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Anxiety symptoms in obsessive-compulsive disorder and generalized anxiety disorder

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Summary

Aim. Due to the co-occurrence of symptoms of anxiety disorders and obsessive-compulsive disorders, and the hypothesis about common etiopathological factors, we performed a research addressing the occurrence and severity of anxiety symptoms, the severity of groups of neurotic symptoms, and conducted factor analyses in two groups of patients: diagnosed with obsessive-compulsive disorder (OCD) and with generalized anxiety disorder (GAD).

Material and methods. A retrospective study was conducted on two groups of patients: 76 – diagnosed with OCD, and 186 – diagnosed with GAD. The source of information about the presence and severity of symptoms was the Symptom Checklist "O" (KO "O"). The impact of sex and the presence or absence of cognitive impairments (Bender's and Benton's tests) on the investigated associations were accounted for.

Results. No significant differences in the severity of most anxiety symptoms were found between the groups of patients diagnosed with OCD or GAD. Patients with GAD were characterized by a significantly higher intensity of phobic disorders, conversion disorders, cardiac autonomic dysfunctions, and hypochondria, when compared to patients with OCD. Factor analyses identified the existence of three similar factors in the OCD and the GAD groups: 'anxiety/depressiveness', 'obsessions' and 'compulsions'. Additional factors were, among others, 'depressiveness' in OCD and separation anxiety in GAD.

Conclusions. The research indicates that anxiety plays a significant role in the clinical picture of OCD and may reach a severity similar to that observed in GAD. The presence and severity of anxiety and somatization symptoms can be associated with the presence of cognitive impairments, which requires further investigation.

Key words: anxiety symptoms, obsessive-compulsive disorder, generalized anxiety disorder

1. Introduction

Anxiety symptoms are part of the clinical picture of most mental disorders. Anxiety is among the major clinical features of neurotic disorders and plays a significant

role in their pathogenesis [1]. In some cases, anxiety symptoms prevail in the clinical picture or display a severity that confirms the diagnosis of anxiety disorders, which are among the most prevalent of all mental illnesses (over 10% of the population) [2]. The classification of anxiety disorders has undergone changes over the last decades. Currently, this term encompasses distinct forms like anxiety disorder with panic attacks and generalized anxiety disorder, among others, each of them being characterized by specific symptoms and a different response to pharmacological treatment. However, the legitimacy of distinguishing between different anxiety disorders remains controversial since the introduction of the DSM-III [3, 4]. This concerns especially the characteristics of generalized anxiety disorder (GAD), because of the common (up to 90%) co-occurrence of other mental disorders, including obsessive-compulsive or depressive disorders, and because of the similarity of its clinical manifestation, i.a., with personality disorders [5–7].

The coexistence of symptoms of different anxiety disorders is believed to be a clinical sign of common etiopathogenetic factors, including a common genetic and neurobiological background, expressed in such features as the domination of negative affect, 'neuroticism', avoidance of threats, or 'intolerance of uncertainty' [8–11]. 'Intolerance of uncertainty' is considered to be the main factor responsible for the so-called basic anxiety and symptoms of obsessive-compulsive disorders (OCD), the latter of which have, until recently, also been included in the definition of anxiety disorders (DSM-IV) [12–15]. Research on twins indicates a common genetic background for some forms of OCD and anxiety disorders but also suggests that obsessive-compulsive symptoms may be a risk factor for the development of some of the anxiety disorders, such as GAD or panic disorder [16, 17]. This might be reflected by the observed long time of treatment avoidance by patients with OCD (on average approx. 8 years), as well as GAD (6–7 years) [18].

Research on pathogenetic factors and phenotypic features of anxiety disorders has singled out obsessive-compulsive disorders as a distinct entity in the DSM-5, different from anxiety disorders. Currently, according to the DSM-5, the group of anxiety disorders encompasses separation anxiety disorder, selective mutism, specific phobias, social anxiety disorder, panic disorder, agoraphobia, and generalized anxiety disorder [19].

2. Aim of the study

Due to the co-occurrence of anxiety disorders and obsessive-compulsive disorders described in the literature, as well as hypotheses about their common etiopathogenetic factors, expressed in their clinical picture, we investigated the structure of OCD and GAD manifestations, in particular trying to answer the following questions:

1. Do those disorders differ in the presence, number or severity of specific anxiety symptoms?

2. Do those disorders (OCD and GAD) differ in means of the levels of *the Symptom Checklist "O"* (KO) scales, which represent different groups of neurotic symptoms?
3. Are factors explaining the presence of symptoms of both disorders (OCD and GAD) similar or different?

3. Material and method

A retrospective study in two groups of patients was performed: 76 patients with OCD (F42 according to ICD-10) and 186 patients with GAD (F41.1 according to ICD-10). Data under investigation were gathered during the diagnostic procedure, i.e., at the time patients showed up for therapy at the Day Ward. The diagnosis was made based on a psychiatric examination (a psychiatric interview and the evaluation of the patient's mental state) according to ICD-10 diagnostic criteria. Patients who, based on the psychiatric examination, were diagnosed with organic mental disorders, psychotic or affective disorders, addiction to psychoactive substances, or coexisting anxiety disorders (GAD) and obsessive-compulsive disorders that met ICD-10 criteria, were excluded from the study. Inclusion criteria encompassed the type of diagnosis and answering to all questions of *the Symptom Checklist "O"*.

The source of information about the picture of the patients' neurotic symptoms during the week preceding the treatment was *the Symptom Checklist "O"* (KO) (dependent variable). This questionnaire is a diagnostic tool used in addition to the interview and the psychiatric examination of patients which show up for treatment at the Day Ward. It has been developed on the basis of the SCL-90-R questionnaire. The confirmation of the reliability and validity of the items making up the questionnaire's variables has legitimized its use in the diagnosis and description of disorders [20, 21]. It is a self-report questionnaire which consists of 138 multiple choice questions, the answers to which provide information about the incidence and severity of 135 most important symptoms of neurotic disorders. Among others, it includes:

– 10 variables which describe symptoms representing the scale 'other anxiety disorders': number 4 – constant anxiety for no obvious reason; 16 – internal tension; 24 – paralyzing anxiety; 44 – panic attacks; 64 – anxiety; 84 – unjustified sense of threat; 104 – stage fright, anxiety preceding events or meetings; 121 – fear about closest relatives who are currently not in danger; 124 – catastrophic fear; 126 – pressure (floods) of thoughts;
– 7 variables which describe symptoms representing the scale of phobic disorders: number 1 – anxiety while on balconies, bridges, over precipices; 21 – anxiety when no people are around; 41 – anxiety in moving vehicles, trains, buses; 61 – anxiety in open spaces; 71 – anxiety in closed spaces; 81 – anxiety in crowded places; 101 – fear of objects, animals, places, which are not harmful [22].

Questions of the KO are related to the presence and severity of manifestations during seven days preceding completion of the questionnaire. The KO enables a subjective evaluation of the severity of the symptoms according to the following criteria: '0' – 'the symptom was not present, at all', 'a' – 'it was present but only slightly severe', 'b' – 'it was moderately severe', 'c' – 'it was very severe'.

The impact of sex and the presence or absence of cognitive impairments (diagnosed by means of Benton Visual Retention Test and Bender Visual-Motor Gestalt Test during admission for treatment) on the tested associations was accounted for in the analyses. The results of the psychological tests were interpreted by psychologists involved in the diagnostic procedure.

Values of the variables under investigation were taken from a computer database. Those data have been obtained during routine diagnostic procedures, stored, and analyzed anonymously. Their use in the analyses has been approved by the patients.

The following methods were used for data analysis: analysis of variance, multiple regression analysis, Student's *t*-test, correlation analysis, and factor analysis. Calculations were performed with the SPSS and Statistica software. For statistical inference, the level of statistical significance was set at $p \leq 0.05$. In all statistical analyses, tests with no assumption regarding the direction of the expected difference were used.

4. Results

The whole investigated group consisted of 262 people – 183 women and 79 men aged 18–58. The mean age was 33 years (18–58 years) – 31 years in the OCD group and 34 years in the GAD group.

Table 1. **Number of women and men and total number of patients with and without cognitive impairments (number – N; percentage – %)**

Sex, cognitive impairments	Diagnosed OCD		Diagnosed GAD	
	N	%	N	%
Total number of patients	76	100.0	186	100.0
Women	43	56.6	140	75.3
Men	33	43.4	46	24.7
Patients without cognitive impairments	48	63.2	133	71.5
Women	27	35.5	99	53.3
Men	21	27.6	34	18.3
Patients with cognitive impairments	28	36.8	53	28.5
Women	16	21.1	41	22.0
Men	12	15.8	12	6.5

We found that there were significantly more women in the GAD group (75%) than in the OCD group (57%); at the same time, there were significantly more men in the OCD (43%) than in the GAD group (25%) (χ^2 test = 8.95; df = 1; p = 0.003).

4.1. Cognitive impairments

No statistically significant differences in the prevalence of cognitive impairments among patients in the OCD and the GAD group were found (χ^2 test = 1.76; df = 1; p = 0.18). Among all patients, 81 (31%) presented with some kind of cognitive impairments (Benton Visual Retention Test and Bender Visual-Motor Gestalt Test).

Also, there were no statistically significant differences in the incidence of cognitive impairments in both gender groups (χ^2 test = 0.02; df = 1; p = 0.90).

4.2. Presence of anxiety symptoms

A comparison of the presence of anxiety symptoms was performed using multiple regression analysis (by means of stepwise regression).

Table 2. **Frequencies of different anxiety symptoms in groups, depending on diagnosis (OCD and GAD), sex (F, M), and the presence ('p') or absence ('np') of cognitive impairments**

Item	Total	OCD	GAD	F	M	np	p	F OCD	M OCD	F GAD	M GAD	OCD np	OCD p	GAD np	GAD p	F np	F p	M np	M p
4	81.3	**64.5**	**88.2**	85.2	72.2	80.1	84.0	69.8	57.6	90.0	82.6	60.4	71.4	87.2	90.6	84.1	87.7	70.9	75.0
16	95.8	93.4	96.8	95.1	97.5	96.1	95.1	93.0	93.9	95.7	100.0	93.8	92.9	97.0	96.2	96.0	93.0	96.4	100.0
24	64.1	56.6	67.2	65.0	62.0	**58.6**	**76.5**	**51.2**	63.6	**69.3**	60.9	45.8	75.0	63.2	77.4	61.1	73.7	52.7	83.3
44	55.0	**42.1**	**60.2**	58.5	46.8	52.5	60.5	44.2	39.4	62.9	52.2	35.4	53.6	58.6	64.2	56.3	63.2	43.6	54.2
64	91.6	90.8	91.9	90.2	94.9	91.2	92.6	88.4	93.9	90.7	95.7	89.6	92.9	91.7	92.5	89.7	91.2	94.5	95.8
84	71.0	63.2	74.2	72.1	68.4	71.8	69.1	65.1	60.6	74.3	73.9	62.5	64.3	75.2	71.7	72.2	71.9	70.9	62.5
104	88.5	88.2	88.7	90.2	84.8	86.2	93.8	90.7	84.8	90.0	84.8	81.2	100.0	88.0	90.6	88.9	93.0	80.0	95.8
121	66.4	64.5	67.2	66.7	65.8	**62.4**	**75.3**	60.5	69.7	68.6	63.0	54.2	82.1	65.4	71.7	62.7	75.4	61.8	75.0
124	45.4	44.7	45.7	45.4	45.6	47.0	42.0	41.9	48.5	46.4	43.5	41.7	50.0	48.9	37.7	47.6	40.4	45.5	45.8
126	69.8	78.9	66.1	70.5	68.4	**64.6**	**81.5**	83.7	72.7	66.4	65.2	75.0	85.7	60.9	79.2	67.5	77.2	58.2	91.7

Statistically significant differences are marked in bold, $p \leq 0.05$.

Groups with statistically significant differences in the frequency of incidence of anxiety symptoms:

- 4 – constant anxiety for no obvious reason: GAD (88%) > OCD (64%), $p = 0.000$;
- 24 – paralyzing anxiety: patients with cognitive impairments (76%) > patients without cognitive impairments (59%), $p = 0.004$; with an overlapping effect of the interaction between diagnosis and sex: women with GAD (69%) > women with OCD (51%), $p = 0.048$;
- 44 – panic attacks: GAD (60%) > OCD (42%), $p = 0.008$;
- 121 – fear about closest relatives who are currently not in danger: patients with cognitive impairments (75%) > patients without cognitive impairments (62%), $p = 0.040$;
- 126 – pressure (floods) of thoughts: patients with cognitive impairments (82%) > patients without cognitive impairments (65%), $p = 0.006$;

In our study, patients with OCD and GAD differed significantly in the frequency of only two anxiety symptoms: No. 4 (constant anxiety for no obvious reason) and No. 44 (panic attacks) – both were significantly more prevalent in the group diagnosed with GAD. In the case of three anxiety symptoms, a significant impact of the presence of cognitive impairments on their frequency was observed. This concerned symptoms No. 24 (paralyzing anxiety), No. 121 (fear about closest relatives), and No. 126 (pressure (floods) of thoughts), which were present significantly more often among patients with cognitive impairments than in patients without such dysfunctions.

4.3. Number of anxiety symptoms

Number of anxiety symptoms reported by patients diagnosed with OCD and GAD was compared using the Student's *t*-test for independent samples (two-tailed test).

Table 3. **Distribution of number of anxiety symptoms in the groups of patients with OCD and GAD – number (N) of patients with a given number of symptoms and the corresponding percentage (%)**

Number of symptoms	Diagnosed OCD		Diagnosed GAD	
	N	%	N	%
0	-	-	1	0.5
1	2	2.6	-	-
2	2	2.6	3	1.6
3	2	2.6	5	2.7
4	8	10.5	7	3.8
5	3	3.9	21	11.3

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6	14	18.4	21	11.3
7	13	17.1	25	13.4
8	10	13.2	31	16.7
9	12	15.8	35	18.8
10	10	13.2	37	19.9
Total	76	100.0	186	100.0

Among the 262 study participants, only one person did not report any anxiety ailment, and only 5% of the patients with GAD and 8% of patients with OCD reported three or fewer symptoms of anxiety. In each of those groups, the vast majority of the patients under investigation (78–80%) confirmed to have at least six (6–10) different anxiety symptoms, i.e., most of the ten symptoms of the anxiety disorder scale.

Table 4. **Number of anxiety symptoms in patients with different diagnoses – mean values and standard deviations, significance of the difference between the average number of anxiety symptoms reported by patients diagnosed with OCD and GAD – Student's t-test for independent samples (two-tailed test)**

Diagnosis	Mean	Standard deviation	Significance of the difference between means	Strength of dependency between variables
OCD	6.87	2.31	Student's t-test t = – 2.00; df = 260; p = 0.046	Eta = 0.123 Eta-square = 1.5%
GAD	7.46	2.13		

In our study, patients with GAD reported on average more anxiety symptoms (7.46) than patients with OCD (6.87). The difference between means, although significant, was, however, small ($p = 0.046$, Eta-square = 1.5%).

4.4. Comparison of the prevalence of phobic symptoms

The prevalence of phobic symptoms was compared in groups divided according to diagnosis, sex and the presence of cognitive impairments, using three-way analysis of variance.

Groups statistically significantly differing in the frequency of specific phobic symptoms:

- 1 – anxiety while on balconies, bridges, over precipices: GAD (48%) > OCD (28%), $p = 0.003$;
- 21 – anxiety if no people are around: GAD (70%) > OCD (49%), $p = 0.002$; women without cognitive impairments (71%) > men without cognitive impairments (49%), $p = 0.049$;
- 41 – anxiety in moving vehicles, trains, buses: GAD (62%) > OCD (20%), $p = 0.000$; patients with cognitive impairments (58%) > patients without

cognitive impairments (46%), $p = 0.022$; women (56%) > men (34%), $p = 0.011$;

- 61 – anxiety in open spaces: GAD (43%) > OCD (9%), $p = 0.000$; patients with cognitive impairments (43%) > patients without cognitive impairments (29%), $p = 0.002$; patients diagnosed with GAD with cognitive impairments (53%) and without cognitive impairments (39%); patients diagnosed with OCD with cognitive impairments (25%) > patients with diagnosed OCD without cognitive impairments (0%), $p = 0.012$;
- 71 – anxiety in closed spaces: GAD (50%) > OCD (24%), $p = 0.000$;
- 81 – anxiety in crowded places: GAD (69%) > OCD (36%), $p = 0.000$.

Six among seven phobic symptoms included in the KO "O" were significantly more prevalent in the GAD than in the OCD group. The incidence of 'fear of objects, animals, places, which are not harmful' did not differ between the groups.

We additionally identified an impact of the presence of cognitive impairments on the frequency of two phobic symptoms (No. 41 – anxiety in moving vehicles, No. 61 – anxiety in open spaces). Both symptoms turned out to be significantly more prevalent in the group of patients with cognitive impairments than in the group of patients without such dysfunctions.

4.5. Comparison of the levels of symptom groups

Levels of symptom groups measured on 14 scales of *the Symptom Checklist "O"*, depending on the diagnosis, sex and the presence ('p') or absence ('np') of cognitive impairments, were compared using three-way analysis of variance.

Table 5. **Results of 14 scales of the Symptom Checklist "O" – mean values (M) and standard deviations (SD); raw results and corresponding results in sten scores**

Scale	OCD		GAD		Women		Men		np		p	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
RAW RESULTS												
Phobic disorders	**9.9**	8.6	**20.7**	12.2	19.0	12.4	14.0	11.4	16.9	12.3	19.0	12.3
Other anxiety disorders	37.6	15.3	41.5	15.0	41.4	15.4	38.1	14.4	39.4	15.4	42.7	14.3
Obsessive-compulsive disorders	**28.1**	11.5	**15.6**	10.4	18.1	12.0	21.9	12.0	18.6	11.9	20.6	12.5
Conversions	**20.1**	18.2	**34.5**	24.1	32.5	23.8	25.3	21.9	29.2	23.5	32.7	23.2
Autonomic heart disorders	**21.1**	13.2	**33.2**	15.3	31.7	15.5	25.0	15.2	**28.5**	16.0	**32.5**	14.9
Somatization disorders	20.8	15.2	25.3	17.3	25.1	16.9	21.4	16.5	23.6	16.6	24.9	17.3

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Hypochondriasis	**13.2**	8.8	**16.7**	10.4	15.4	10.0	16.4	10.2	15.7	10.0	15.7	10.2
Neurasthenia	42.2	17.9	43.0	17.6	43.3	17.8	41.4	17.3	42.3	17.4	43.7	18.4
Depersonalization-derealization	9.8	10.8	11.5	11.3	11.0	11.3	11.1	11.1	11.2	11.1	10.6	11.4
Avoidance, dependency	28.3	17.5	29.3	18.0	29.7	18.0	27.3	17.5	28.9	17.7	29.2	18.3
Impulsiveness, histrionic traits	22.4	13.6	23.5	13.6	**24.8**	13.3	**19.4**	13.4	22.6	13.4	24.6	13.8
Nonorganic sleep disorders	9.6	8.4	12.0	8.3	11.3	8.5	11.3	8.1	11.0	8.4	11.9	8.4
Sexual dysfunctions	9.4	8.8	10.7	9.5	10.5	9.7	9.8	8.3	10.6	9.2	9.5	9.5
Dysthymia	31.2	11.9	29.9	12.7	30.8	12.8	29.1	11.5	30.3	12.5	30.3	12.3
RESULTS IN STEN SCORES												
Phobic disorders	**4.62**	1.30	**6.13**	1.68	**5.92**	1.71	**5.18**	1.63	**5.61**	1.72	**5.89**	1.71
Other anxiety disorders	**4.88**	1.88	**5.32**	1.85	**5.30**	1.90	**4.95**	1.77	**5.06**	1.89	**5.48**	1.78
Obsessive-compulsive disorders	**7.00**	1.78	**5.04**	1.75	**5.43**	1.97	**6.03**	1.91	**5.52**	1.94	**5.80**	2.03
Conversions	**3.99**	1.81	**5.28**	1.98	**5.07**	2.01	**4.53**	1.99	**4.78**	2.03	**5.17**	1.97
Autonomic heart disorders	**3.70**	1.69	**5.18**	1.85	**4.99**	1.91	**4.19**	1.83	**4.60**	1.95	**5.09**	1.81
Somatization disorders	**4.50**	1.95	**5.08**	1.98	**5.03**	1.95	**4.62**	2.06	**4.87**	1.96	**5.00**	2.06
Hypochondriasis	**5.28**	1.50	**5.88**	1.74	**5.67**	1.67	**5.78**	1.76	**5.68**	1.68	**5.77**	1.74
Neurasthenia	**4.58**	1.87	**4.66**	1.85	**4.69**	1.87	**4.51**	1.81	**4.59**	1.79	**4.73**	1.97
Depersonalization-derealization	**4.96**	1.80	**5.23**	1.79	**5.13**	1.80	**5.20**	1.80	**5.19**	1.78	**5.06**	1.83
Avoidance, dependency	**4.58**	1.97	**4.68**	1.98	**4.72**	2.01	**4.51**	1.89	**4.62**	1.96	**4.72**	2.01
Impulsiveness, histrionic traits	**4.33**	2.04	**4.45**	2.05	**4.64**	2.01	**3.89**	2.03	**4.33**	2.02	**4.62**	2.11
Nonorganic sleep disorders	**4.43**	1.87	**5.04**	1.83	**4.89**	1.91	**4.80**	1.75	**4.81**	1.86	**4.98**	1.86
Sexual dysfunctions	5.03	1.68	5.29	1.77	5.26	1.80	5.11	1.59	5.31	1.70	5.00	1.82
Dysthymia	5.14	1.77	4.95	1.91	5.08	1.91	4.84	1.76	5.01	1.88	5.00	1.84

Mean values differing significantly at $p < 0.05$ are marked in bold.

Table 6. **Levels of 14 scales of the Symptom Checklist "O" (raw results) in relation to diagnosis, sex and the presence or absence of cognitive impairments (cogn. imp.) – probability (p value) in three-way analysis of variance**

Scale	p value for individual effects						
	Diagnosis	Sex	Cogn. Imp.	Diagnosis x sex	Diagnosis x cogn. Imp.	Sex x cogn. Imp.	Diagnosis x sex x cogn. Imp.
Phobic disorders	**0.000*** **	0.149	0.138	0.205	0.688	0.966	0.826
Other anxiety disorders	0.343	0.354	0.065	0.326	0.088	0.354	**0.027***
Obsessive-compulsive disorders	**0.000*** **	0.249	0.372	0.737	0.372	0.384	0.185
Conversions	**0.000*** **	0.393	0.224	0.112	0.764	0.942	0.968
Autonomic heart disorders	**0.000*** **	0.111	**0.018***	0.174	0.656	0.758	0.678
Somatization disorders	0.129	0.149	0.634	0.904	0.812	0.339	0.642
Hypochondriasis	**0.008** **	0.255	0.598	0.540	0.990	0.583	0.814
Neurasthenia	0.637	0.846	0.587	0.056	0.608	0.947	0.689
Depersonalization-derealization	0.498	0.748	0.921	0.664	0.378	0.753	0.394
Avoidance and dependency	0.718	0.628	0.755	0.181	0.385	0.716	0.386
Impulsiveness, histrionic traits	0.838	**0.013***	0.223	0.727	0.322	0.528	0.214
Nonorganic sleep disorders	0.129	0.642	0.146	0.879	0.147	0.673	0.810
Sexual dysfunctions	0.414	0.867	0.663	0.728	0.789	0.215	0.741
Dysthymia	0.112	0.307	0.793	0.488	0.090	0.969	0.411

Significance: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

On the basis of the conducted analysis of variance, it was found that the GAD and OCD groups differed significantly in the average level of five among fourteen scales of *the Symptom Checklist "O"*. In patients with OCD, the level of the obsessive-compulsive scale was significantly higher than in the GAD group. On the contrary, patients with GAD were characterized by a significantly higher average level of the scales of phobic disorders, conversion disorders, autonomic heart and cardiovascular diseases, and hypochondriasis, when compared to patients with OCD.

It was additionally found that the level of autonomic heart and cardiovascular disorders scale was significantly higher in the group of patients with cognitive impair-

ments than in patients without such dysfunctions, and that the average level of the scale which describes mixed personality disorders with impulsive and histrionic features was significantly higher in women than in men.

When comparing the levels of different scales expressed in sten scores between the OCD and the GAD group, the highest level in the group of patients with OCD was observed for the obsessive-compulsive scale, which confirms their diagnosis, whereas the lowest level was found for the autonomic heart and cardiovascular diseases scale. In patients with GAD, the highest values were obtained on the phobic disorders scale, while the lowest – on the impulsiveness and histrionic trait scale.

4.6. Comparison of levels of the scale ‘other anxiety disorders’

Levels of the scale ‘other anxiety disorders’, depending on the type of diagnosis, sex, and the presence or absence of cognitive impairments, and the interactions of those factors, were compared.

Table 7. **Mean values and standard deviations of the levels of the scale ‘other anxiety disorders’ (raw results) in groups by reference to the patient’s diagnosis (OCD, GAD), sex, and the presence or absence of cognitive impairments**

Diagnosis	Sex	Cognitive impairments	Number of participants	Mean value	Standard deviation
OCD	-	-	76	38.58	14.13
GAD	-	-	186	40.75	14.68
–	women	-	183	40.73	15.33
–	men	-	79	38.60	13.48
–	-	not present	181	37.55	15.00
–	-	present	81	41.78	13.80
OCD	women	not present	27	38.0	16.4
OCD	women	present	16	39.0	14.9
OCD	**men**	**not present**	21	**31.0**	14.0
OCD	**men**	**present**	12	**46.3**	11.2
GAD	**women**	**not present**	99	**41.3**	15.5
GAD	**women**	**present**	41	**44.6**	14.5
GAD	men	not present	34	39.9	14.1
GAD	men	present	12	37.2	14.6
Total number of participants			262	40.4	15.1

Subgroups with statistically significantly different values of the mean scale levels are marked in bold, $p < 0.05$.

Based on the performed three-way analysis of variance, it was found that the level of the whole scale 'other anxiety disorders' was significantly dependent on the interaction of the variables 'diagnosis x sex x cognitive impairments' ($p = 0.027$). The highest level of this scale was found in men diagnosed with OCD and cognitive impairments (46 points), whilst the lowest – in men with the same diagnosis but without those impairments (31 points). Compared to men with the diagnosis of OCD without cognitive impairments, the level of the anxiety disorders scale was significantly higher in women with GAD – independently of the presence of cognitive impairments (41–45 points), as well as in the small subgroup (12 people) of men with OCD and cognitive impairments (46 points). Despite the small number of the latter ($n = 12$), the probability level ($p < 0.01$) indicates a significant difference in the level of the anxiety disorders scale between the subgroup of men with OCD and cognitive impairments, and the subgroup of men with the same diagnosis but without such impairments.

4.7. Factor analyses conducted on selected (53) variables of *the Symptom Checklist "O"* in patients diagnosed with OCD and GAD

As our data indicated the existence of differences in the symptom structures between patients with OCD and GAD, factor analyses were performed on individual items of selected scales of *the Symptom Checklist "O"*. The aim was to reveal the structure of factors that explain significant associations between given variables of the questionnaire, especially with reference to obsessive-compulsive and anxiety symptoms. Besides symptoms of anxiety and obsessive-compulsive disorders, the analyses also included variables characteristic for phobic disorders, depressive disorders and avoidant-dependent and impulsive-histrionic personality disorders – altogether 53 variables. Based on the number of original scales of the symptom checklist, which was the source of variables included in the analyses (six), as well as on data indicating the legitimacy to distinguish two subscales among the obsessive-compulsive scale – obsessions and compulsions, seven factors emerged in each group (OCD and GAD). Factor analyses were carried out with the orthogonal rotation method (VARIMAX).

Analyzing the content of variables explained by the given factors, the psychopathological picture of OCD was found to be made up of the following dimensions: (a) dependency (factor loading values > 0.45); (b) anxiety/depressiveness (factor loadings > 0.36); (c) phobic anxiety/impulsiveness (factor loadings > 0.34); (d) obsessions (factor loadings > 0.39); (e) impulsiveness/phobic anxiety (factor loadings > 0.41); (f) compulsions (factor loadings > 0.39); (g) depressiveness (factor loadings > 0.50). The seven described factors (dimensions) explained 53% of the variability of OCD symptoms. In the group diagnosed with GAD, the following factors were identified: (a) anxiety/depressiveness (factor loadings > 0.30); (b) separation anxiety (factor loadings > 0.37); (c) dependency/impulsiveness (factor loadings > 0.33); (d) phobic anxiety (factor loadings > 0.39); (e) obsessions (factor loadings > 0.50); (f) compulsions (factor

loadings > 0.57); (g) impulsiveness/anxiety (factor loadings > 0.33), which explained 48% of the clinical picture variability of this disorder.

When comparing those results to the results of other factor analyses, in which larger numbers of factors were identified (10 and 15 factors, respectively), it was found that the most stable factors in the group of patients with obsessive-compulsive disorders were: (a) dependency; (b) anxiety/depressiveness; (c) phobic anxiety/impulsiveness; (d) obsessions; and (e) compulsions, while in the group of patients with generalized anxiety disorder the most stable were: (a) anxiety/depressiveness; (b) separation anxiety; (c) phobic anxiety; (d) obsessions; (e) compulsions. The remaining factors identified in further analyses turned out to be unstable, and the variables included in them switched between factors.

Therefore, in both groups – the test group and the reference group – the existence of three similar factors was observed: (a) anxiety combined with depressiveness, and separate factors for (b) obsession symptoms and (c) compulsion symptoms. Those factors were stable in more detailed analyses with greater number of identified factors. Noteworthy among the identified differences was a clear relationship between phobic anxiety and impulsiveness found in patients with OCD and the existence of a stable factor corresponding to separation anxiety in GAD.

5. Discussion of results

Anxiety is a core symptom of neurotic disorders and plays a significant role in the pathogenesis of many psychiatric disorders [22]. This could be confirmed by the results of the presented study, where no significant differences were found in the frequency and the level of generalized anxiety symptoms and panic anxiety symptoms between the compared groups – OCD or GAD. It also turned out that only the minority of patients – both with OCD and GAD – reported three or fewer anxiety symptoms (only 5% of the study participants diagnosed with GAD and 8% of those diagnosed with OCD); the vast majority of patients in both groups (78–80%) confirmed the presence of most symptoms that are believed to be typical of anxiety disorders. The groups differed in the occurrence of two out of ten symptoms of the scale ‘other anxiety disorders’, i.e., ‘constant anxiety’ and ‘panic attacks’, which were more frequently found in patients with GAD.

No significant differences in the level of the entire scale ‘other anxiety disorders’ between the OCD and GAD groups were found, which argues in favor of the general similarity of the two groups regarding the intensity of the anxiety levels reported by the patients. This may speak for the general similarity of the structure of anxiety symptoms in both groups but also indicate that this structure may act as some kind of unspecific phenotype that occurs in patients diagnosed with OCD and GAD, which can correspond to the common factor ‘anxiety/depressiveness’, identified during the later analysis process. Also, the lack of significant differences in the levels of as many as nine out of fourteen scales of *the Symptom Checklist “O”* disputes the conviction

about the fundamentally different pictures of GAD and OCD; it can rather indicate a significant overlap of those clinical pictures.

In the conducted study, we observed that the intensification of generalized anxiety symptoms was accompanied by an intensification of panic anxiety and that 'panic attacks' were significantly more prevalent in GAD than in OCD. This is in accordance with findings of other authors who have noticed a more common coexistence of panic anxiety with generalized anxiety than with obsessive-compulsive disorder [2, 23]. The obtained data may challenge the legitimacy of distinguishing some anxiety disorders, for example, generalized anxiety disorder, as distinct nosological entities. This has also been indicated by other authors [3, 24]. On the other hand, the coexistence of generalized anxiety and panic anxiety in the same patients does not undermine the theory that those types of anxiety may originate from different pathogenetical mechanisms. This was confirmed by the results of this study, which indicate that only the existence of some types of anxiety, such as 'paralyzing anxiety' may be associated with the presence of specific physical dysfunctions in the CNS. However, the identification of a stable factor responsible for 'separation anxiety' in GAD may be in accordance with psychodynamic concepts, according to which developmental factors such as distortions in the separation-individuation process can impact the genesis of anxiety disorders. This may be associated with a familial occurrence of anxiety disorders, which are transmitted from parents to their offspring as an anxious cognitive style with avoidance behavior, but may also be a sign of separation difficulties [4, 25]. Also other authors point to associations between separation difficulties/anxiety and 'intolerance of uncertainty', which has a negative impact on the separation process and which is transmitted in families of patients with anxiety disorders [26]. According to the literature, worrying is one of the main defense strategies activated by patients diagnosed with GAD in response to negative emotions and representations [23, 27, 28].

The coexistence of symptoms of different anxiety disorders in GAD patients was further confirmed by the result indicating that 'phobic disorders' are the scale of *the Symptom Checklist "O"* with the highest intensity. Also, in those patients, there was a higher frequency of six out of seven phobic symptoms, and a higher level of the entire phobic scale than in the OCD group, which indicates that phobias more frequently co-occur with generalized anxiety than with obsessive-compulsive symptoms. Many authors describe the presence of phobic symptoms in the picture of generalized anxiety disorder [7, 29]. Our results additionally indicate that phobias, but not anxiety, the sense of threat, or worrying, regarded as characteristic features of GAD, may dominate in the picture of this disorder. Because of the aforementioned process of grouping patients, together with the verification of diagnostic categories, there are no grounds for suggesting that this result might be a consequence of erroneous patient qualification.

The occurrence of phobias in patients with generalized anxiety might be explained by the activation of anxiety transfer on specific situations or objects, as a way of

dealing with them. This could be associated with the avoidance of strong, especially negative, intolerable emotions, which is typical for GAD [25, 30]. On the contrary, as shown by factor analyses, in OCD patients, phobic symptoms may be related to the patients' impulsiveness. The co-occurrence of different anxiety disorders, such as phobias, generalized anxiety or panic anxiety, which is commonly described in the literature and also observed in the presented study, seems to challenge the legitimacy of differentiating some nosological entities like generalized anxiety disorder [3, 24]. In clinical practice, it is sometimes difficult to unambiguously diagnose a patient based on their reported conditions – especially in the case of anxiety disorders.

The described discrepancies and similarities of the symptom structures of OCD and GAD confirm the results of the conducted factor analyses. Both, in the group of patients with OCD and GAD, the presence of three analogical factors was identified: 'anxiety/depressiveness', 'obsessions' and 'compulsions', which occurred to be stable also in more detailed analyses. In the case of the remaining four identified factors, we observed differences between the test group and the reference group: in the OCD group, the factors 'dependency', 'depressiveness', and two factors – 'phobic anxiety/impulsiveness' emerged, while the GAD group was characterized by 'separation anxiety', 'dependency/impulsiveness', 'phobic anxiety' and 'impulsiveness/anxiety'. For both disorders, approximately 50% of the clinical picture variance was explained by the described factors, as only symptoms describing selected aspects of the patients' psychopathology were included in the analyses, while omitting e.g., variables describing somatization, conversion, or hypochondriasis symptoms.

The factor 'anxiety/depressiveness' was similar in both groups, which may indicate the existence of some anxiety and depression pathomechanisms that are common in both groups of patients. This has also been suggested by other authors [6, 31]. This factor might represent the dimension 'general distress' (or 'negative affect') described by Clark and Watson and associated with the co-occurrence of unspecific anxiety and depressive symptoms [see 32]. At the same time, the identification of a distinct factor corresponding to 'depressiveness' in patients with OCD, may indicate that some additional pathomechanisms of depression overlap the common mechanisms in those patients [33, 34]. Many authors believe that generalized anxiety disorder and depressive disorder (including the so-called major depression) may have a common genetic background and that the outcome in anxiety or depression results from environmental factors [9, 35, 36]. The effectiveness of antidepressants in anxiety disorders might be attributed to their action on the common neurobiological mechanisms [37, 38]. Research results indicate that generalized anxiety disorder might represent a kind of predisposition to the development of depression, similar to 'neuroticism', or be part of its manifestation [3, 9, 35, 36]. The results of the presented factor analyses would support the latter hypothesis, as they suggest that the symptoms of anxiety and depression could potentially be explained by the existence of the same factor.

The obtained results indicate a significant association between the presence of some cognitive impairments and the presence and severity of anxiety. We found that 'paralyzing anxiety', 'fear about closest relatives' and 'pressure (floods) of thoughts', but also 'anxiety in vehicles' and 'anxiety in open spaces' were significantly more prevalent in the group of patients with cognitive impairments than in patients without such dysfunctions. Those observations are in accordance with neurobiological hypotheses of panic attacks [39–41]. In the presented study, we additionally found that the level of the entire scale of anxiety disorders was significantly associated with the interaction of the factors: diagnosis x sex x cognitive impairments. The highest level of this scale was observed in men with OCD and cognitive impairments, and the lowest level in the group of men with the same diagnosis but without such dysfunctions. This might indicate that anxiety, especially in men with OCD, may develop or intensify as a result of the presence of some, still unspecified, cognitive impairments, and that this anxiety might be particularly severe. Therefore, the presence of cognitive impairments might be the source of particularly intensified anxiety or compromise tolerance, which fosters the activation of mechanisms of its reduction, such as compulsions.

The dependency between the presence of cognitive impairments and the level of the autonomic heart and cardiovascular diseases scale (significantly higher in the group of patients with cognitive impairments than in the group without such dysfunctions) can be interpreted in a similar way. In the OCD group, the scale of autonomic heart and cardiovascular disease had the lowest level among all scales of *the Symptom Checklist "O"*. The presence of somatization heart and cardiovascular symptoms, as well as panic anxiety, can, therefore, be associated with the presence of specific dysfunctions of the CNS and significantly impact the clinical picture of GAD. This observation is in accordance with ICD-10 diagnostic criteria, which – contrary to DSM-5 criteria, encompass symptoms of the autonomic excitation among characteristic features of GAD [19]. As it has been shown by previous research results, worrying in GAD is accompanied by autonomic excitation, for example, in the form of increased heart action and the activation of connections between the amygdala, temporal cortex and cingulate cortex [28]. The lack of possibility to specify the identified cognitive impairments is a significant drawback of the study, which, however, indicates a further need for research on this topic.

The study is preliminary and the obtained results need to be confirmed in further analyzes in which the study groups will be quantitatively similar, and the used tools (to measure both symptoms and cognitive impairments) will enable a more precise and extensive description of the observed relationships. Therefore, the presented conclusions are supportive to the tested hypotheses and the described relationships, but they are not conclusive.

Conclusions

Our research indicates that anxiety plays a significant role in the clinical picture of OCD and may reach a severity similar to that observed in GAD. In patients diagnosed with GAD, the co-occurrence of generalized anxiety and panic anxiety was observed, as well as a significant intensification of phobic symptoms. Patients with GAD more often reported heart and cardiovascular ailments, conversion or hypochondriasis symptoms than patients with OCD. It was found that the presence and severity of anxiety symptoms and somatization symptoms can be associated with the presence of cognitive impairments, which requires further investigation. In the OCD and GAD groups, the presence of three similar factors was observed: 'anxiety/depressiveness', 'obsessions' and 'compulsions'. Additionally, separation anxiety seems to play a significant role in the pathogenesis of GAD. The obtained results are preliminary and indicate the validity of further research in order to more fully and accurately determine the significance of anxiety in OCD and GAD.

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