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Investigation of Thought Control and Obsessive Beliefs in Generalised Anxiety Disorder and Panic Disorder

Yaygın Anksiyete Bozukluğu ve Panik Bozuklukta Düşünce Kontrolü ve Obsesif İnanışların İncelenmesi

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Abstract

Aim: Obsessive Beliefs and Thought Control are often thought to be associated with Obsessive Compulsive Disorder. However, the relationship with Anxiety Disorders has recently been investigated in the literature. In this study, Obsessive Beliefs and Thought Control levels in patients diagnosed with Generalised Anxiety Disorder and Panic Disorder were investigated. It is aimed to contribute to the literature on the cognitive aspects of anxiety disorders.

Material and Method: According to DSM-5 diagnostic criteria, 71 patients diagnosed with Generalised Anxiety Disorder, 63 patients diagnosed with Panic Disorder and 63 healthy controls were included in the study. The participants were applied the Thought Control Questionnaire and Obsessive Beliefs Questionnaire. In addition, Beck Anxiety Scale was applied to patients diagnosed with Generalised Anxiety Disorder and Panic Agoraphobia Scale was applied to patients diagnosed with Panic Disorder.

Results: A statistically significant difference was found between the groups in Distraction (F=11.383; p=<0.01; η2=0.105), Social Control (F=9.517; p=<0.01; η2=0.089), Worry (F=5.589; p=0.004; η2=0.054), Self-Punishment (F=4.879; p=0.009; η2=0.048), and Reappraisal (F=3.916; p=0.021; η2=0.039) sub-dimensions. There was a statistically significant difference between the groups in the sub-dimensions of Responsibility/Threat Estimation (F=9.268; p=<0.01; η2=0.087) and Perfectionism/Certainty (F=18.557; p=<0.01; η2=0.161), but there was no statistically significant difference in the subdimension Importance/Control of Thoughts (F=0.300; p=0.741; η2=0.003).

Conclusion: In our study, Obsessive Beliefs and Thought Control levels of patients with Generalised Anxiety Disorder and Panic Disorder were higher than healthy control group. These dysfunctional thoughts may be a risk factor in the development of Anxiety Disorders. Research on the aetiology of Anxiety Disorders will contribute to the literature.

Keywords: obsessive beliefs, thought control, anxiety disorder, panic disorder

Öz

Amaç: Obsesif İnanışlar ve Düşünce Kontrolü çoğunlukla Obsesif Kompulsif Bozuklukla ilişkilendirilmiştir. Ancak son zamanlarda literatürde Anksiyete Bozuklukları ile ilişkisi de araştırılmaktadır. Bu araştırmada Yaygın Anksiyete Bozukluğu ve Panik Bozukluk tanılı hastalarda Obsesif İnanışlar ve Düşünce Kontrolü düzeyleri incelenmiştir. Anksiyete Bozukluklarının bilişsel temeli ile ilgili literatüre katkı sağlanması amaçlanmıştır.

Gereç ve Yöntem: Araştırmaya DSM-5 tanı kriterlerine göre Yaygın Anksiyete Bozukluğu tanısı alan 71 hasta, Panik Bozukluk tanısı alan 63 hasta ve 63 sağlıklı kontrol grubu dahil edilmiştir. Katılımcılara Düşünce Kontrol Ölçeği ve Obsesif İnanışlar Ölçeği uygulanmıştır. Ayrıca Yaygın Anksiyete Bozukluğu tanısı alan hastalara Beck Anksiyete Ölçeği, Panik Bozukluk tanısı alan hastalara ise Panik Agorafobi Ölçeği uygulanmıştır.

Bulgular: Dikkat Dağıtma (F=11.383; p=<0.01; η2=0.105), Sosyal Kontrol (F=9.517; p=<0.01; η2=0.089), Endişe (F=5.589; p=0.004; η2=0.054), Kendini Cezalandırma (F=4.879; p=0.009; η2=0.048) ve Yeniden Değerlendirme (F=3.916; p=0.021; η2=0.039) alt boyutlarında gruplar arasında istatistiksel olarak anlamlı fark saptanmıştır. Gruplar arasında Sorumluluk/Tehlike Beklentisi (F=9.268; p=<0.01; η2=0.087) ve Mükemmeliyetçilik/ Kesinlik (F=18.557; p=<0.01; η2=0.161) alt boyutlarında istatistiksel olarak anlamlı fark saptanırken Önem Verme/ Düşünceleri Kontrol Etme (F=0.300; p=0.741; η2=0.003) alt boyutunda istatistiksel olarak anlamlı fark saptanmamıştır.

Sonuç: Araştırmamızda Yaygın Ankisiyete Bozukluğu ve Panik Bozukluk tanısı olan hastaların Obsesif İnanışlar ve Düşünce Kontrolü düzeyleri sağlıklı kontrollerden yüksek bulunmuştur. İşlevsel olmayan bu düşünceler Anksiyete Bozukluklarının gelişiminde risk faktörü olabilir. Anksiyete Bozukluklarının etyolojisine yönelik yapılacak araştırmalar literatüre katkı sağlayacaktır.

Anahtar Kelimeler: Obsesif inanışlar, düşünce kontrolü, anksiyete bozukluğu, panik bozukluk

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INTRODUCTION

Obsessive beliefs (OB) were defined by the Obsessive Compulsive Cognitions Working Group to describe the cognitive component of Obsessive Compulsive Disorder (OCD). Three different ways of thinking were identified as inflated responsibility / overestimation of threat, perfectionism/ intolerance of uncertainty, overimportance of thoughts / excessive concern about the importance of controlling one's thoughts. With the identification of OB, scales were developed in this subject and a new perspective on the cognitive component of OCD was developed.[1] Similarly, many studies support that these false and compulsive thoughts may play a role in the development of OCD. With these dysfunctional and false thoughts, the person may think that the world is more threatening or that his/her thoughts are real. This may lead to increased obsessive thoughts.[2,3]

Thought control (TC) is a control strategy developed against the thoughts that develop in one's mind about the negative situations. In fact, most people may have unwanted thoughts. People may be disturbed by these thoughts and may endeavour to reduce them. However, if the strategies to get rid of the thought are unsuccessful, this can lead to negative consequences. The person uses more TC strategies and may develop anxiety. In addition, the thoughts can increase even more with the increasing striving for control. All these TC strategies can have a negative effect.[4] Wells and Davies defined TC strategies as distraction, worrying about the thought, controlling with social environment, reevaluating the thought and self-punishment about the thought. In fact, these TC strategies, which are thought to have a positive effect from time to time, can cause psychological pathologies when used excessively or inappropriately.[5]

OB and TC are often associated with OCD. However, when these wrong thinking methods are used excessively and inappropriately, they can lead to anxiety and worry. There are studies in the literature mostly related to OCD. Comorbidity rates of OCD and Anxiety Disorders are high and studies have shown common etiological factors. In this case it can be thought that the thoughts underlying OCD may be a risk factor for Anxiety Disorders.[6] In our study, based on this idea, the levels of OB and TC in Generalised Anxiety Disorder (GAD) and Panic Disorder (PD) were analysed. In the literature, there are studies investigating OB and TC in Anxiety Disorders and OCD, but they are more limited compared to OCD. In addition, Anxiety Disorders were not analysed in separate diagnoses in these studies. In our study, Anxiety Disorders were analysed separately as GAD and PD. It is aimed to contribute to the literature on the importance of thoughts in the development of Anxiety Disorders. In this respect, our research will provide a new perspective on the cognitive basis of GAD and PD.

MATERIAL AND METHOD

The study was conducted in Psychiatry Outpatient Clinic between 12/2022 and 08/2023. The study included 71 patients diagnosed with GAD and 63 patients diagnosed with PD according to DSM-5 diagnostic criteria and 63 healthy controls. People with a comorbid mental illness, alcohol-substance use disorder, chronic internal disease and chronic drug use for chronic disease were not included in the study. Firstly, the participants were informed about the study and their written and verbal consent was obtained. Thought Control Questionnaire (TCQ) and Obsessive Beliefs Questionnaire (OBQ) were applied to the participants who agreed to participate in the study. In addition, Beck Anxiety Scale (BAS) was applied to patients diagnosed with GAD and Panic Agoraphobia Scale (PAS) was applied to patients diagnosed with PD. The ethics committee approval of the study was obtained. In addition, all practices in the research were carried out in accordance with the ethical standards of the institution and the 1964 Helsinki Declaration and its later amndments.

Data Collection Tools

Beck Anxiety Scale (BAS): The scale was developed by Beck to assess anxiety levels and it is frequently used in the clinic to measure the level of anxiety. It consists of 21 questions and increasing scores are associated with increasing levels of anxiety.[7] The Turkish validity and reliability of the scale was conducted by Ulusoy et al.. The scale was found to have a high internal consistency in the Turkish sample and Cronbach's alpha value was calculated as 0.93. In our research sample, the cronbach alpha value of the scale was calculated as 0.86.[8]

Panic Agoraphobia Scale (PAS): It was developed by Bandelow to measure disease severity in patients with PD. It is a Likert-type scale and increasing scores are associated with increasing disease severity.[9] The scale has both a self-report section and an observer section. In our study, only the self-report part of the scale was used to assess the severity of illness. Turkish validity and reliability of the scale was performed by Tural et al.[10] The cronbach alpha value for the observer subsection was calculated as 0.86. In our study, the cronbach alpha value was 0.81.

Thought Control Questionnaire (TCQ): It is a scale developed by Wells to assess strategies for controlling unwanted thoughts. The scale has five subdimensions as Distraction (D), Worrying (W), Social Control (SC), Reappraisal (RE) and Self-Punishment (SP). Each sub-dimension is assessed by scoring separately and the total score of the scale is calculated with the total of all sub-dimensions. Whichever sub-dimension has a higher score, it is considered that the thought strategy is used more.[5] The Turkish validity and reliability of the scale was conducted by Yorulmaz et al. The scale was found to have high internal consistency in the Turkish sample. Cronbach's alpha value was found as 0.72 for D, 0.79 for SC, 0.71 for W, 0.64 for SP and 0.67 for RE.[11] For our sample, these values were calculated as 0.71, 0.76, 0.78, 0.74 and 0.71, respectively. In our study, the subdimensions of the scale were calculated separately and evaluated as separate subdimensions.

Obsessive Beliefs Questionnaire (OBQ): It was developed by the Obsessive Compulsive Cognitions Working Group to

evaluate OB. There are three subdimensions as Responsibility/ Threat Estimation (RT), Perfectionism/Certainty (PC), and Importance/Control of Thoughts (IC). Each three subdimensions of the scale are calculated separately and the total score of the scale is calculated with the sum of all subdimensions. Increased scores are considered as increased levels of OB.[12] The Turkish validity and reliability of the scale was conducted by Boysan et al. The cronbach alpha value of the scale, which had sufficient internal consistency in the Turkish sample, was calculated as 0.95.[13] In our sample, it was calculated as 0.84 for RT subdimension, 0.78 for PC subdimension and 0.76 for IC subdimension.

Statistical Analysis

The research data were analyzed with the SPSS (Statistical package for social sciences) Version 25th. Descriptive statistics of the participants were presented as mean, standard deviation, number and percentage. Normality of data was evaluated by Kolmogorov Smirnov test, kurtosis and skewness values and histogram. One way ANOVA was used to analyzed the difference between the means of continuous data with normal distribution in more than two independent groups. In cases with more than one dependent variable, one way MANOVA was used. The difference of categorical data was calculated by Pearson chi square test. Pearson correlation test was used in the correlation of normally distributed data. In addition, the effect of each variable seperately was evaluated by partial correlation. Statistical significance was accepted as p value <0.05.

RESULTS

The study included 71 GAD, 63 PD and 63 healthy controls. The mean age of the participants was 33.14±10.732 in the GAD group, 32.02±9.268 in the PD group and 33.24±10.503 in the control group. There was no statistically significant difference between the mean ages of the groups (p=0.754). In the GAD group 49 (69%) were female and 22 (31%) were male, in the PD group 40 (63.5%) were female and 23 (36.5%) were male, in the control group 31 (49.2%) were female and 32 (50.8%) were male. There was no statistically significant difference between the genders of the groups (p=0.560). Other sociodemographic data of the participants and comparisons between groups were presented in **Table 1**. When we examined the differences between the groups in the subdimensions of the scales of the TCQ and OBQ scales, we found a difference between groups D (F=11.383; p=<0.01; η2=0.105), SC (F=9.517; p=<0.01; η2=0.089), W (F=5. 589; p=0.004; η2=0.054), SP (F=4.879; p=0.009; η2=0.048), and RE (F=3.916; p=0.021; η2=0.039). While a statistically significant difference was found between the groups in the RT (F=9.268; p=<0.01; η2=0.087) and PC (F=18.557; p=<0.01; η2=0.161) subdimensions of the OBQ scale, no statistically significant difference was found in the IC (F=0.300; p=0.741; η2=0.003) subdimension (**Table 2**). When the difference between the groups was analysed, there was no difference between the D, SC, RT and PC scores of the GAD and PD group, but it was higher than the control group. In the GAD group, W and RE scores were higher than the control group, whereas there was no difference between PD and control group and between GAD and PD. While the SP scores in the PD group were higher than the control group, there was no difference between PD and GAD and between GAD and control group. There was no difference between all groups in the IC scores (**Table 3**). Correlations were analysed between the subdimensions of the TCQ and OBQ, and the PAS and BAS. A significant positive correlation was found between PAS and SC (r=0.397, p=0.001), SP (r=0.477, p<0.01), RT (r=0.488, p<0.01), PC (r=0.427, p<0.01), and IC (r=0.409, p=0.001). However, when the effect of other variables was eliminated and all variables were analyzed by partial correlation, a significant positive correlation was found only between PAS and SP (r=0.357, p=0.007). No significant correlation was found between other variables and PAS. A significant positive correlation was found between the BAS and W (r=0.385, p=0.001) and SP (r=0.326, p=0.005). When all variables were analyzed by partial correlation, a significant positive correlation was found between BAS and W (r=0.310, p=0.013) and SP (r=0.300, p=0.016) (**Table 4**).

Table 1: Sociodemographic data of the patient and control group

	GAD (n=71)	PD (n=63)	Control (n=63)	test st.	p
Age	33.14 [10.732]	32.02 [9.268]	33.24 [10.503]	0.283	0.754
Gender				5.759	0.560
Female	49 (69)	40 (63.5)	31 (49.2)		
Male	22 (31)	23 (36.5)	32 (50.8)		
Education				4.827	0.306
Primary school	52 (73.2)	48 (76.2)	43 (68.3)		
High school	13 (18.3)	5 (7.9)	11 (17.5)		
University	6 (8.5)	10 (15.9)	9 (14.3)		
Marriage status				1.192	0.551
Married	58 (81.7)	51 (81)	47 (74.6)		
Single	13 (18.3)	12 (19)	16 (25.4)		
Occupation				11.283	0.024*
Unemployed	36 (50.7)[b]	46 (73)[a]	43 (68.3)[a,b]		
Officer	10 (14.1)[a]	9 (14.3)[a]	5 (7.9)[a]		
Worker	25 (35.2)[b]	8 (12.7)[a]	15 (23.8)[a,b]		

One way ANOVA, chi square,* p<0.05, mean [SD], n(%), GAD: Generalized anxiety disorder, PD:Panic disorder

Table 2: Comparison of scale scores between groups (generalized anxiety disorder, panic disorder, control)

Group	F	p	partial eta square
D[1]	11.383	0.000**	0.105
SC[2]	9.517	0.000**	0.089
W[3]	5.589	0.004**	0.054
SP[4]	4.879	0.009**	0.048
RE[5]	3.916	0.021*	0.039
RT[6]	9.268	0.000**	0.087
PC[7]	18.557	0.000**	0.161
IC[8]	0.300	0.741	0.003

1R2=0.096,2R2=0.080,3R2=0.045,4R2=0.38,5R2=0.029,6R2=0.78,7R2=0.152,8R2=-0.007, *p<0.05,**p<0.01, one way MANOVA, Pillai's Trace p value=<0.001, D: distraction, SC:social control W: worry SP: self-punishment, RE: reappraisal, RT: Responsibility/threat estimation, PC: Perfectionism/ Certainty , IC: Importance/Control of Thoughts

Table 3: Descriptive statistics of the scale scores of the groups

	D	SC	W	SP	RE	RT	PC	IC
GAD	13.6±3.8[a]	11.7±3.1[a]	11.3±2.8[a]	10.2±2.3[a,b]	13±3.4[a]	59.2±15.9[a]	75.3±16.1[a]	35.2±12.7[a]
PD	13.6±3.4[a]	12±3[a]	10.7±2.9[a,b]	11.1±2.8[a]	12.8±4.1[a,b]	58.4±23.6[a]	72.1±30.2[a]	33.6±13.5[a]
Control	11.1±2.8[b]	9.9±2.5[b]	9.7±2.7[b]	9.8±2[b]	11.4±3.4[b]	46.7±14.5[b]	53.5±17.7[b]	34.1±10.6[a]

D: distraction, SC: social control W:worry SP: self-punishment, RE: reappraisal, RT: Responsibility/threat estimation, PC: Perfectionism/Certainty, IC: Importance/Control of Thoughts, GAD: generalized anxiety disorder, PD:panic disorder, mean±SD

Table 4: The correlation between scale scores in patients with Panic Disorder and Generalized Anxiety Disorder

	PD(n=63) PAS				GAD(n=71) BAS			
	r¹	p	r²	p	r¹	p	r²	P
D	0.193	0.129	0.007	0.961	0.133	0.270	0.021	0.868
SC	0.397	0.001**	0.134	0.326	0.025	0.838	-0.101	0.429
W	0.174	0.173	-0.106	0.438	0.385	0.001**	0.310	0.013*
SP	0.477	0.000**	0.357	0.007**	0.326	0.005**	0.300	0.016*
RE	0.094	0.465	0.059	0.663	-0.078	0.520	0.024	0.849
RT	0.488	0.000**	0.122	0.372	0.161	0.179	0.106	0.404
PC	0.427	0.000**	0.076	0.576	0.219	0.066	0.066	0.606
IC	0.409	0.001**	-0.053	0.697	0.072	0.549	-0.236	0.061

r1:pearson correlation r2:partial correlation, *p<0.05,**p<0.01, D: distraction, SC:social control W: worry SP:self-punishment, RE: reappraisal, RT: Responsibility/threat estimation, PC:Perfectionism/ Certainty, IC: Importance/Control of Thoughts, GAD: generalized anxiety disorder, PD:panic disorder, PAS: panic Agoraphobia Scale, BAS: beck anxiety scale

DISCUSSION

In our study, TC and OB levels in patients with GAD and PD were analysed. When the results of our study were analysed, no significant difference was observed between the groups in all sub-dimensions of TCQ and OBQ in GAD and PD patients. In both patient groups, D, SC, RT and PC subdimensions were higher than the control group. While the SP subdimension was higher only in the PD group than in the control group, the RE and W were higher only in the GAD group than in the control group. TC and OB have been mostly associated with OCD until this time. It was thought to be involved in the cognitive basis of OCD and was considered as a predictor in the development of the disease. In a study by Rhéaume et al., OB levels were found to be high in OCD. Similarly, there are studies that found OB to be higher in OCD patients.[14-16] In a study conducted by Fergus et al., it was shown that the TC sub-dimension W was higher in OCD patients.[17] In another study, the SP and W subscales of TC were found to be higher in OCD patients compared to the control group.[18] Considering the common aetiologies of OCD and Anxiety Disorders, it may be considered that OB and TC may also be related to Anxiety Disorders. In addition, dysfunctional thought patterns such as TC and OB may lead to anxiety, restlessness, negative thoughts about the future and negative perception of the world. In this case, it is likely that OB and TC are not only related to OCD but also to other mental disorders, especially Anxiety Disorders related to worry.[4,6] The results of research on Anxiety Disorders in the literature are inconsistent.[19] In a study conducted by Coles et al. with patients diagnosed with GAD, W and SP were found to be high in the patient group.[20] In another study, similar OB levels were found in PD patients as in OCD patients.[21] In our study, OB and TC levels were higher in patients with GAD and PD than in the healthy control group, in accordance with the literature. In the light of all this information, it can be considered that OB and TC are not only related to OCD. OB are intrusive and unpleasant thoughts. People with more of these unpleasant thoughts can be expected to experience more symptoms such as anxiety and worry. Although TC is sometimes considered a good strategy, increased TC can increase anxiety levels.[4,22] The cognitive background of Anxiety Disorders is based on negative thoughts. Especially, anxiety about the future and intolerance of uncertainty, constant negative thoughts or inadequate efforts to control thoughts increase anxiety. Patients can try to use more TC strategies to try to control uncertain situations more. On the other hand, these strategies can be used to control symptoms. However, increased thoughts lead to increased anxiety.[23] In our study, W and RE scores were higher in GAD and SP scores were higher in PD. The main clinical finding of GAD is restlessness and anxiety and it is possible that GAD is observed more frequently in an person who uses W thought control strategies. Although RE is sometimes considered as a positive TC strategy, it can be considered that it can increase anxiety when used too much.[11] Another finding of our study is that SP is high in PD patients. It is possible that PD is more likely to be seen in people who use SP thought control strategy. A person who is constantly punishing himself or herself may have a panic attack with unbearably severe anxiety. Although thoughts can be considered as just thoughts, they can actually lead to many of the disease symptoms.[20,24]

In our study, the relationship of OB and TC with disease symptom severity was also analysed. A significant positive correlation was found between PAS levels and SP, and between BAS levels and W and SP. In other words, while SP and W increase anxiety levels, SP increases the severity of panic attacks. SP and W may have inappropriate TC strategies and when patients have excessive worry and constant self-blaming thoughts, their level of illness may also increase. Many studies were shown the relationship between PD and worry.[25] Similarly, negative thoughts underlie the cognitive basis of GAD. In particular, anxiety about the future and intolerance of uncertainty, constant negative thoughts or inadequate control efforts of thoughts increase anxiety. GAD patients can try to control uncertain situations more, they can try to use more TC strategies. On the one hand, these strategies can be used to control symptoms. However, increased thoughts lead to increased anxiety.[23,26] This is an issue that should be emphasised in the treatment process,

especially in therapies. In OCD, there are researches on the therapy strategies of OB and TC. However, there is limited data on therapy models for TC or OB in Anxiety Disorders. The evaluation of OB and TC in the therapy process may lead to positive progress in the treatment of diseases.[20,27,28]

Our research is a single-centre study. Therefore, it is not appropriate to generalise the results of the research. It would be appropriate to extend the findings with multicentre studies. In addition, other factors affecting anxiety were not analysed in the study.

CONCLUSION

TC and OB were generally higher in GAD and PD patients in our study. In addition, especially W and SP were found to be associated with symptom severity. To our knowledge, this is the first study investigating TC and OB in both patient groups. Any research on the treatment and recovery of both diseases, which are frequently observed in the society and are an important public health problem in patients, is very valuable. For this reason, there are need for more research that will be effective both in the pathogenesis and treatment of diseases.

ETHICAL DECLARATIONS

Ethics Committee Approval: The ethics committee approval of the study was obtained from Recep Tayyip Erdoğan University Non-Interventional Ethics Committee (Date 28.11.2022, Decision No: 2022/213).

Informed Consent: All patients signed the free and informed consent form.

Referee Evaluation Process: Externally peer-reviewed.

Conflict of Interest Statement: The authors have no conflicts of interest to declare.

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