PSYCHIATRIC AND PSYCHOSOCIAL CHARACTERISTICS OF SUICIDE ATTEMPTERS, WITH A SPECIAL FOCUS ON AFFECTIVE TEMPERAMENTS, CHILDHOOD ABUSES AND GENDER DIFFERENCES

PhD thesis

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1. INTRODUCTION

Suicide is a very heterogeneous, biopsychosocial human phenomenon with several medical-psychiatric, psychological, sociological, economical and cultural components. Suicide behaviour (suicide attempt and completed suicide) is a major health problem all over the world and it is among the three most common reasons for death in the young population. Between 1950 and 1990, the national suicide rates in Europe and North America slowly and steadily increased. Although, partly because of the better care of psychiatric patients and the availability of better therapies, suicide rates of the mentioned countries decreased constantly, in many European countries, as well as in Hungary, suicide rate is still over 20 per 100.000. Understanding the underlying causes of suicidal behaviour and developing prognostic and prevention strategies is a major public health issue.

2. OBJECTIVES

The aim of our study was to analyse the

1. psychiatric and psychosocial factors contribute to suicidal behaviour,
2. certain personality characteristics (with a special focus on affective temperament-types),
3. negative life events (with a special focus on childhood abuse) and
4. gender characteristics (focusing on male depression), and moreover, to find connections between the aforementioned factors and suicide attempts in a Hungarian sample.

3. METHODS

3.1 SUBJECTS AND MEASURES

We investigated 160 consecutive, nonviolent suicide attempters who have been admitted because of a nonviolent suicide attempt to the Department of Toxycology of Elizabeth Hospital, Local Goverment of Budapest during the year of 2003. Our protocol involved

collecting demographic data, past history, the Hungarian verison of the MINI Neuropsychiatric Interview (5.0.0.; Balázs et al, Psychiat Hung, 1998; 13: 160-168) the TEMPS-A temperament scale with 110 items (Akiskal et al, J Affect Disord, 1998; 51: 7-19, Rózsa et al, Psychiat Hung, 2006; 21: 147-160), the shortened verison of the Bernstein Childhood Psychical and Sexual Abuse Scale (Bernstein et al, Amer J Psychiat, 1994; 151: 1132-1136) and the Gotland Male Depression Scale (Rutz, Int J Psychoparmacol, 1999; 14: 27-33). The final sample consisted of the 150 suicide attempters, who have had complete demographic and clinical documentaion.

3.2 STATISTYCAL ANALYSES

We used means, standard deviations, ranges and percentage calculations to demonstrate those factors requiring descriptive approach. Categorical variables (different subgroups) were compared with two-tailed χ^2-probe (if less than five elements were in one cell, with Yates-correction) and with calculating odds ratios (OR). For analysing continuous variables, we used two-tailed student-test and one-, or two-way analysis of variance (ANOVA) and multiple comparisons with Bonferroni-corrections (Wilson D., Wood RL., Gibbons R: TESTFACT Test scoring item statistics, and item factor analysis (Computer program). Chicago, Scientific software, 1999) Alpha-value necessary for significance was established in 5%. All statistical analyses were carried out by using SPSS 10.0.

4. RESULTS

4.1. Psychiatric and psycho-social characteristics

Our results support data well known from Hungarian and international literature, namely the most common diagnosis in connection with suicidal behaviour is major depressive episode (80%). In our study sample we found high proportion of current DSM-IV Axis I. diagnosis (90%), which is also consistent with previous data. We found the prevalence of comorbid diagnosis also high (two diagnosis: 41.4%, three diagnosis: 8%), which is again in line with previous data. We would like to emphasize the high co-occurence of anxiety and substance use disorders together with depression. The results of our study confirm Hungarian and international data concerning the predisposing role of some psychosocial factor in connection with suicide attempts. It is very important to stress isolation and unemployment, as a

predisposing factors: in our sample the rate of persons living alone and being unemployed were more than five fold higher than the same rates in the Hungarian population during the study period (51.3% vs. 10.1% and 16% vs. 2.4%, respectively).

4.2. The role of affective temperaments

We consider as new results the TEMPS-A profile of suicide attempters in international respect. Suicide attempters score significantly higher than the controls on all, but the hyperthymic subscale. Moreover, the prevalence of dominant affective temperaments is also turned out to be higher among suicide attempters (90% vs. 21.5%). Our results support data of previous studies from a new point of view and refer to that not only the well known traditional suicide risk factors, but also affective temperament types contribute a lot to the clinical significance in the prediction of suicidal behaviour. Furthermore, based on our study results we assume that the role of personality in the development of suicidal behaviour can be grabbed on this level. The negative connection between hyperthymic temperament and suicide attempt is to be interpret at least in two ways. One possible explanation is that hyperthymic temperament is protective against completed suicide, as well as against suicide attempt. Another possible reason is that depression is more severe not just clinically, but also subjectively in the case of hyperthymic people, and as a result they more often choose violent suicide methods. While the rate of completed suicide is higher in the case of violent methods, this can explain why hyperthymic people are underrepresented among suicide attempters. Clarifying the connection between hyperthymic temperament and suicide attempts needs further studies. As a limitation, we must note that as we only investigated nonviolent suicide attempters, our study results should pertain only for this patient population.

4.3. The role of childhood physical and sexual abuse

Out of the 150 subjects investigated, more than half (56%) reported physical or sexual abuse under the age of 18. Because the relationship between childhood abuses and adult affective temperaments has never been studied, our data concerning this field definitely serve as new results. According to our findings, without any gender difference, those with positive history of childhood psychical and/or sexual abuse scored higher on depressive, cyclothymic, irritable and anxious subscales of the TEMPS-A comparing to those without any abuse. However, the difference was only significant in the case of irritable and cyclothymic people. Although the average score of people with aforementioned temperament was higher when they had both kinds of abuse in their history, the differences between those who underwent one or two

abuses are not mathematically significant, but are important from a clinical point of view. This may refer to the fact that psychical and sexual childhood abuse may play an additive role in the development of adult temperament types, but this question needs to be investigated further. This result is in good agreement with data showing that in the case of bipolar patients the rate of suicide attempts shows a gradual increase from the "no abuse" group through the "one abuse" till the "two abuses" groups. As for hyperthymic temperament, among the 150 nonviolent suicide attempters the average scores numerically were in the opposite direction, or with other words, we found the highest average scores in the "no abuse" group while average scores of "one abuse" and "two abuses" groups were lower, but the difference was mathematically not significant.

4.4. Gender differences and the male depressive syndrome among suicide attempters

Mild or severe form of Gotland Male Depression was present in the majority (98%) of our study sample. This is not surprising, while in our sample 81% of attempters had a current major depressive episode or dysthymia at the time of the suicide attempt. Comparing our data with another recent Hungarian study that found that among suicide victims the Gotland Male Depressive syndrome was significantly more frequent in males, in our nonviolent suicide attempters we have not found gender differences according to Gotland Male Depression (females: 99%, males: 97%). This may refer to that Gotland Male Depression is not primarily characteristic to male depression, but to depression of males who died by suicide, and in broader sense, inclination to suicidal behaviour committed by depressed patients. It can be important in the prognosis of those who are about to commit suicide and therefore should play a core role in early prevention as well. We consider these results as an important massage of our study.

It is well known from Hungarian and international studies, that depressive mixed state is one of the most reliable suicide risk factor. As Gotland Depression Scale has many items refers to depressive mixed state (irritability, aggression, impulsivity, psychomotor agitation, etc), it can be assumed that Gotland Male Depression, which is in string connection with suicide behaviour mainly is linked to depressive episodes of bipolar disorders or unipolar mixed depressive state (which nosologically belongs to the bipolar spectrum). Because in our study we did not examine the prevalence of depressive mixed states among the 150 nonviolent suicide attempters, the exact connection between Gotland Male Depression and suicide behaviour is in a need of further investigations.

It is again a new result, that suicide attempters with a childhood history of psychical or sexual abuse – without any gender differences – scored higher on Gotland Male Depression Scale. Compared to those without any abuse differences only were significant in the group with psychical and sexual abuses. Pathogenic and pathoplastic role concerning personality traits of childhood severe negative events and their interrelationship needs further investigations.

5. CONCLUSIONS

Supporting previous findings of Hungarian and international investigations, we have found that:

1. The rate of current DSM-IV Axis I diagnosis among suicide attempters was 90%, and the most frequent specific diagnosis was major depressive episode (80%). The prevalence of comorbid substance-use and anxiety disorders was also quite high (49.9%).
2. Undesirable psychosocial factors (childhood psychical and sexual abuse, isolation, unemployment) contribute a lot in the development of suicidal behaviour.

In international respects we count as new results the following:

1. Compared to controls nonviolent suicide attempters scored significantly higher ($p<0.01$) on depressive, cyclothymic, irritable and anxious subscales of the TEMPS-A, a scale detecting affective temperaments. Dominant forms of a depressive, irritable and anxious temperament types were significantly more common ($p<0.01$) among suicide attempters. In contrast, hyperthymic temperament seems to have a protective effect at least among nonviolent suicide attempters.
2. Without any gender difference, those who underwent childhood psychical and/or sexual abuse scored significantly higher ($p<0.05$) on cyclothymic and irritable subscales.
3. Gotland Male Depression is not more common among nonviolent suicide male attempters, than among female attempters. Total mean scores of Gotland Male Depression Scale do not differ significantly between male and female suicide attempters. Gotland Male Depression is not primarily typical for males, but for depression-related suicidal behaviour.

4. Suicide attempters with a childhood history of both psychical and sexual abuse scored significantly higher ($p<0.01$) on the Gotland Male Depression Scale than those with no history of childhood abuse.

6. SUMMARY

In our present study, we have analysed the psychiatric and psychosocial caharcteristics of 150 nonviolent suicide attempters. Our findings confirm previous Hungarian and international data concerning the connection of suicidal behaviour and psychiatric disorders, undesirable psychosocial circumstances and negative life events. Moreover, our study provides new results regarding the strong association of the affective temperament types, the male type of depression, the seriously traumatic early life events and furthermore to their predisposing role in connection with suicidal behaviour. While the attempters scored significantly higher on the depressive, cyclothymic, irritable and anxious subscales ($p<0.01$) and depressive, cyclothymic, and irritable temperaments were significantly more frequent among nonviolent suicide attempters ($p<0.01$) than in controls, hyperthymic temperament seems to be have a protective role. Suicide attempters, experiencing physical and/or sexual abuse in their childhood showed significantly higher total scores ($p<0.05$) on cyclothymic and irritable temperament subscales. The Gotland Male Depressive syndrome was equally very common and equally serious both in males and females who made nonviolent suicide attempt. However, regardless of gender, it was significantly more severe ($p<0.01$) among those who were victims of both physical and sexual childhood abuse.

7. PUBLICATIONS

7.1. Publications strongly related to the dissertation

7.1.1 Journal articles

1. **Rihmer A.,** Rihmer Z., Jekkel É., Kárteszi M., Csiszér N., Farkas Á.: Psychiatric characteristics of 100 nonviolent suicide attempters in Hungary. Int J Psychiat Clin Pract 2006; 10: 69-72. **IF: 0,495**

2. **Rihmer A.,** Kárteszi M., Csiszér N., Farkas Á., Rihmer Z.: Öngyilkossági kísérletet elkövetők pszichiátriai és pszichoszociális jellemzői: a komorbiditás jelentősége. Neuropsychopharmacol Hung 2006, 8: 15-18.

3. Rózsa S., **Rihmer A.,** Kő N., Gonda X., Szili I., Szádóczky E., Pestality P., Rihmer Z.: Az affektív temperamentum: a TEMPS-A kérdőívvel szerzett hazai tapasztalatok. Psychiat Hung 2006, 21: 147-160.

4. Balázs J., Benazzi F., Rihmer Z., **Rihmer A.,** Akiskal KK., Akiskal H.S.: The close link between suicide attempts and mixed (bipolar) depression: implications for suicide prevention. J Affect Disord 2006, 91: 133-138. **IF: 3,138**

5. Rózsa S., Rihmer Z., Gonda X., Szili I., **Rihmer A.,** Kő N., Németh A., Pestality P., Bartkó Gy., Alhasoon O., Akiskal KK., Akiskal HS.: A study of affective temperaments in Hungary: internal consistency and concurrent validity of the TEMPS-A against the TCI and NEO-FFI. J Affect Disord 2008, 106: 45-53. **IF: 3,138**

6. **Rihmer A.,** Rózsa S., Rihmer Z., Gonda X., Akiskal K. K., Akiskal H. S.: Affecitve temperaments, as measured by TEMPS-A, among nonviolent suicide attempters. J Affect Disord 2009, 116: 18-22.
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Cumultive IF: 10,042

7.1.2 Posters and oral presentations

1. **Rihmer A.,** Rihmer Z.: Öngyilkossági kísérletet elkövetők pszichoszociális jellemzői. Poster, TOX 2004 Toxikológiai Konferencia, Harkány, 2004.

2. **Rihmer A.,** Rihmer Z., Kárteszi M., Csiszér N., Farkas Á.: Psychiatric and psychosocial characteristics of suicide attempters in Hungary. Poster, 18th European Congress of Neuropsychopharmacology, Amsterdam, The Netherlands, October 2005. European Neuropsychopharmacology Vol.15., Suppl 3. S610 – **ECNP Travel Award**

3. **Rihmer A.,** Rózsa S., Rihmer Z., Gonda X.: Affective temperaments in nonviolent suicide attempters. Poster, 14th Congress of Association of European Psychiatry, Nice, France, March 2006. European Psychiatry Vol. 21., Suppl. 1. S165

4. **Rihmer A.**, Rózsa S., Rihmer Z.: Childhood psychical and sexual abuse in 100 nonviolent suicide attempters in Budapest. Poster, 19th European Congress of Neuropsychopharmacology, Paris, France, September 2006. European Neuropsychopharmacology Vol 16., Suppl. 4. S559

5. **Rihmer A.,** Rihmer Z., Akiskal H. S.: Affective temperament-types and suicide behaviour. Poster, 15th Congress of Association of European Psychiatry, Madrid, Spain, March 2007. European Psychiatry Vol 22., Suppl. 1. S244 – **EAP Best Poster**

6. Rihmer Z., Rutz W., Gonda X., **Rihmer A.,** Roger W., Kapur N.: Is „male-type" depression specific for females, too? Poster, 9th World Congress of Biological Psychiatry, Paris, France, 2009, Abstract book, p.: 223. – **Poster, selected for award**

7. Rihmer Z., **Rihmer A.:** Az öngyilkosság megelőzésének stratégiái különös tekintettel a kábítószer élvezőkre. Oral presentation, TOX 2004 Toxikológiai Konferencia, Harkány, 2004

8. **Rihmer A.,** Rihmer Z.: Temperamentum és szuicidalitás. Oral presentation, Magyar Pszichiátriai Társaság XII. Vándorgyűlése, Budapest, 2005 **(Hungarian Psychiatric Association, Best Young Presenter Award)**

9. **Rihmer A.,** Rihmer Z., Kárteszi M., Csiszér N., Farkas Á.: Öngyilkossági kísérletet elkövetők pszichiátriai és pszichoszociális jellemzői. Oral presentation, Magyar Pszichiátriai Társaság XII. Vándorgyűlése, Budapest, 2005

10. **Rihmer A.,** Rózsa S., Rihmer Z., Gonda X.: Öngyilkossági kísérletet elkövetők temperamentum jellemzői. Oral presentation, Magyar Pszichiátriai Társaság XIII. Vándorgyűlése, Budapest, 2006

11. **RihmerA.**, Rihmer Z., Kárteszi M., Csiszér N., Farkas Á.: Psychiatric and psychosocial characteristics of 100 nonviolent suicide attempters in Hungary. Oral presentation, IInd International Conference on Bipolar Disorder, Budapest, 2006

12. **Rihmer A.,** Rózsa S., Rihmer Z., Gonda X.: Connection between temperament and suicide behaviour in nonviolent suicide attempters. Oral presentation, Cambridge-Luton International Conference on Mood Disorders, Cambridge, United Kingdom, 2007

13. **Rihmer A.,** Rózsa S., Gonda X., Rihmer Z.: Temperamental characteristics of suicide attempters. Oral presentation, IIId International Conference on Bipolar Disorder, Visegrád, 2007

14. **Rihmer A.,** Gonda X., Rihmer Z., Rózsa S.: Temperment and suicide. Oral presentation, ECNP Seminar, Siófok, 2008

15. **Rihmer A.,** Rihmer Z., Rózsa S., Gonda X.: Psychosocial and temperamental characteristics of 150 nonviolent suicide attempters in Hungary. Oral presentation, ECNP Regional Meeting, Bratislava, Slovak Republic, 2008

16. **Rihmer A**., Rutz W., Gonda X., Kapur N., Rihmer Z., Roger W.: Létezik-e nőknél is az ún. férfi típusú depresszió? Oral presentation, Magyar Pszichiátriai Társaság XV. Vándorgyűlése, Debrecen, 2009

7.2 Other publications

7.2.1 Journal articles

1. Rihmer Z., Appleby L., Belső N., **Rihmer A.:** Decreasing suicide in Hungary (letter). Brit J Psychiat 2000, 177: 84. (**IF: 4,827)**

2. **Rihmer A.,** Rihmer Z.: Creativity and mental illness. Neuropsychopharmacol Hung 2002, 4: 5-8.

3. Kecskés I., Rihmer Z., Kiss K., Vargha A., Szili I., **Rihmer A.:** Possible effect of gender and season on the length of hospitalization in unipolar major depressives. J Affect Disord 2003, 73: 279-282. **IF: 2,624**

4. Rihmer Z., Kántor Zs., Seregi K., **Rihmer A**.: Suicide prevention strategies – A brief review. Neuropsychopharmacol Hung 2004, 6: 1965-199.

5. Rihmer Z., Seregi K.; **Rihmer A.:** Parkinson's disease and depression. Neuropsychopharmacol Hung 2004, 6 (Suppl. 2): 82-85.

6. Rihmer Z., **Rihmer A.,** Isacsson G.: Suicide and antidepressant sales (letter). Brit J Psychiat 2005, 186: 445-446. (**IF: 4,175)**

7. **Rihmer A.:** Bipoláris affektív zavar és alkoholabúzus – esetismertetés. Addictol Hung 2005, 3: 369-376.

8. Rihmer Z**.,** Gonda X., **Rihmer A.:** Kreativitás és pszichiátriai betegségek. Psychiat Hung 2006, 21: 288-294.

9. **Rihmer A.,** Gonda X., Balázs J., Faludi G.: The importance of depressive mixed states in suicidal behaviour. Neuropsychopharmacol Hung, 2008, 10: 45-49.

Cumulative impact factor of journal articles: 21,801

7. 2. 2. Presentations and posters

10. Janka Z**, Rihmer A.:** Segíti-e a bipoláris affektív zavar a művészi alkotóerőt? Oral presentation, Magyar Pszichiátriai Társaság X. Vándorgyűlése, Sopron, 2003.

11. **Rihmer A.,** Rihmer Z.: Kreativitás és bipolaritás. Oral presentation, MPT Fiatalok Fóruma Balatonalmádi, 2009

12. Kiss HG, Gonda X, **Rihmer A,** Seregi K, Pestality P, Kovács D, Kecskés I, Akiskal KK, Akiskal HS. Associations of affective temperaments with Cloninger's biological model of personality. Poster, 20th Annual Congress of ECNP, Vienna, 2007. Abstract Eur Neuropsychopharmacol, 2007; 17 (suppl.4) S 325.

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