *Group B* ($M=3.65, SD=1.44$).

Discussion

The present study was conducted to assess the effectiveness of an integrated model of psychological intervention for OCD comprising of techniques from cognitive behavior therapy (CBT), Hypnosis and NLP along with pharmacotherapy over pharmacotherapy and CBT alone. Moreover, it drew a comparison of overall effectiveness among various therapeutic regimes such as pharmacotherapy, CBT & the integrated model. It was assumed that there would be a significant difference in pre and post-assessment of psychological symptoms of OCD after receiving Integrated model treatment in comparison to the other two. Likewise, it was also hypothesized that any of the three interventions would prove effective in general in their capacity.

With the advancement in the field of practising psychology, although traditional psychotherapies hold their importance in different

capacities, however, complementary therapies have shown scattered results for different symptoms. A study highlighted that the inclusion of alternate therapies into psychological health practice enhances the outcomes and the results improve quality of life and they last long (Raynal, Melioli, & Chabrol, 2019).

In the current study, reduction of symptoms in OCD has been noted in different groups receiving different types of interventions; independent or combination. Three groups were formed as per the type of intervention being received; Pharmacotherapy, CBT and Integrated Model (Combination of cognitive, behavioral and complementary therapy techniques).

Results of the Paired-sample t-test indicate that OCD symptoms significantly decreased as assessed in the post-assessment phase in all three groups after receiving intervention as compared to the pre-assessment phase as seen in the difference of the mean value of pre and post-assessment. Results of the present study also indicate that pharmacotherapy tends to be effective along with participants after receiving cognitive behavior therapy presented a decrease in psychological symptoms in the post-assessment phase. Moreover, the integrated model in treating OCD patients also yielded positive outcomes and maximum reduction in psychological symptoms has been noted as compared to other groups. Already existing controlled trial data suggest that higher SSRI doses produce a somewhat

higher response rate and somewhat greater magnitude of symptom relief in the treatment of OCD (Robinson, Rose, & Salkovskis, 2017). Similar results were obtained from different research in past in which complementary therapies were used in combination with traditional treatments and have produced strong results. The findings are consistent with already existing data which emphasize the importance of combination therapy compared to a single approach in the case of OCD (Radhakrishnan, Jose, & Thennarasu, 2017).

Various psychological interventions can be used with diverse population groups such as individuals having various psychological or physiological symptoms. In previous research, multiple complementary therapies and conventional therapies were used and results proved it as an effective treatment for addressing the psychological symptoms among such populations (Torres et al., 2017). In the present study, the integrated model is used majorly along with other therapeutic approaches to address the symptoms of OCD of which the integrated model was most effective. Wheaton and Gallina, (2019) found long-term effectiveness for Post-traumatic stress disorder, hence proving the same for anxiety-ridden related disorders like OCD.

The study results showed a noticeable indication that the integrated model is useful and effective for the treatment of psychological symptoms among patients of OCD. The goal of the integrated model is comparable to cognitive behaviour intervention which is also comparable with pharmacotherapy which aims to reduce symptoms, improvements in the functioning of individuals and have long-lasting effects. The complementary therapies utilize imaginal technology taking less effort and more engagement, which makes it easier for the individual to have an experiential understanding since it involves sensory experience in the absence of actual stimuli (Kosslyn, Ganis, & Thompson, 2001). Mental imagery has already proven to be an effective approach to OCD (Holmes & Mathews, 2010). Hypnosis and CBT, in combination also have produced promising results with OCD in another study

(Moore & Burrows, 1991). The methodology of complementary therapies, NLP and hypnosis are slightly different from that of CBT and traditional therapies, so the individuals generally show more interest since they do not involve in-depth personal experience but rather a work of the associated feelings, as Jahan, Tariq and Nadeem (2022) found the communication patterns utilized by an NLP therapist were more effective to gain positive results. Therefore, the significant improvement in group C might be due to the therapeutic work from multiple dimensions like addressing cognitions and providing imaginal exposure in an introspective fashion (like accessing the subconscious mind and self-suggestive procedures).

Using the integrated model, this goal is achieved by making the client experience the comprehensive treatment modality and collaboratively helping him/her in problem-solving and modifying their maladaptive cognitions and behaviors by using various cognitive and behavioral techniques along with techniques from complementary therapies. The outcome yields improved health status of the patient. The therapy resulted in reduction of symptoms in post assessment phase.

Conclusion

The present study proposes an imperative contribution in Pakistan as now a day's a big number is seen to suffer from the distress of psychological conditions such as Obsessive compulsive Disorder and in majority cases, relapse rate is high or the treatment plans are long and expensive. Therefore, there is a dire need for such researches and studies to draw attention of people towards advanced therapeutic approaches. The rationale of the present study is to assess the effectiveness of Integrated Model of Psychological Intervention in comparison to Cognitive Behavior Therapy and pharmacotherapy in reduction of psychological symptoms among patients of OCD. There is very limited evidence about the efficacy of complementary therapies for the treatment of symptoms in OCD patients, so the

integrated model is of great worth and value for mental health practitioners and an effective treatment modality for the patients particularly in Pakistan.

Declaration.

Ethical Approval. The topic under study was evaluated by the committee and has been approved as it is not going to harm any physiological and psychological functioning of the individual.

Conflicts of interest. None.

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References

- Abba-Aji, A., Li, D., Hrabok, M., Shalaby, R., Gusnowski, A., Vuong, W., Shireen, S., Nkire, N., Li, X.M., Greenshaw, A., Israel, V., & Agyapong, O., (2020). COVID-19 pandemic and mental health: prevalence and correlates of new-onset obsessive-compulsive symptoms in a Canadian province. *International Journal of Environmental Research and Public Health*, 17(19), 6986.
- Abrantes, A.M., Farris, S.G., Brown, R.A., Greenberg, B.D., Strong, D.R., & McLaughlin, N.C. (2019). Acute effects of aerobic exercise on negative affect and obsessions and compulsions in individuals with obsessive-compulsive disorder. *Journal of Affective Disorders*, 245(15), 991–997.
- Alsubaie, S.S., Almathami, M., Abouelyazid, A., Alqahtani, M.M., Alshehri, W., & Alamri, A. (2020). Prevalence of obsessive compulsive disorder: a survey with Southern Saudi Arabian samples. *Journal of Psychiatry, Depression and Anxiety*, 6, 31-32.
- Ansari, E., Mishra, S., Tripathi, A., Kar, S.K., & Dalal, P.K. (2020). Cross-sectional study of internalised stigma and medication adherence in patients with obsessive compulsive disorder. *General Psychiatry*, 33(2), e100180
- Asghar, M.A., Rehman, A.A., Shafiq, Y., Siddiq, A., Zehravi, M., Khan, K., Asghar, M.A., & Abedin, S. (2020). Relationship of obsessive-compulsive disorders with religion and psychosocial attitude among local medical college students of Karachi: An Epidemiological Study. *Journal of Pakistan Medical Association*, 70, 1563
- Chakraborty, A., & Karmakar, S. (2020). Impact of COVID-19 on obsessive compulsive disorder (OCD). *Iranian Journal of Psychiatry*. 15(3), 256–259.
- Deepthi, K., Kommu, J.V.S., & Smitha, M. (2018). Clinical profile and outcome in a large sample of children and adolescents with obsessive-compulsive disorder: a chart review from a tertiary care center in India. *Indian Journal of Psychiatry*, 60, 205–212.
- Fontenelle, L.F., & Miguel, E.C. (2020). The impact of coronavirus (COVID-19) in the diagnosis and treatment of obsessive-compulsive disorder. *Depression and Anxiety*. 37(6), 510-511.
- French, I., & Lyne, J., (2020). Acute exacerbation of OCD symptoms precipitated by media reports of COVID-19. *Iranian Journal of Psychological Medicine*, 1-4.
- Gottwald, J., de Wit, S., Apergis-Schoute, A.M., Morein-Zamir, S., Kaser, M., & Cormack, F., (2018). Impaired cognitive plasticity and goal-directed control in adolescent obsessive-compulsive disorder. *Psychological Medicine*, 48 (11), 1900–1908.
- Hama, R., & Ahmed, N. (2018) Obsessive compulsive symptoms among students of Faculty of Medical Sciences and Faculty of Humanities Education in University of Sulaimani.
- Holmes, E. A., & Mathews, A. (2010). Mental imagery in emotion and emotional disorders. *Clinical Psychology Review*, 30(3), 349–362. doi:10.1016/j.cpr.2010.01.001 *Journal of Sulaimani Medical College*, 8(4), 299–305.
- Jahan, J., Tariq, M., & Nadeem, M. (2022). The Effects of Neuro-linguistic Programming on a Psychotherapist's Communication Patterns: A

- Case Study. *Journal of Development and Social Sciences*, 3(2), 130-140.
- Jaisoorya, T.S., Janardhan, Y.C., Nair, B.S., Rani, A., Menon, P.G., & Revamma, M. (2017). Prevalence and correlates of obsessive-compulsive disorder and subthreshold obsessive-compulsive disorder among college students in Kerala, India. *Indian Journal of Psychiatry*, 59, 56–62.
- Janardhan-Reddy, Y.C., Sundar, A.S., Narayanaswamy, J.C., & Math, S.B. (2017). Clinical practice guidelines for Obsessive-Compulsive Disorder. *Indian Journal of Psychiatry*, 59(Suppl 1), S74-s90.
- Kumar A., & Somani A. (2020). Dealing with Corona virus anxiety and OCD. *Asian Journal of Psychiatry*, 51, 102053. doi:10.1016/j.ajp.2020.102053
- Kosslyn, S. M., Ganis, G., & Thompson, W. L. (2001). Neural foundations of imagery. *Nature Reviews Neuroscience*, 2(9), 635–642.
- Lenhard, F., Andersson, E., Mataix-Cols, D., Ruck, C., Vigerland, S., Hogstrom, J., Hillborg, M., Brander, G., Ljungstrom, M., Ljotsson, B., & Serlachius, E., (2017). Therapist-guided, internet-delivered cognitive-behavioural therapy for adolescents with obsessive-compulsive disorder: a randomized controlled trial. *Journal of the American Academy of Child and Adolescent Psychiatry*, 56, 10–19.
- Moore, K.A. & Burrows, G.D. (1991). Hypnosis in the treatment of obsessive-compulsive disorder. *Australian Journal of Clinical and Experimental Hypnosis*, 19(2), 63-75
- Morein-Zamir, S., Shapher, S., Gasull-Camos, J., Fineberg, N.A., Robbins, T.W. (2020). Avoid jumping to conclusions under uncertainty in Obsessive Compulsive Disorder. *PloS One*, 15(1), e0225970. doi: 10.1371/journal.pone.0225970
- Nicolini, H., Salin-Pascual, R., Cabrera, B., & Lanzagorta, N., (2017). Influence of Culture in Obsessive-compulsive Disorder and Its Treatment. *Current Psychiatry Review*, 13(4), 285-92.
- Opakunle, T., Aloba, O., Opakunle, O., Oyewole, A., & Osokoya, O. (2017). Prevalence and correlates of obsessive-compulsive symptoms in a sample of undergraduate clinical medical students in Osogbo, Southwestern Nigeria. *Nigerian Journal of Health Sciences*. 17(2), 66 25.
- Raynal, P., Melioli, T., & Chabrol, H., (2019) Personality disorder traits in young adults with subclinical obsessive-compulsive symptoms: not just traits related to obsessive-compulsive personality. *Bulletin of the Menninger Clinic*, 83(4), 433–452.
- Robinson, K.J., Rose, D., & Salkovskis, P.M., (2017) Seeking help for obsessive compulsive disorder (OCD): a qualitative study of the enablers and barriers conducted by a researcher with personal experience of OCD. *Psychological Psychotherapy*, 90, 193–211.
- Radhakrishnan, K.S., Jose, V., & Thennarasu, K. (2017). Prevalence and correlates of obsessive-compulsive disorder and subthreshold obsessive-compulsive disorder among college students in Kerala, India. *Indian Journal of Psychiatry*, 59(1), 56.
- Torres, A.R., Fontenelle, L.F., Shavitt, R.G., Hoexter, M.Q., Pittenger, C.H., & Miguel, E.C., (2017). *Epidemiology, Comorbidity, and Burden of OCD. In Obsessive Compulsive Disorder: Phenomenology, Pathophysiology, and Treatment*. Oxford University Press, Oxford.
- Wheaton, M.G., & Gallina, E.R., (2019). Using cognitive-behavioral therapy to treat obsessive-compulsive disorder with co-occurring depression. *Journal of Cognitive Psychotherapy*, 33, 228–241. doi: 10.1891/0889-8391.33.3.228.