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Reduction of suicidal ideation in patients undergoing psychotherapy in the day hospital for the treatment of neurotic and behavioral disorders and their neurotic personality traits measured before the hospitalization

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Summary

Aim. Analysis of associations between initial neurotic personality traits and subsequent reduction of suicidal ideation (SI) – or lack of such reduction – obtained until the end of hospitalization in patients who underwent the course of intensive psychotherapy conducted in integrative approach with predominance of psychodynamic approach.

Material and method. Symptom Checklist KO"O", Neurotic Personality Questionnaire KON-2006 and Life Inventory completed by 461 women and 219 men hospitalized in the day-hospital due to neurotic, behavioral and personality disorders between 2005–2013. At the stage of qualification 134 women and 80 men reported SI, of whom subsequently 84.3% and 77.5% respectively improved.

Results. Women with prominent *Tendency to risk-taking* ($p=0.002$) and *Impulsiveness* ($p=0.038$) constituted subgroups with decreased chances of improvement in terms of SI, while men with prominently elevated level of *Envy* ($p=0.041$) and women who seemed to have difficulties in expressing anger adequately ($p<0.05$) had increased chances of SI reduction.

Conclusions. Initially prominent *Tendency to risk-taking* and *Impulsiveness* may coexist with SI of increased resistance to psychotherapy. Thus, those subgroups require special attention and diligent selection of therapeutic methods. Also, it is probable that focusing therapy at the above-mentioned personality components may increase effectiveness of SI treatment. Reducing SI during psychotherapy appears to be highly effective especially in women with difficulties in expressing anger adequately and in men with prominently elevated level of

Envy, which suggests adequacy of this treatment choice and of targeting those difficulties during psychotherapy.

Key words: suicidal ideation, neurotic personality, psychotherapy

Introduction

Suicidal ideation (SI) is a symptom frequently observed in patients with neurotic, behavioral and personality disorders – in a psychotherapeutic day-hospital approximately one in three patients is initially reporting SI [1, 2]. Its presence is associated with various problematic situations that pose risk to patients' health and life. It is quite common to observe the course of the therapy of such patients complicated by auto-aggressive behaviors, e.g. self-harm, provoking health-threatening situations [3, 4], psychoactive substance abuse [5], negligence in treatment of one's own serious conditions, as well as attempting suicide [6, 7]. The therapy of such patients is often further compromised by acts of aggression, e.g. lack of compliance and violating therapeutic contract, tendency to drop-out – which are typical for patients with considerable personality disturbances (such as e.g. impulsive, borderline, dissocial or narcissistic personality disorder) [8].

Yet, etiology of SI and of the SI-related complications is not fully understood. Doubtlessly, SI is a complex symptom of various intensity, and of multidimensional biopsychosocial origin, which takes many different forms. The part of SI-contributing factors is identical with suicidal risk factors that are known to every clinician. Within the last few years some of those that were the centre of attention are worth mentioning. It was determined that among the SI risk factors are biological and genetic factors such as: serotonin-transporter-linked polymorphic region (5-HTTLPR) [9] and a high degree of methylation of the brain-derived neurotrophic factor gene [10, 11]. Moreover, it was found that childhood traumatic experiences such as sexual abuse and physical abuse predispose to SI, as well as to attempting suicide and to self-harm [12]. Also studies on post-traumatic stress disorder revealed association between traumatic experiences – including sexual and physical abuse – and subsequent suicidal risk [13, 14].

Among numerous SI-predisposing factors the psychotherapeutic practice calls for focusing at those personality-related of overwhelming complexity. Their complexity is not interior to biological or environmental factors. Many researchers point that borderline personality disorder is most likely to include SI in its psychopathologic picture [8, 15]. Those findings seems to correspond with studies suggesting that proneness to anxiety and impulsiveness increase the risk of SI [16]. It was also found that increased SI risk was co-occurring with the patients' characteristics such as neuroticism, a sense of hopelessness [17], openness to experience [18], high intensity of psychological distress and decreased availability of social support [19].

Nonetheless, within the scientific literature available to the authors of this study no other studies were found on associations between personality traits of patients with neurotic, behavioral and personality disorders on effectiveness of psychotherapeutic treatment in terms of SI reduction.

Aim

Analysis of associations between initial neurotic personality traits and subsequent improvement in terms of suicidal ideation (SI, defined as its elimination or reduction of its intensity) – or lack of such reduction – obtained until the end of hospitalization in patients who underwent the course of intensive psychotherapy conducted in integrative approach with predominance of psychodynamic approach (that included 10–15 group sessions a week combined with one individual session a week) in a day-hospital for patients with neurotic, behavioral and personality disorders.

Material and method

As a source of information concerning SI – defined as willingness to take one's own life – Symptom Checklist KO"O" [20, 21] was used – the tool that allows for measuring intensity of symptoms which are observed in course of neurotic disorders. The questionnaire was completed by patients at the stage of qualification for the treatment [22] 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.

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. More detailed group characteristics were included in separate paper concerning the same patients' group [2].

Table 1. **Age [2]**

	Women	Men
Number of patients	461	219
Average age ± std. dev.	29.9 ± 8.1 years	30.4 ± 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 [2]**

	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 [2]**

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

	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 to exclude patients in a high risk of suicide [23], 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 [22]. The qualification consisted of a set of ambulatory visits lasting on average 2–3 weeks. After qualification patients started therapy on average within 4–12 weeks.

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

Table 5. **Patients' diagnosis according to ICD-10 [2]**

	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 and 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 with predominance of psychodynamic approach with elements of cognitive and behavioral therapy [22, 24–27].

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 [2]. 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 3.0%.

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.

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 the whole studied patients, separately in women and in men(n = 680) [2]**

	Women (n = 461)			Men (n = 219)			* Gender differences	
	Number	Percentage	95% CI	Number	Percentage	95% CI	Chi^2	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 the appearance of their)	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
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, revealed a statistically significant ($p < 0.05$), multiple prevalence of the percentage of patients in whom there was an improvement in SI (defined as the elimination or reduction of its severity), on the percentage of patients in whom there was an increase in the severity of SI. 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 in whom increase of SI intensity was observed was 3.8%. Moreover, in the majority of the patients with 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) [2].**

	Women (n = 134)			Men (n = 80)			* Gender differences	
	Number	Percentage	95% CI	Number	Percentage	95% CI	Chi^2	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
No improvement in terms of SI (no changes or increase in 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 ($p \geq 0.05$); * – in order to determine if there were significant differences in results concerning SI between women and men Pearson's chi-squared test was used.

Analysis of associations between initial neurotic personality traits and subsequent improvement in terms of SI

Patients' neurotic personality profile was evaluated with Neurotic Personality Questionnaire KON-2006 [28–32] – the tool that allows to estimate range and intensity of personality dysfunctions which are associated with emergence and persistence of neurotic disorders. Estimations conducted with the questionnaire are described by global

neurotic personality disintegration scale (XCON) which allows for comprehensive evaluation of the degree of personality disorders and by 24 subscales which allow for evaluation of particular dysfunctional aspects of personality. This tool is also applied in order to evaluate effectiveness of psychotherapy.

Next, a comparison of the personality traits between patients who subsequently improved in terms of SI and those who did not was made.

In statistical analysis Student's t-test for independent variables of natural distribution and Pearson's chi-squared test were used. Attempts to use logistic regression were made, but construction of a useful model proved to be impossible due to the effect of the alignment of many variables. For calculations licensed software package STATISTICA PL was used. The information obtained in course of above-mentioned diagnostics was used with patients' permission, and then stored and processed anonymously.

Results

The analysis of initial levels of the global neurotic personality disintegration showed no significant differences between patients with subsequent SI reduction and those without it – this referred to both women and men (Table 8).

Further analysis revealed that in women without SI improvement intensity of two of the subscales was greater than in women with SI reduction: Tendency to take risks (p = 0.002) and Impulsiveness (p = 0.038) (Table 8).

Between the groups in men significant differences were observed only in case of levels of Envy (p = 0.041). However, contrary to the two subscales mentioned above concerning women, in men increased level of Envy was associated with SI reduction (Table 8).

Table 8. **The comparison of initial levels of neurotic personality traits (measured with Neurotic Personality Questionnaire KON-2006) between patients who improved in terms of SI and those who did not**

	Women (n = 134)				Men (n = 80)			
	Changes in terms of SI		Student's t-test		Changes in terms of SI		Student's t-test	
	No SI reduction (n = 21)	SI reduction (n = 113)	t	p	No SI reduction (n = 18)	SI reduction (n = 62)	t	p
Global neurotic personality disintegration (XKON coefficient)	42.20 ± 21.22	43.78 ± 22.55	-0.30	ns	46.57 ± 22.92	53.09 ± 23.09	-1.06	ns
1. Feeling of being dependent on the environment	8.52 ± 4.63	10.15 ± 4.27	-1.58	ns	10.33 ± 4.56	10.98 ± 4.34	-0.55	ns
2. Asthenia	11.00 ± 2.26	10.89 ± 2.61	0.17	ns	11.83 ± 1.25	11.23 ± 2.45	1.01	ns
3. Negative self-esteem	7.29 ± 3.69	7.35 ± 3.64	-0.08	ns	6.44 ± 3.43	7.63 ± 3.23	-1.35	ns

table continued on the next page

4. Impulsiveness	10.19 ± 4.78	8.18 ± 3.91	2.09	*	7.50 ± 3.52	8.71 ± 4.03	-1.15	ns
5. Difficulties with decision making	7.48 ± 2.94	8.10 ± 2.61	-.98	ns	8.50 ± 2.07	7.66 ± 2.53	1.29	ns
6. Sense of alienation	6.86 ± 4.37	6.83 ± 4.04	0.03	ns	7.44 ± 3.94	8.34 ± 3.95	-0.85	ns
7. Demobilization	13.14 ± 3.92	13.31 ± 4.49	-0.16	ns	12.44 ± 3.50	13.03 ± 4.80	-0.48	ns
8. Tendency to take risks	4.14 ± 2.87	2.48 ± 2.07	3.17	**	3.28 ± 1.99	3.52 ± 2.95	-0.32	ns
9. Difficulties in emotional relations	5.86 ± 2.59	6.80 ± 3.03	-1.33	ns	7.72 ± 2.72	7.92 ± 2.69	-0.27	ns
10. Lack of vitality	11.57 ± 4.25	12.54 ± 3.32	-1.17	ns	12.06 ± 2.96	12.77 ± 3.78	-0.74	ns
11. Conviction of own resourcelessness in life	9.71 ± 4.64	10.07 ± 3.59	-0.40	ns	10.44 ± 3.22	9.97 ± 3.63	0.50	ns
12. Sense of lack of control	5.05 ± 3.09	5.89 ± 3.21	-1.11	ns	5.89 ± 3.20	6.65 ± 3.45	-0.83	ns
13. Deficit in internal locus of control	9.86 ± 4.46	10.22 ± 4.14	-0.37	ns	10.28 ± 4.48	10.65 ± 4.19	-0.32	ns
14. Imagination. indulging in fiction	7.29 ± 3.20	6.87 ± 2.78	0.62	ns	7.39 ± 3.18	8.32 ± 2.70	-1.24	ns
15. Sense of guilt	7.86 ± 2.57	8.20 ± 2.38	-0.60	ns	8.22 ± 2.07	8.47 ± 2.45	-0.39	ns
16. Difficulties in interpersonal relations	6.00 ± 3.07	6.74 ± 2.81	-1.10	ns	6.83 ± 2.71	7.76 ± 2.64	-1.30	ns
17. Envy	4.76 ± 2.66	4.43 ± 3.08	0.46	ns	4.56 ± 2.99	6.39 ± 3.37	-2.08	*
18. Narcissistic attitude	3.57 ± 2.87	2.81 ± 2.56	1.23	ns	3.89 ± 2.68	5.02 ± 3.26	-1.34	ns
19. Sense of being in danger	6.52 ± 2.80	6.50 ± 3.11	0.04	ns	5.94 ± 2.62	7.26 ± 3.40	-1.51	ns
20. Exaltation	10.33 ± 1.83	9.87 ± 2.05	0.97	ns	8.56 ± 2.48	9.03 ± 3.04	-0.61	ns
21. Irrationality	4.62 ± 2.36	4.29 ± 2.34	0.59	ns	3.11 ± 1.94	4.08 ± 1.98	-1.84	ns
22. Meticulousness	4.43 ± 2.29	3.89 ± 1.71	1.24	ns	4.83 ± 2.15	4.63 ± 2.31	0.34	ns
23. Ponderings	8.19 ± 1.94	8.36 ± 1.64	-0.43	ns	8.50 ± 1.20	8.44 ± 1.77	0.15	ns
24. Sense of being overloaded	5.48 ± 1.54	4.94 ± 1.95	1.20	ns	5.11 ± 2.47	5.03 ± 2.13	0.13	ns

ns – non-significant results ($p > 0.05$); * – the results that reached statistical significance level of $p < 0.05$; ** – the results that reached statistical significance level of $p < 0.01$.

In order to further specify the factors that were prognostic for improvement in terms of SI particular patients' declarations included in KON-2006 Questionnaire were

subjected to analysis. The following declarations/attitudes were significantly associated with greater than average chances of SI reduction in women: "My acquiescence makes my life difficult" (OR = 2.65; 95% CI: 1.01–6.90), "After a quarrel with somebody I usually don't talk with that person for some time" (OR = 2.74; 95% CI: 1.06–7.08), "Usually I remain calm" (OR = 2.61; 95% CI: 0.98–6.96) (Table 9).

Despite lower number of participants in men subgroup, also a number of declarations was found that were significantly associated with increased chances of SI reduction: "Every time a I speak about myself others become unpleasant to me" (OR = 8.71; 95%CI: 1.08–69.99), "I act most frequently accordingly to my gut feeling and intuition" (OR = 8.00; 95%CI: 1.70–37.77), "It annoys me when others are happy" (OR = 4.40; 95%CI: 0.93–20.93), "Majority of my close ones do not understand me" (OR = 3.84; 95% CI: 1.29–11.48), "Nowadays an honest man is destined to fail" (OR = 3.73; 95% CI: 1.11–12.62), "Sometimes I am so overworked that I have no time for entertainment" (OR = 3.50; 95% CI: 1.04–11.83) (Table 9).

Table 9. **Patients' declarations/attitudes (included in Neurotic Personality Questionnaire KON-2006) that were significantly associated with higher chances of improvement in terms of SI than in those without such attitudes– separately in women and in men**

	Women (n = 134)					Men (n = 80)				
	Pearson's Chi-squared test	OR	95% CI		p	Pearson's Chi-squared test	OR	95% CI		p
After a quarrel with somebody I usually don't talk with that person for some time	4.545	2.74	1.06	7.08	*	2.743	2.44	0.84	7.16	ns
My acquiescence makes my life difficult	4.141	2.65	1.01	6.90	*	0.533	0.65	0.21	2.07	ns
Usually I remain calm	3.861	2.61	0.98	6.96	*	0.601	0.65	0.22	1.95	ns
Every time a I speak about myself others become unpleasant to me	0.783	1.62	0.55	4.76	ns	5.610	8.71	1.08	69.99	*
I act most frequently accordingly to my gut feeling and intuition	7.154	0.27	0.10	0.73	*	8.705	8.00	1.70	37.77	**
It annoys me when others are happy	0.135	0.82	0.29	2.33	ns	3.946	4.40	0.93	20.93	*
Majority of my close ones do not understand me	0.037	0.91	0.36	2.34	ns	6.212	3.84	1.29	11.48	*
Nowadays an honest man is destined to fail	0.172	0.82	0.32	2.11	ns	4.869	3.73	1.11	12.62	*
Sometimes I am so overworked that I have no time for entertainment	0.056	0.89	0.34	2.33	ns	4.374	3.50	1.04	11.83	*

* – the results that reached statistical significance level of $p < 0.05$; ** – the results that reached statistical significance level of $p < 0.01$; ns – non-significant results ($p > 0.05$).

Furthermore, contrary to declarations listed above, there was a number of declarations in women which were associated with lower than average probability of SI reduction: “I often take risk for sole pleasure of taking it” (OR = 0.22; 95% CI: 0.07–0.65; p < 0.01), “I act most frequently accordingly to my gut feeling and intuition” (OR = 0.27; 95% CI: 0.10–0.73), “I enjoy doing things that are dangerous” (OR = 0.19; 95% CI: 0.07–0.53; p < 0.01), “Gambling or betting money make me excited” (OR = 0.22; 95% CI: 0.05–1.07; question 56), “When others talk nonsense I usually confront them with that” (OR = 0.31; 95% CI: 0.12–0.82), “It often happens I am out of control due to insignificant reasons” (OR = 0.34; 95% CI: 0.12–0.94), “During cooperation with others I frequently take charge” (OR = 0.29; 95% CI: 0.10–0.80), “When taking decisions I almost always follow my first impression” (OR = 0.34; 95% CI: 0.13–0.87), “I am pedantic” (OR = 0.38; 955 CI: 0.14–1.00), “Sometimes I behave very dangerously for pleasure” (OR = 0.20; 95% CI: 0.05–0.81) (Table 10).

In men there were no declarations included in KON-2006 Questionnaire that were significantly associated with decreased probability of SI reduction (Table 10).

Table 10. **Patients’ declarations/attitudes (included in Neurotic Personality Questionnaire KON-2006) that were significantly associated with lower chances of improvement in terms of SI than in those without such attitudes– separately in women and in men**

	Women (n = 134)					Men (n = 80)				
	Pearson’s Chi-squared test	OR	95% CI		p	Pearson’s Chi-squared test	OR	95% CI		p
I enjoy doing things that are dangerous	11.562	0.19	0.07	0.53	**	0.874	0.59	0.20	1.78	ns
Sometimes I behave very dangerously for pleasure	6.044	0.20	0.05	0.81	*	0.396	0.70	0.22	2.16	ns
I often take risk for sole pleasure of taking it	8.481	0.22	0.07	0.65	**	0.096	0.83	0.25	2.71	ns
Gambling or betting money make me excited	4.130	0.22	0.05	1.07	*	0.275	1.54	0.31	7.76	ns
I act most frequently accordingly to my gut feeling and intuition	7.154	0.27	0.10	0.73	*	8.705	8.00	1.70	37.77	**
During cooperation with others I frequently take charge	6.200	0.29	0.10	0.80	*	1.367	2.21	0.57	8.54	ns
When others talk nonsense I usually confront them with that	5.932	0.31	0.12	0.82	*	1.725	0.49	0.17	1.44	ns
When taking decisions I almost always fallow my first impression	5.326	0.34	0.13	0.87	*	0.721	1.64	0.52	5.19	ns
It often happens I am out of control due to insignificant reasons	4.574	0.34	0.12	0.94	*	0.003	1.03	0.36	2.96	ns
I am pedantic	4.020	0.38	0.14	1.00	*	0.317	0.74	0.26	2.13	ns

* – the results that reached statistical significance level of p < 0.05; ** – the results that reached statistical significance level of p < 0.01; ns – non-significant results (p > 0.05).

Discussion

It is difficult to give specific answers to the question about mechanisms behind the observed associations between components of patients' personality and SI reduction following the course of the psychotherapy. Taking into account complex biopsychosocial etiopathogenesis of SI it is possible only to select and present some hypothesis regarding this matter that in a view of the actual knowledge seems most probable.

Most likely, the distinguished patients' attitudes and neurotic personality traits that proved to reflect personality structures which determine susceptibility of SI to the applied form of psychotherapy. During the treatment aimed at broadening patients' insight the improvement in terms of SI was observed in women who reported the following: "My acquiescence makes my life difficult", "After a quarrel with somebody I usually don't talk with that person for some time", "Usually I remain calm" (Table 9). It seems that it was the inability to express anger or frustration adequately that links those declarations. Such difficulty is often accompanied by exaggerated fantasies of destructiveness of one's own aggression, which in turn result in anxiety, feelings of guilt and lead to SI [8, 24, 33, 34].

In men the declarations associated with increased effectiveness of SI reduction were different from those of women. The following attitudes were linked with the favorable therapy outcomes in men: "It annoys me when others are happy", "I act most frequently accordingly to my gut feeling and intuition", "Majority of my close ones do not understand me", "Sometimes I am so overworked that I have no time for entertainment", "Every time a I speak about myself others become unpleasant to me", "Nowadays an honest man is destined to fail" (Table 9). A part of those answers appeared to correspond with prominent level of Envy (defined by the authors of the questionnaire as experiencing frustration when others succeed in something and as devaluating others [29]) observed in the patients, which was also associated with increased effectiveness of SI treatment (Table 8).

Specifying the nature of the mechanisms behind those associations requires further research. However, those dysfunctional attitudes most probably were an expression of disturbed personality structures, in which beneficial changes occurred under the influence of the applied treatment. In favor of this also weigh, yet unpublished, results regarding the same group of patients, according to which reduction of level of Envy was greater in men who improved in terms of SI, than in those who did not – the reductions were 2.53 pts. vs. 0.89 pts. respectively (Student's t-test significance of this difference was $p = 0.065$ – it has not reached the threshold of statistical significance probably due to insufficient number of participants). Results of another analysis of the same group of patients revealed that the initial levels of Envy were significantly greater in men who initially reported SI than in men who did not ($p < 0.001$). This also indicated that there is an association between the increased level of envy and SI [1]. It is highly probable that the group psychotherapy was especially favorable opportunity for the patients for confronting one's own experiences of Envy and developing more adequate mechanisms for coping with it. Those two findings suggest that it is not the reduction of intensity of Envy but the changes in experiencing it that may be crucial

for SI reduction. Probably, exposing those problems to the therapeutic group and broadening patients' insight might result in relieving patients' feelings of guilt caused by experiencing hostility towards others. This in turn might have decrease disapproval towards oneself that contributed to persistence of SI [8].

In view of the results presented here it is highly probable that in patients who met the criteria of the qualification [22] and who suffered from SI combined with the above-mentioned neurotic personality traits (e.g. prominent level of envy in men) the intensive psychotherapy conducted in a day-hospital is highly effective in terms of SI reduction.

The results suggest also that in women some of the neurotic personality traits – contrary to those already mentioned – are associated with lower (Table 7) effectiveness of SI treatment than in other women– those were: "I often take risk for sole pleasure of taking it", "I act most frequently accordingly to my gut feeling and intuition", "I enjoy doing things that are dangerous", "Sometimes I behave very dangerously for pleasure", "Gambling or betting money make me excited", "When others talk nonsense I usually confront them with that", "It often happens I am out of control due to insignificant reasons", "During cooperation with others I frequently take charge", "When taking decisions I almost always fallow my first impression", "I am pedantic" (Table 10). This points to considerable discrepancies in the results between women and men. The most clear example of that are the results concerning the declaration/attitude: "I act most frequently accordingly to my gut feeling and intuition". In men it was associated with higher than average effectiveness of SI treatment (OR = 8.00; 95% CI: 1.70–37.77; Table 10), whereas in women it was associated with lower than average effectiveness of SI reduction (OR = 0.27; 95% CI: 0.10–0.73; table 10). A similar discrepancy was observed in cases of a few neurotic personality traits (measured with KON-2006 subscales): Tendency to take risks and Impulsiveness. Those two traits in men were associated with increased chances of SI reduction (however, those were the only trends which did not reach the threshold of statistical significance), while in women – on the contrary – it was significantly associated with decreased chances of SI reduction (Table 8). The specificity of KON-2006 subscales seem to be crucial for clarifying the meaning of those observations seems. According to the authors of the questionnaire, Impulsiveness was defined as viewing oneself as quick-tempered, prone to involving into fights, irritable, difficult to be with, physically aggressive and at the same time disapproving one's own behaviors [29]. The discrepancies between women and men in approach to one's own impulsive or aggressive behaviors might have been determined by the differences in social norms and attitudes. In women those behaviors might have been viewed more critically, as unacceptable or "unfeminine", while in men such impulsive behaviors might have been gratified, rewarded with higher status among peers, and viewed as "masculine". Those differences might have resulted in more intensive self-criticism, internal conflicts and distress in women than in men, consequently contributing to persistence of SI despite the psychotherapy [19, 35].

Tendency to take risks – which was also associated with lower than average effectiveness of SI reduction in women – was defined by the authors of the questionnaire as viewing oneself as prone to participating in dangerous situations, without

fear of novelties [29]. Tendency to expose oneself to dangers is regarded by many authors as indirectly self-destructive and as associated with SI [3, 4, 8, 36]. Similar auto-aggressive component seemed to be present also in two of the female-patients' declarations that were associated with the decreased reactiveness to psychotherapy ($p < 0{,}01$): "I enjoy doing things that are dangerous" and "I often take risk for sole pleasure of taking it." Coexistence of SI together with those reported attitudes in the female patients suggested a tendency to self-regulation of mood through risking one's own life. In some of those patients suffering from borderline personality disorder the manifestations of auto-aggression such as self-harm may constitute "a let-off mechanism", which according to some authors may be a preventive measure against suicidal tendencies [15]. In the face of such psychopathology a necessity of more long-term psychotherapeutic treatment, as postulated by many researchers, seems adequate [8]. In case of the studied patients this was possible through referring them to another 12-weeks course of intensive psychotherapy – this may allow more profound change in patient's personality structure.

Moreover, the produced results regarding SI of increased resistance to psychotherapy may point to personality components that are worth focusing at in course of the psychotherapy. It seems that in cases of co-occurrence of high degree of Impulsiveness or Tendency to take risks with SI in women with neurotic, behavioral or personality disorders further increase in effectiveness of SI reduction might be obtained through concentrating therapeutic efforts at those specific areas of psychopathology, intensification of treatment or including methods that are not routinely in use in a psychotherapeutic day-hospital. Others, yet unpublished results regarding the same group of patients weigh in favor of this – it was found that patients who improved in terms of SI gained greater reduction of Impulsiveness ($p = 0.025$).

Apart from that, in a view of proven effectiveness of psychopharmacotherapy in treatment of those groups of patients [37] it seems that reducing it in cases of SI of increased resistance to psychotherapy require careful consideration. However, determining which specific methods of treatment would be effective in such cases requires further studies.

The discrepancies in significance of particular personality-related prognostic factors between women and men may also stem from a considerable number of female participants with eating disorders, while none of male patients met the eating disorders criteria (Table 5). The fact that 44.4% of women with eating disorders initially reported SI (while initial proportion of SI reporting women among all the women was 29.1%) also suggests this (Tables 5 and 9). In this context it is worth mentioning that another analysis concerning the same population determined that presence of episodes of uncontrollable hunger (especially at night) was significantly associated with lower than average chances of SI reduction in women ($OR = 0.19$, 95% CI: 0.07–0.56, $p < 0.01$) [38]. Those observations correspond with the views held by many authors that in course of eating disorders the manifestations of auto-aggression, including SI, are frequently observed and that eating disorders tend to be persistently resistant to many forms of therapy and as such it calls for longer-term treatment [8, 39–41].

Among limitations of this study there was an inability to verify permanence of the symptom improvement. Also, the Symptom Checklist's KO"O" question about "willingness to take one's own life", on which the study was based, referred to the last seven days. That might have resulted in not registering patients in whom the symptom remitted only temporarily. Moreover, the question referred to SI that were "arduous", while clinical experience shows that some patients, especially those with profound personality disorders or severely depressed, may regard SI as ego-syntonic. Due to the qualification for the treatment it is unlikely that there was a considerable number of such patients. Nonetheless, 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. Also, due to lack of control group, it's advisable to ask if the observed improvement allowed authors to conclude on effectiveness of the psychotherapy in treatment of SI. In the view of the observed dynamics of SI prevalence and intensity (Tables 6 and 7), as well as in the view of the fact that the applied psychotherapy is widely acknowledged method of treatment in cases of patients with SI and others manifestations of auto-aggression [8, 25, 26, 42], it is highly probable that the produced results referring to the chances of improvement in terms of SI in the selected groups of patients are reflecting the effectiveness of the applied therapy. 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 interventions that belong to integrative psychotherapy with predominance of psychodynamic approach with behavioral and cognitive elements [2, 38]. Lastly, it is reasonable to assume that the effectiveness of reduction of SI (a symptoms of complex etiopathogenesis) may be co-determined by a complex set of factors that is difficult to be encompassed, and of which only a handful was analyzed in course of this study.

Conclusions

1. Initially prominent Tendency to risk-taking and Impulsiveness may coexist with SI of increased resistance to psychotherapy. Thus, those subgroups require special attention and diligent selection of therapeutic methods. Also, it is probable that focusing therapy at above-mentioned personality components may increase effectiveness of SI treatment.
2. Reducing SI during psychotherapy appears to be highly effective especially in women with difficulties in expressing anger adequately and in men with prominently elevated level of envy, which suggest adequacy of this treatment choice and of targeting those difficulties during psychotherapy.

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