

Changes in intensity of neurotic symptoms associated with reduction of suicidal ideation in patients who underwent psychotherapy in the day hospital for the treatment of neurotic and behavioral disorders

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Summary

Aim. Analysis of associations between changes in the intensity of neurotic symptoms and reduction of suicidal ideation (SI) or lack of SI reduction, in patients who underwent a course of intensive psychotherapy conducted in integrative approach with predominance of psychodynamic approach in a day hospital.

Material and method. Symptom Checklist KO“O” and Life Inventory completed by 461 women and 219 men treated in the psychotherapeutic day hospital due to neurotic, behavioral or personality disorders between 2005–2013. During the qualification for the therapy 134 women and 80 men reported SI, of whom 84.3% and 77.5% respectively improved.

Results. The reduction of neurotic symptoms intensity was greater in patients of both genders who improved in terms of SI than in those who did not. This referred to global intensity of neurotic symptoms (OWK coefficient) in both genders ($p < 0.001$), as well as to the majority of the neurotic symptoms subtypes in both genders ($p < 0.05$): *Phobic disorders, Other anxiety disorders, Obsessive-compulsive disorders, Conversions and dissociations, Autonomic disorders, Somatization disorders, Neurasthenia, Avoidance and dependence, Sexual dysfunctions, Dysthymia*; and in case of women ($p < 0.05$): *Hypochondriasis, Depersonalization and derealization, Impulsiveness and histrionism and Non-organic sleep disorders*.

Conclusions. The results show effectiveness and comprehensiveness of intensive psychotherapy as a treatment method that leads to improvement in terms of both SI and neurotic symptoms. This suggests that the applied therapy may be effective in preventing suicidality in this group of patients. The observed associations also point in favor of hypothesis on similarities in etiopathogenesis of and partly identical personality-related factors predisposing to SI and neurotic disorders.

Key words: suicidal ideations, neurotic symptoms, psychotherapy

Introduction

Both scientific studies and clinical practice show that suicidality (i.e. presence of suicidal ideation or suicidal behaviors) is associated with having various psychiatric disorders including affective or psychotic disorders, bulimia nervosa or psychoactive substance dependency [1–6]. Far less attention has been paid to the suicidality that is affecting neurotic patients. Only lately, gradually throughout the last decade more and more studies were published proving that neurotic disorders are significantly associated with the risk of suicidal ideation (SI), as well as with – less expected among this group of patients – the risk of suicidal attempt (SA) – regardless of demographic factors and comorbidities [7]. While having neurotic disorder together with affective disorder or having anxiety disorder (especially panic disorder or post-traumatic stress disorder) together with personality disorders were proved to account for accumulation of the risk of suicidality in clinical studies as well as in prospective studies [8, 9].

The discussion on associations between willingness to take one's own life and anxiety, affective and personality disorders has crucial importance in practice. Understanding of the nature of those associations may allow clinicians to plan more adequate and more effective treatment. So far a number of models concerning the occurrence of SI was studied – those included such factors as depressiveness and hopelessness [10], as well as interpersonal and cognitive factors (e.g. sense of burdensomeness and sense of thwarted belongingness) [11, 12]. A systematic review, by Brezo et al. [13], of 90 articles published between 1985 and 1997 focused on personality-related factors predisposing to occurrence of SI, stresses significance of excessive extroversion, tendencies to react with anxiety and avoiding being hurt, low self-esteem, self-criticism, perfectionism and neuroticism (defined as a dimension belonging to The Big Five personality model designed by Costa and McCrae). Other researchers emphasize the importance of sense of alienation [14], considerable interpersonal difficulties [5, 15] and negative self-other perception [16]. Above-mentioned results suggest that at least some personality traits that predispose to neurotic symptoms at the same time take part in pathogenesis of SI. This hypothesis is indirectly supported also by results provided by Iliceto et al. [16], Heisel et al. [17], Sobański et al. [18], and suggestion made by Brezo et al. [13] that there is an association between SI and neuroticism. Consequently, it seems that at least some personality traits that increase the risk of SI may also predispose to neurotic symptoms [19–21].

Multidimensional studies on risk of suicidality also point to the importance of genetic factors [22], genes interactions, and interactions between genes and environment. One of the most thoroughly studied risk factors of SI and suicidal tendencies is serotonin-transporter gene polymorphism (5-HTTLPR) [23]. Moreover, it is known that psychosocial factors such as experiences of abuse or neglect in relationship with a caregiver, as well as developing other-than-safe attachment style may account for patients having SI and suicidal tendencies [15, 24]. At the same time results of majority of studies on etiopathogenesis of anxiety disorders also point to importance of genetic risk factors including serotonin-transporter gene polymorphism, as well as importance of psychosocial (interpersonal) predisposing factors [19, 25] that affect structure and functioning of central neural system [26].

To sum up, it is probable that the etiopathogenic factors associated with symptoms of neurotic disorders and suicidality (such as neurobiological and genetic predisposing factors, traumatic experiences in significant relationship, other-than-safe attachment style, personality traits that compromise communication and utilization of social support) may be at least in part identical. Moreover, presence of neurotic disorders symptoms may increase risk of SI due to deterioration of well-being and overall life satisfaction, increase of distress, sense of alienation, and sense of not being understood by others. Consequently, applying psychotherapeutic treatment aimed at insight into one's own impulses and emotions, at strengthening mature coping skills, at increasing ego-strength and tolerance to frustration, probably may lead to reduction of both neurotic symptoms and the risk of suicidality. Nonetheless, in the scientific literature available to the authors of this study no studies were found concerning the associations between the improvement in terms of SI and beneficial changes in terms of symptoms in patients with neurotic, behavioral or personality disorders, neither concerning potential mechanisms behind such associations.

Aim

This study aimed at determining associations between changes in intensity of neurotic symptoms and reduction of suicidal ideation (SI) – i.e. its elimination or reduction of its intensity – or lack of SI reduction in patients who underwent a course of intensive psychotherapy conducted in integrative approach with predominance of psychodynamic approach in a day hospital for the treatment of neurotic and behavioral disorders.

Material and method

As a source of information concerning SI (defined as willingness to take one's own life) Symptoms Checklist KO“O” [27, 28] was used. This questionnaire was completed by patients at the stage of qualification for the treatment [29] and for the second time within the last few days of the hospitalization. Evaluation of SI prevalence and intensity

was based on patients' answers to the question about "arduousness of willingness to take one's own life within the last seven days" (question no. 62. in KO"O"). The questionnaire included four optional answers: (0) the negative one and the positive answers that required to note the level of arduousness of SI: (a) mild, (b) moderate or (c) severe.

The questionnaire allowed also to determine severity of 14 subgroups of symptoms typical to neurotic disorders, as well as global intensity of the symptoms (OWK coefficient) [27, 28].

Socio-demographic characteristics of the studied population

The studied group (N = 680) was composed of 461 women and 219 men who were treated in the Day Hospital for the Treatment of Neurotic and Behavioral Disorders of the University Hospital in Krakow between 2005 and 2013. Basic socio-demographic data were drawn from Life Inventory completed by patients at the stage of qualification for the treatment. The inventory included questions about patients' gender and age (Table 1), marital status (Table 2), education (Table 3) and source of income (Table 4). Mean age of women was 29.9 years, and of men 30.4 years [29].

Table 1. Age [29]

Gender	Women	Men
Number of patients	461	219
Average age \pm std. dev.	29.9 \pm 8.1 years	30.4 \pm 7.4 years
Median	27.4 years	29.0 years
Minimum – maximum	18.2 – 57.1 years	18.9 – 55.6 years

Table 2. Marital status [29]

	Women		Men	
	Number	Percentage	Number	Percentage
Never married	288	62.5%	140	63.9%
Married	145	31.5%	69	31.5%
Separated	5	1.1%	2	0.9%
Divorced	20	4.3%	7	3.2%
Widow/ widower	3	0.7%	1	0.5%

Table 3. Education [29]

	Women		Men	
	Number	Percentage	Number	Percentage
Primary education	2	0.4%	0	0.0%
Secondary education uncompleted	6	1.3%	6	2.7%

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High school completed	112	24.3%	53	24.2%
Bachelor's or post-high school education uncompleted	23	5.0%	8	3.7%
Bachelor's or college degree	41	8.9%	16	7.3%
University education uncompleted	72	15.6%	33	15.1%
University education completed	205	44.5%	103	47.0%

Table 4. Source of income [29]

	Women		Men	
	Number	Percentage	Number	Percentage
Support by a family/student	135	29.3%	50	22.8%
Office work	157	34.1%	72	32.9%
Services sector employee/ crafts	31	6.7%	17	7.8%
Blue-collar work	3	0.7%	3	1.4%
Farmer	3	0.7%	0	0.0%
Self-employed or one's own company	18	3.9%	22	10.0%
Unemployed	60	13.0%	28	12.8%
Social benefit	5	1.1%	2	0.9%
Retired	1	0.2%	1	0.5%
Others	48	10.4%	24	11.0%

Diagnosis and the course of the treatment

Qualification for the therapy in the psychotherapeutic day-hospital included, except for the above-mentioned questionnaires, a set of other questionnaires, at least two psychiatric examinations, and psychological examination. The procedure allowed for exclusion of patients in a high risk of suicide [5], as well as those suffering from other psychiatric disorders (e.g. affective disorders, psychotic disorders, exogenous disorders and pseudoneurotic disorders, and severe somatic illnesses) which render participation in the psychotherapy in the day hospital impossible [30]. The qualification consisted of a set of ambulatory visits lasting on average 2–3 weeks. After qualification patients started therapy on average within 4 to 12 weeks.

Only patients undergoing the treatment for the first time were included in the study. The studied group was composed of patients with diagnoses from the ICD-10 spectrum of F40–F69, including patients diagnosed with personality disorders comorbid with diagnoses from the groups of F4 and F5 (Table 5).

Table 5. Type of disorders according to ICD-10 [29]

	Women (n = 461)		Men (n = 219)	
	Number	Percentage	Number	Percentage
F40 Fobic disorders	51	11.1%	31	14.2%
F41 Other anxiety disorders	145	31.5%	73	33.3%
F42 Obsessive-compulsive disorders	15	3.3%	12	5.5%
F43 Acute stress disorder and adaption disorder	40	8.7%	18	8.2%
F44 Dissociative disorders	9	2.0%	1	0.5%
F45 Somatoform disorders	45	9.8%	20	9.1%
F48 Other neurotic disorders	3	0.7%	8	3.7%
F50 Eating disorders	27	5.9%	0	0.0%
F60/F61 Specific personality disorders or Mixed personality disorders ^a	198	43.0%	94	42.9%
Others ^b	19	4.1%	13	5.9%

^a – secondary diagnoses of personality disorders frequently accompanied diagnoses from the spectrum of F4–F5,

^b – other disorders comorbid with diagnoses from the spectrum of F40–F69.

Preplanned duration of the course of the therapy was 12 weeks. During the treatment patients participated in intensive everyday open-group psychotherapy including usually 8–10 patients and 10–15 group sessions per week, which were combined with one session of individual therapy per week. The psychotherapy was conducted in integrative approach with predominance of psychodynamic approach with elements of cognitive and behavioral therapy. In the course of the therapy especially clarifications, confrontations and interpretations were applied aimed, among other things, at broadening patients' insight into their defense mechanisms, interpersonal processes that occur during the therapy and functions of reported symptoms. Among important elements of the treatment there were: managing resistance and patients' transference, fortifying ego strength and patients' autonomy, correcting dysfunctional cognitive schemas, and creating environment that may provide corrective experiences. [19, 30–34].

Minority of patients was simultaneously using psychopharmacotherapy which was gradually reduced accordingly to patients' mental condition in order to gain access to patients experiences and circumstances associated with symptoms. According to separate yet unpublished study by A. Murzyn conducted on the group of 169 individuals treated in the same day hospital between 2008 and 2011, the percentage of patients who used antidepressive and anxiolytic drugs was 3%.

In case of the studied population, the total time span between the beginning of the qualification and the discharge from the day hospital was estimated to be 137.1 ± 30.3 days in women and 132.4 ± 30.5 days in men.

Intensity of neurotic symptoms depending on initial presence or absence of SI

A comparison of Symptom Checklist KO“O” scales between patients who reported SI during the qualifications and those who did not was performed by applying Student’s t-test for independent variables. It was found that patients reporting SI in comparison to others suffered from much greater global intensity of neurotic symptoms ($p < 0.001$) as well as from much greater intensity of almost all of the neurotic symptom subgroups included in KO“O” ($p < 0.001$) – with a sole exception of non-organic sleep disorders in men, in case of which the differences of values were statistically non-significant [29].

Subgroups of patients with different changes in terms of SI

Among women the prevalence of SI was 29.1% at the stage of qualification for the treatment, while at the end it was 10.2%. Among men the prevalence of SI was initially 36.5%, and at the end it was 13.7% (Table 6).

Table 6. Prevalence and changes in terms of SI observed in all studied patients, separately in women and in men (n = 680) [29]

	Women (n = 461)			Men (n = 219)			* Gender differences	
	Number	Percentage	95% CI	Number	Percentage	95% CI	Chi-squared test	p
Prevalence of SI during qualification for the therapy	134	29.1%	25.1%–33.4%	80	36.5%	30.4%–43.1%	3.83	ns
Prevalence of SI at the end of therapy	47	10.2%	7.8%–13.3%	30	13.7%	9.8%–18.9%	1.82	ns
Improvement in terms of SI (its elimination or reduction in its intensity)	113	24.5%	20.8%–28.6%	62	28.3%	22.8%–34.6%	1.12	ns
Elimination of SI	103	22.3%	18.8%–26.4%	53	24.2%	19.0%–30.3%	0.29	ns
Deterioration in terms of SI (increase in the severity or its appearance)	23	5.0%	3.4%–7.4%	6	2.7%	1.3%–5.9%	1.84	ns
Occurrence of SI at the end of therapy in those who initially reported no SI	16	3.5%	2.2%–5.6%	3	1.4%	0.5%–4.0%	2.41	ns

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Increase of intensity of SI that were initially reported	7	1.5%	0.7%–3.1%	3	1.4%	0.5%–4.0%	0.02	ns
Deterioration or no change in the SI intensity	37	8.0%	5.9%–10.9%	21	9.6%	6.4%–14.2%	0.47	ns

ns – gender differences were not statistically significant ($p \geq 0.05$); * – in order to determine if there were significant differences in results concerning SI between women and men Pearson's chi-squared test was used.

Another juxtaposition referred only to patients who reported SI at the stage of qualification. In the subgroup of women improvement was observed in 84.3%. At the same time increase in SI intensity was observed only in 5.2% of women. Among men who initially reported SI, the improvement was observed in 77.5%. On the other hand, percentage of men who suffered increase of SI intensity was observed was 3.8%. Moreover, in the majority of the patients with the improvement, it was synonymous with elimination of SI. In the subgroups in which SI was initially reported, its elimination was observed in 76.9% of women and in 66.2% of men (Table 7).

Table 7. Changes in terms of SI in patients who reported it during the qualification (n = 214) [29]

	Women (n = 134)			Men (n = 80)			* Gender differences	
	Number	Percentage	95% CI	Number	Percentage	95% CI	Chi-squared test	p
Improvement in terms of SI (its elimination or reduction of its intensity)	113	84.3%	77.2%–89.5%	62	77.5%	67.2%–85.2%	1.57	ns
Elimination of SI	103	76.9%	69.0%–83.2%	53	66.2%	55.4%–75.5%	2.86	ns
Reduction of SI intensity	10	7.5%	4.1%–13.2%	9	11.3%	6.0%–20.8%	0.89	ns
No changes in SI intensity	14	10.4%	6.4%–16.8%	15	18.8%	11.7%–28.7%	2.95	ns
Increase of SI intensity	7	5.2%	2.6%–10.4%	3	3.8%	1.4%–10.4%	0.24	ns
Deterioration or no change in the SI intensity	21	15.7%	10.5%–22.8%	18	22.5%	14.8%–32.8%	1.57	ns

ns – gender differences were not statistically significant ($p > 0.05$); * – in order to determine if there were significant differences in results concerning SI between women and men Pearson's chi-squared test was used.

Gender differences in terms of SI changes both in the whole studied population and in the subgroup of the patients who initially reported SI were not statistically significant (Table 6 and 7).

Analysis of associations between improvement in terms of SI and changes in intensity of neurotic symptoms

In order to determine changes in intensity of neurotic symptoms the difference between final and initial Symptom Checklist KO“O” [27, 28] scales values was calculated for each patient. Then, a comparison of the calculated differences between subgroups of patients groups who improved in terms of SI and those who did not was performed. The comparison was made separately for women and men. In the statistical analysis Student’s t-test for independent variables of natural distribution was used.

The information obtained in course of above-mentioned diagnostics were used with patients’ permission, and then stored and processed anonymously. For calculations licensed software package STATISTICA PL was used.

Results

The produced results show that reduction of intensity of neurotic symptoms was significantly greater in women who improved in terms of SI (defined as elimination of SI or reduction of its intensity) than in those women who did not. This observation referred to global severity of neurotic symptoms (measured with OWK coefficient), as well as to every subtype of neurotic symptoms (measured with Symptom Checklist KO“O” subscales) (Table 8).

Table 8. Comparison of changes in intensity of neurotic symptoms (Symptoms Checklist KO“O” scales) between female patients who improved in terms of SI and female patients who did not (n = 134).

	* Mean changes in values of KO“O” scales \pm std. dev.		Student’s t-test				
	* No SI improvement (n = 21)	* Improvement in terms of SI (n = 113)	** Difference between mean values	95% CI		t	p
				Lower limit	Upper limit		
Global severity of neurotic symptoms (OWK coefficient)	-107.8 \pm 172.0	-276.5 \pm 125.0	-168.8	-231.5	-106.1	-5.323	0.000
1. Phobic disorders	-0.33 \pm 1.7	-3.45 \pm 2.0	-3.12	-4.05	-2.18	-6.594	0.000
2. Other anxiety disorders	-0.95 \pm 2.2	-3.11 \pm 1.6	-2.15	-2.94	-1.37	-5.416	0.000
3. Obsessive-compulsive disorders	-1.24 \pm 1.7	-2.47 \pm 2.2	-1.23	-2.25	-0.21	-2.394	0.018

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4. Conversions and dissociations	-0.95 ± 1.9	-2.98 ± 1.7	-2.03	-2.84	-1.22	-4.964	0.000
5. Autonomic disorders (cardiovascular system)	-1.38 ± 2.1	-2.98 ± 1.9	-1.60	-2.50	-0.70	-3.516	0.001
6. Somatization disorders	-1.95 ± 2.3	-3.33 ± 1.7	-1.38	-2.23	-0.52	-3.199	0.002
7. Hypochondriac disorders	-0.71 ± 1.7	-2.43 ± 1.8	-1.72	-2.57	-0.87	-3.999	0.000
8. Neurasthenia	-0.67 ± 2.2	-1.51 ± 1.4	-0.85	-1.58	-0.11	-2.278	0.024
9. Depersonalization and derealization	-1.57 ± 2.2	-3.05 ± 2.1	-1.48	-2.47	-0.49	-2.962	0.004
10. Avoidance and dependence	-0.10 ± 2.0	-1.88 ± 1.5	-1.78	-2.54	-1.02	-4.628	0.000
11. Impulsiveness and histrionism	-0.86 ± 2.2	-3.17 ± 2.0	-2.31	-3.26	-1.36	-4.815	0.000
12. Non-organic sleep disorders	-1.05 ± 1.8	-2.07 ± 2.0	-1.02	-1.95	-0.10	-2.185	0.031
13. Sexual dysfunctions	-1.00 ± 2.8	-3.05 ± 2.5	-2.05	-3.25	-0.85	-3.386	0.001
14. Dysthymia	-0.10 ± 1.7	-2.14 ± 1.5	-2.05	-2.75	-1.35	-5.775	0.000

* Negative results mean that scores measuring intensity of neurotic symptoms decreased after the therapy, while positive values would mean that the scores increased. ** The results are equal to the differences in mean scores' changes between patients who improved in terms of SI and those who did not.

In men the results were to a large extent similar to those of women. The reduction of global severity of neurotic symptoms (measured with OWK coefficient), as well as reductions of most of subtypes of neurotic symptoms were significantly greater in men who improved in terms of SI (elimination of SI or reduction of its intensity) than in those men who did not. In other words, male patients with improvement in terms of SI usually at the same time had greater improvement in terms of neurotic symptoms than men without SI improvement. Such associations were not observed only in case of 4 out of 14 neurotic symptoms' subtypes: Hypochondriac disorders, Depersonalization and derealization, Impulsiveness and histrionism, and Non-organic sleep disorders (Table 9).

Table 9. Comparison of changes in intensity of neurotic symptoms (Symptoms Checklist KO“O” scales) between male patients who improved in terms of SI and male patients who did not (n = 80)

	Mean changes in values of KO“O” scales \pm std. dev.		Student's t-test				
	*No SI improvement (n = 18)	*Improvement in terms of SI (n = 62)	** Difference between mean values	95% CI		t	p
				Lower limit	Upper limit		
Global severity of neurotic symptoms (OWK coefficient)	-134.0 \pm 135	-260.1 \pm 115	-126.1	-190.0	-62.1	-3.925	0.000
1. Phobic disorders	-2.00 \pm 2.9	-3.92 \pm 2.4	-1.92	-3.27	-0.57	-2.830	0.006
2. Other anxiety disorders	-1.33 \pm 2.1	-2.65 \pm 1.6	-1.31	-2.23	-0.40	-2.852	0.006
3. Obsessive-compulsive disorders	-0.78 \pm 1.6	-2.61 \pm 2.1	-1.84	-2.91	-0.76	-3.385	0.001
4. Conversions and dissociations	-1.39 \pm 1.7	-3.02 \pm 1.8	-1.63	-2.55	-0.70	-3.500	0.001
5. Autonomic disorders (cardiovascular system)	-1.78 \pm 1.9	-3.03 \pm 1.7	-1.25	-2.20	-0.31	-2.643	0.010
6. Somatization disorders	-2.00 \pm 2.1	-3.10 \pm 2.0	-1.10	-2.17	-0.02	-2.037	0.045
7. Hypochondriac disorders	-2.00 \pm 1.9	-2.40 \pm 2.0	-0.40	-1.46	.66	-0.757	0.451
8. Neurasthenia	-0.22 \pm 2.2	-1.89 \pm 1.7	-1.66	-2.61	-0.72	-3.506	0.001
9. Depersonalization and derealization	-1.39 \pm 2.1	-2.50 \pm 2.1	-1.11	-2.22	.00	-1.994	0.050
10. Avoidance and dependence	-0.83 \pm 1.7	-2.16 \pm 1.6	-1.33	-2.20	-0.45	-3.016	0.003
11. Impulsiveness and histrionism	-2.50 \pm 2.4	-3.31 \pm 1.9	-0.81	-1.87	.25	-1.517	0.133
12. Non-organic sleep disorders	-1.44 \pm 2.1	-2.08 \pm 1.9	-0.64	-1.68	.41	-1.210	0.230
13. Sexual dysfunctions	-0.78 \pm 2.6	-2.74 \pm 2.3	-1.96	-3.23	-0.69	-3.078	0.003
14. Dysthymia	-0.33 \pm 1.9	-1.73 \pm 1.4	-1.39	-2.20	-0.58	-3.420	0.001

* Negative results mean that scores measuring intensity of neurotic symptoms decreased after the therapy, while positive values would mean that the scores increased. ** The results are equal to the differences in mean scores' changes between patients who improved in terms of SI and those who did not.

Discussion

The produced results weigh in favor of the hypothesis on etipathogenic similarities and partly common personality-related factors predisposing to SI and neurotic disorders [13, 16, 17, 20, 21]. It seems that changes in neurotic personality structure, which were the prime aim of the applied form of psychotherapy, might have led to beneficial changes in terms of both symptoms and SI. At the same time, the presented results emphasize the importance of European Psychiatric Association's recommendations according to which effective treatment of neurotic and personality disorders is a significant factor of preventing suicidality [36]. Nonetheless, determining the precise mechanisms accountable for the changes or determining specific contribution of therapy-related factors is difficult or even impossible.

In the study by Hsiao et al. [37] conducted on patients with adjustment disorder treated with group therapy aimed at reduction of emotional tension and stress (without referring to patients' considerable intrapsychic and interpersonal difficulties) reduction of SI was achieved which was not accompanied by changes in other symptoms intensity such as anxiety or depressiveness. Those results may suggest importance to SI reduction of therapeutic factors such as: evoking hope, providing patients with information or experiencing cohesiveness of the group [38]. They may also suggest that in order to reduce SI it is not necessary to apply treatment that is regarded as "casual" i.e. which refers to personality-related SI-predisposing factors. However, it seems probable that the specificity of the group studied by Hsiao et al. [37] (including etiological specificity of adjustment disorder in which external factors have greater importance) determined the results provided in this study.

Patients with personality and neurotic disorders other than adjustment disorders may require different therapeutic strategies for reducing SI: a treatment that deals with crucial internal conflicts, than brings changes in defense mechanisms and neurotic personality traits, as well as one that allows to modify relationships' patterns and dysfunctional behaviors [38]. This coincides with results produced by Guthrie et al. [39] and Linehan [40] which confirm effectiveness of strategies aimed at bringing changes in mental functioning and behavior (which are applied in e.g. psychodynamic-interpersonal and dialectical-behavioral psychotherapy) for reducing SI and suicidal tendencies in patients with personality and affective disorders. The associations between improvement in terms of SI and reduction almost all of neurotic symptoms' subtypes (measured with Symptom Checklist KO"O" subscales), presented in this study, also suggest and emphasize the importance of those factors that allow for improvement in terms of both SI and neurotic symptoms. In course of the integrative psychotherapy with predominance of psychodynamic approach the leading role may be attributed to factors that facilitate insight into causes and significance of intra-psychic conflicts, dysfunctional behaviors and beliefs, as well as difficulties in interpersonal relationships [19, 41]. Dealing with such considerable difficulties might have led to strengthening mature methods of coping with intra-psychic conflicts and impulses, and finally to

reduction of neuroticism and symptom improvement, including reduction in terms of SI. Those assumptions are consistent with the views of other researchers who claim that effective treatment of SI is impossible without understanding of its individual background, as well as its communicational character [19, 25]. SI may have various meaning – among others things it may represent an attack on internal representation of a hated object, inability to face up to one's own ideal self, a signal of experiencing complicated bereavement, or an expression of desire to take control over environment [25, 38, 42]. Such a way of understanding SI – as a symptoms which require comprehensive contextual analysis including patient's experiences and social interactions – calls for application of similar treatment methods to those used for treatment of neurotic symptoms. Thus, the associations presented in this study between reduction of intensity of neurotic symptoms and SI may stem, not only from etiopathogenic similarities, but also from similarities of therapeutic influences that cause the beneficial changes.

In a view of the studies on importance of a sense of burdensomeness and a sense of alienation to the risk of suicidality [43], interpersonal factors specific for group therapy seem to be relevant [11, 14]. It is probable that among factors effective in modifying beliefs regarding relationships there were, apart from those already-mentioned (evoking a sense of hope and providing patients with information): a sense of group belonging, reduction of a sense of alienation, development of social skills, a sense of being listened to and understood, as well as being helpful to other patients [37, 41]. Beneficial influence may be also attributed to therapeutic alliance with a group and therapists, and to therapeutic setting. Such factors might have influenced among other things dysfunctional coping styles, clarification of therapeutic and personal “life-oriented” goals [38], which in turn might have led to symptom improvement including SI. Lastly, it is reasonable to assume that neurotic symptoms reduction in itself (through normalizing patients' mood and restoring a sense of hope for more satisfying life) might have led to SI reduction.

To sum up, it is highly probable that the very psychotherapeutic factors which led to neurotic symptoms reduction, were accountable for improvement in terms of SI due to influence on etiopathogenic background common for both SI and neurotic symptoms. From the point of view of the theories on relationship-based SI-determining factors [11, 42], interpersonal therapeutic factors – specific for group therapy – might have contributed to the improvement in terms of SI [25, 37]. Nonetheless, specifying the range of the influence of those factors require further studies.

Lack of significant associations between SI reduction and reduction of some groups of neurotic symptoms observed in men is surprising and difficult to explain [43–46]. According to clinical experience, we might have expected that reduction in SI in me will be also referred to Non-organic sleep disorder, Impulsiveness and histrionism and Hypochondriac disorders (Table 9). It is possible that, despite the fact of SI reduction, in cases of some persistent neurotic symptoms such as e.g. hypochondriasis – which in the psychodynamic view is understood as a need to “punish oneself” for unacceptable impulses and wishes [47] – longer-term psychotherapeutic treatment leading to broad-

ening insight into auto-destructive tendencies is necessary [48]. However the studied patients participated in approximately 200 therapy sessions which qualifies as intensive mid-term psychotherapy (lasting 3 months). For interpreting those findings further research are required. Possibility of studying insufficient number of men resulting in not reaching threshold of statistical significance in those cases also cannot be ruled out.

For accurate interpretation of the results provided in this study it is advisable to emphasize that the studied patients at least temporarily were not burdened with high risk of suicide that would render day-hospital treatment impossible. Nonetheless, presence of other manifestations of auto-aggression such as self-inflicted cuts or having history of suicidal attempt were common. Furthermore, due to lack of control group, it is advisable to ask if the observed improvement changes allow authors to conclude on effectiveness of the psychotherapy. In the view of the observed dynamics of both neurotic symptoms and SI (Tables 6–9), as well as in the view of the fact that the applied psychotherapy is widely acknowledged method of treatment in cases of such groups of patients [31, 32, 38, 49], it is highly probable that the produced results reflect effectiveness of the applied form of therapy. Among limitations of this study, there also was an inability to verify permanence of the symptom improvement. However, this is one of typical drawbacks of nearly all the studies on changes occurring during psychotherapy conducted in everyday clinical practice – follow-up observations are rarely obtained and if so frequently refer only to a small proportion of the formerly treated patients. Also, the Symptom Checklist KO“O” question about willingness to take one’s own life at which the study was based upon referred to the last seven days. This might have resulted in not registering patients in whom the symptom remitted only temporarily. Moreover, the question referred to SI that were “arduous”. Clinical experience shows that some patients, especially those with profound personality disorders or severely depressed, may regard SI as ego-syntonic. For example, SI may be viewed by those patients as helpful way of discharging emotional tension or as thoughts about radical but adequate solution of a situation which is perceived as hopeless. For this reason among others it should be stressed that the SI declared by the patients are not synonymous with SI that are revealed in a course of psychiatric evaluation. The type of the applied treatment is important as well, as the psychodynamic psychotherapy did not include detailed plan of therapeutic interventions. Consequently, the studied population was composed of patients in reference to whom psychotherapeutic interventions were at least in part selected in the course of the treatment and in the individualized manner. Thus, we may assume that the observed changes in each individual might have been a result of slightly different factors from the spectrum of psychotherapeutic interventions [29, 50].

Conclusions

1. The reduction of neurotic symptom intensity was greater in patients who improved in terms of SI (defined as elimination of SI or reduction of its intensity) than in those who did not – this referred to patients of both genders.
2. Analysis of particular subtypes of neurotic symptoms (measured with Symptom Checklist KO“O”) revealed that intensity of majority of those subtypes was reduced to greater extent in patients with SI reduction than in those without it. This was observed in both women and men in cases of: Phobic disorders, Other anxiety disorders, Obsessive-compulsive disorders, Conversions, Autonomic disorders, Somatization disorders, Neurasthenia, Avoidance and dependence, Sexual dysfunctions, and Dysthymia; as well as only in women in cases of: Hypochondriac disorders, Depersonalization and derealization, Impulsiveness and histrionism, Non-organic sleep disorders.
3. The produced results confirm adequacy of applying intensive integrative psychotherapy with predominance of psychodynamic approach in patients with neurotic, behavioral and personality disorders with SI. This study indicates that the therapy was effective and comprehensible, as it led to improvement in terms of both SI and neurotic symptoms. This suggests that the applied therapy may be effective method of preventing suicidality in this group of patients.
4. The revealed associations weigh in favor of hypothesis on etiopathogenetic similarities and partly common personality-related factors predisposing to both SI and neurotic disorders.

References

1. Isometsa E. *Suicidal behaviour in mood disorders –who, when, and why?* Can. J. Psychiatry 2014; 59(3): 120–130.
2. Peng H, Wu K, Li J, Qi H, Guo S, Chi M. et al. *Increased suicide attempts in young depressed patients with abnormal temporal – parietal – limbic gray matter volume.* J. Affect. Disord. 2014; 165: 69–73.
3. Franko DL, Keel PK. *Suicidality in eating disorders: occurrence, correlates, and clinical implications.* Clin. Psychol. Rev. 2006; 26(6): 769–782.
4. Pilecki MW, Józefik B, Sałapa K. *The relationship between assessment of family relationships and depression in girls with various types of eating disorders.* Psychiatr. Pol. 2013; 47(3): 385–395.
5. Wołodźko T, Kokoszka A. *Classification of persons attempting suicide. A review of cluster analysis research.* Psychiatr. Pol. 2014; 48(4): 823–834.
6. Polewka A, Groszek B, Trela F, Zieba A, Bolechała F, Chrostek-Maj J. et al. *The completed and attempted suicide in Krakow: similarities and differences.* Przegl. Lek. 2002; 59(4–5): 298–303.
7. Thibodeau MA, Welch PG, Sareen J, Asmundson GJ. *Anxiety disorders are independently associated with suicide ideation and attempts: propensity score matching in two epidemiological samples.* Depress. Anxiety 2013; 30(10): 947–954.

8. Sareen J, Cox BJ, Afifi TO, de Graaf R, Asmundson GJ, ten Have M. et al. *Anxiety disorders and risk for suicidal ideation and suicide attempts: a population-based longitudinal study of adults*. Arch. Gen. Psychiatry 2005; 62(11): 1249–1257.
9. Nepon J, Belik SL, Bolton J, Sareen J. *The relationship between anxiety disorders and suicide attempts: findings from the National Epidemiologic Survey on Alcohol and Related Conditions*. Depress. Anxiety 2010; 27(9): 791–798.
10. Mann JJ, Apter A, Bertolote J, Beautrais A, Currier D, Haas A. et al. *Suicide prevention strategies: A systematic review*. JAMA 2005; 294(16): 2064–2074.
11. Kleiman EM, Liu RT, Riskind JH. *Integrating the interpersonal psychological theory of suicide into the depression/suicidal ideation relationship: a short-term prospective study*. Behav. Ther. 2014; 45(2): 212–221.
12. Van Orden KA, Lynam ME, Hollar D, Joiner TE. *Perceived burdensomeness as an indicator of suicidal symptoms*. Cogn. Ther. Res. 2006; 30: 457–467.
13. Brezo J, Paris J, Turecki G. *Personality traits as correlates of suicidal ideation, suicide attempts, and suicide completions: a systematic review*. Acta Psychiatr. Scand. 2006; 113(3): 180–206.
14. Field T, Diego M, Sanders CE. *Adolescent suicidal ideation*. Adolescence 2001; 36(142): 241–248.
15. Mandal E, Zalewska K. *Style przywiązania, traumatyczne doświadczenia z okresu dzieciństwa i dorosłości, stany psychiczne oraz metody podejmowania prób samobójczych przez kobiety leczone psychiatrycznie*. Psychiatr. Pol. 2012; 46(1): 75–84.
16. Iliceto P, Fino E, Sabatello U, Candilera G. *Personality and suicidal ideation in the elderly: factorial invariance and latent means structures across age*. Aging Ment. Health 2014; 18(6): 792–800.
17. Heisel MJ, Duberstein PR, Conner KR, Franus N, Beckman A. *Personality and reports of suicide ideation among depressed adults 50 years of age or older*. J. Affect. Disord. 2006; 90(2–3): 175–180.
18. Sobański JA, Cyranka K, Rodziński P, Klasa K, Rutkowski K et al. *Are neurotic personality traits and neurotic symptoms intensity associated with suicidal thoughts reported by patients of a day hospital for neurotic disorders?* Psychiatr. Pol. 2014 [E-pub ahead of print; DOI: 10.12740/psychiatriapolska.pl/online-first/5].
19. Aleksandrowicz JW. *Psychoterapia*. Warsaw: PZWL Medical Publishing; 2000.
20. Aleksandrowicz JW, Sobański JA. *Skuteczność psychoterapii poznawczej i psychodynamicznej*. Krakow: Library of Polish Psychiatry; 2004.
21. Griffith JW, Zinbarg RE, Craske MG, Mineka S, Rose RD, Waters AM. et al. *Neuroticism as a common dimension in the internalizing disorders*. 2010; 40(7): 1125–1236.
22. Jaeschke R, Siwek M, Dudek D. *Neurobiology of suicidal behaviour*. Psychiatr. Pol. 2011; 45(4): 573–588.
23. Anguelova M, Benkelfat C, Turecki G. *A systematic review of association studies investigating genes coding for serotonin receptors and the serotonin transporter: II. Suicidal behavior*. Mol. Psychiatry 2003; 8(7): 646–653.
24. Field T, Diego M, Sanders CE. *Adolescent suicidal ideation*. Adolescence 2001; 36(142): 241–248.
25. Gabbard GO. *Psychodynamic psychiatry in clinical practice: Fourth Edition*. Washington DC: American Psychiatric Publishing; 2005.
26. Schore AN. *Back to basics: attachment, affect regulation, and the developing right brain: linking developmental neuroscience to pediatrics*. Pediatr. Rev. 2005; 26(6): 204–217.
27. Aleksandrowicz JW, Hamuda G. *Kwestionariusze objawowe w diagnozie i badaniach epidemiologicznych zaburzeń nerwicowych*. Psychiatr. Pol. 1994; 28(6): 667–676.

28. Rewer A. *Skale kwestionariusza objawowego „O”*. Psychiatr. Pol. 2000; 34(6): 931–943.
29. Rodziński P, Sobański JA, Rutkowski K, Cyranka K, Murzyn A et al. *Skuteczność terapii na oddziale dziennym leczenia nerwic i zaburzeń behawioralnych w zakresie redukcji nasilenia i eliminacji myśli samobójczych*. Psychiatr. Pol. 2015 (accepted for publication).
30. Sobański JA, Klasa K, Rutkowski K, Dembińska E, Müldner-Nieckowski Ł. *Kwalifikacja do intensywnej psychoterapii w dziennym oddziale leczenia nerwic*. Psychiatr. Psychoter. 2011; 7(4): 20–34.
31. Mazgaj D, Stolarska D. *Model terapii nerwic na oddziale dziennym*. Psychiatr. Pol. 1994; 28(4): 421–430.
32. Mielimąka M, Rutkowski K, Cyranka K, Sobański JA, Müldner-Nieckowski Ł, Dembińska E. et al. *Effectiveness of intensive group psychotherapy in treatment of neurotic and personality disorders*. Psychiatr. Pol. 2015; 49(1): 28–49.
33. Sobański JA, Klasa K, Cyranka K, Mielimąka M, Dembińska E, Müldner-Nieckowski Ł. et al. *Effectiveness of intensive psychotherapy in a day hospital evaluated with Neurotic Personality Inventory KON-2006*. Psychiatr. Pol. 2014 [E-pub ahead of print; DOI: 10.12740/psychiatriapolska.pl/online-first/6].
34. Janusz B, Józefik B, de Barbaro B. *Zastosowania koncepcji dialogowego Ja w psychoterapii, zwłaszcza w terapii rodzin*. Psychiatr. Pol. 2012; 46(5): 867–875.
35. Champion J, Bhui K, Bhugra D. *European Psychiatric Association (EPA) guidance on prevention of mental disorders*. Eur. Psychiatry 2012; 27(2): 68–80.
36. Hsiao FH, Lai YM, Chen YT, Yang TT, Liao SC, Ho RT. et al. *Efficacy of psychotherapy on diurnal cortisol patterns and suicidal ideation in adjustment disorder with depressed mood*. Gen. Hosp. Psychiatry 2014; 36(2): 214–219.
37. Yalom DI, Leszcz M. *Psychoterapia grupowa. Teoria i praktyka*. Krakow: Jagiellonian University Press; 2014.
38. Leenaars AA. *Psychotherapy with suicidal people: the commonalities*. Arch. Suicide Res. 2006; 10: 305–322.
39. Guthrie E, Kapur N, Mackway-Jones K, Chew-Graham C, Moorey J, Mendel E. et al. *Predictors of outcome following brief psychodynamic-interpersonal therapy for deliberate self-poisoning*. Aust. N. Z. J. Psychiatry 2003; 37(5): 532–536.
40. Linehan MM. *Behavioral treatments of suicidal behaviors. Definitional obfuscation and treatment outcomes*. Ann. N. Y. Acad. Sci. 1997; 836: 302–328.
41. Czabała JC. *Czynniki leczące w psychoterapii*. Warsaw: Polish Scientific Publishers PWN; 2014.
42. Hołyst B. *Suicydologia*. Warsaw: LexisNexis; 2002.
43. Berman AL, Silverman MM, Bongar BM. *Comprehensive textbook of suicidology*. New York: Guilford Press; 2000.
44. Tsirigotis K, Gruszczyński W, Tsirigotis-Maniecka M. *Indirect self-destructiveness and psychological gender*. Psychiatr. Pol. 2014; 48(4): 759–771.
45. Tsirigotis K, Gruszczyński W, Tsirigotis-Maniecka M. *Differentiation of indirect self-destructiveness due to sex (gender) in individuals after suicide attempts*. Psychiatr. Pol. 2014 [E-pub ahead of print; DOI: 10.12740/psychiatriapolska.pl/online-first/1].
46. Gierowski K. *Relacje pomiędzy płcią psychologiczną a agresywnością na tle czynników ryzyka przemocy u nieletnich dziewcząt i chłopców*. In: Gulla B, Wysocka-Pleczyk M. ed. *Przestępczość nieletnich*. Krakow: Jagiellonian University Press; 2009. p. 37–50.
47. Christogiorgos S, Tzikas D, Widdershoven-Zervaki MA, Dimitropoulou P, Athanassiadou E, Giannakopoulos G. *Hypochondriacal anxieties in adolescence*. Open Psychol. J. 2013; 6: 6–9

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48. Thomson AB, Page LA. *Psychotherapies for hypochondriasis*. Cochrane Database Syst. Rev. 2007; 4: CD006520.
 49. Fowler JC. *Core principles in treating suicidal patients*. *Psychotherapy (Chic)* 2013; 50(3): 268–272.
 50. Rodziński P, Rutkowski K, Sobański JA, Murzyn A, Cyranka K, Grządziel K. et al. *Reduction of suicidal ideation in patients undergoing psychotherapy in the day hospital for the treatment of neurotic and behavioral disorders and neurotic symptoms reported by them before the hospitalization*. *Psychiatr. Pol.* 2015 [E-pub ahead of print; DOI: 10.12740/PP/OnlineFirst/32223].

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