Drug Addiction as Risk for Suicide Attempts

Tatjana Dragisic¹, Aleksandra Dickov², Veselin Dickov³, Vesna Mijatovic⁴

¹Clinic of Psychiatry, Clinical Centre of Banja Luka, Bosnia and Herzegovina
²Clinic of Psychiatry, Clinical Centre of Vojvodina, Novi Sad, Serbia
³Institute for the health protection of students, Novi Sad, Serbia
⁴Department of Pharmacology, Toxicology and Clinical Pharmacology, Faculty of Medicine, University of Novi Sad, Serbia

Corresponding author: Tatjana Dragisic, MD. Clinic of Psychiatry, Clinical Center of Banja Luka. Address: Mačvanska 17. 78000 Banja Luka, Bosnia and Herzegovina. Telephone No: +387 51 431 790. Mobile No: +387 65 629 909. Fax No. +387 51 434 447

ABSTRACT

Introduction: Suicide is closely linked to the substances use. Therefore it is very important to confirm the factors that affect the possibility of suicidal behavior. Methodology: The survey included 200 respondents; 100 heroin addicts on the substitution program that attempted suicide and 100 opiate addicts who have not attempted suicide. The evaluation included a questionnaire with socio-demographic, hereditary and addiction data, legal problems and then the Minnesota Multiphasic Personality Inventory–MMPI-2. Results: The results showed a statistically significant difference compared to the personality structure, especially pronounced in hypersensitive structures, in relation to the duration of addictive experience and duration of heroin by intravenous route, as well as in relation to the presence of psychiatric disorders, drug abuse and suicidal behavior in the family. Conclusion: As risk factors among opiate addicts are indentified interfered biological and psychological factors and the effects of the substances themselves.

Keywords: Suicide attempt, addiction, opiates, risk.

1. INTRODUCTION

Suicide is a leading cause of premature death in young adults. Data from the World Health Organization indicate that the rate of completed suicide for the world’s population is 16 per 100,000 inhabitants, which means that each year more than a million people in the world commit suicide. Suicide attempts are five to twenty times more common than the completed suicide (1, 2). Based on the data from the research community, approximately 5% of adults attempts suicide at least once in their lifetime (3).

Mental health problems are the most common and best explored risk factor associated with suicidal ideas, suicide attempts and completed suicide. About 90% of all people who commit suicide met the diagnostic criteria for one or more psychiatric disorders (4). People who abuse alcohol and/or drugs are dependent on them, attempting suicide nearly six times more often than people who do not abuse these substances. The rate of completed suicide among addicts is 2 to 3 times higher than among the males who are not addicts. Among women, the use of substances increases the risk of suicide for 6.5 to 9 times compared to women non addicts (5, 6).

In most cases, drug addicts attempt suicide by overdose of drugs that is an overdose, or a combination of drugs and tablets, while in a few cases the manner in which the suicide is attempted is not directly related to drugs (7). Although there is a correlation between the disorder caused by the use of substances and suicidal behavior, a large number of addicts will never attempt suicide. It is therefore important to identify those individuals with the disorder caused by the use of substances that may be at higher risk for suicide (8, 9).

Many risk factors for suicide in the general population also apply to drug addicts. The older drug addicts are at higher risk for attempts and suicides than younger addicts (10, 11). Previous suicide attempts there represent a strong risk factor for repeated suicidal attempts (12). Affective disorders in general, and particularly depressed mood is a risk factor for suicidal behavior in the general population and among addicts (3, 6, 10). Another very important fact when it comes to suicide attempts is the drug used. It is known that heroin and sedatives are substances with which suicide attempts suicide are most often made, while other drugs are less characteristic (9). Suicidal addicts tend to have certain emotional problems and behavioral problems that strongly affect their activities, primarily as impulsive reactions and the inability to control behavior (13).

2. GOAL

The goal of this study was to determine the characteristics and risk factors of opiate addicts who have attempted suicide compared to addicts who have not attempted suicide.

3. MATERIAL AND METHODS

3.1. Respondents

This study included 200 opiate addicts who have been in...
the recovery phase on a substitution treatment. Respondents agreed to participate in this study, with the permission of centers for treatment of drug addicts in Novi Sad, where the research was conducted. The survey was conducted from January to April 2015.

The experimental group consisted of 100 opiate drug users who had a history of suicide attempts, and a control group of 100 opiate addicts who had no history of suicide attempts. Inclusion factor for both groups was the opiate addiction by ICD-10 criteria, while excluding factors were: organic and symptomatic mental disorders, schizophrenia, schizoid personality disorder and insane mental disorders, mood disorders and mental retardation.

The average age was 43.31 (standard deviation = 8.38 and range = 16-70 years). There were 169 men (79.5%) of whom 90 attempted suicide and 31 female (20.5%), including 10 who attempted suicide.

2.2. Methods
This study tested the factors that affect suicidal behavior of opiate addicts. Data were collected from anonymous participants on voluntary basis and no compensation was not offered in connection with the study. To ensure the anonymity of respondents, the data are entered as codes into Excel files.

2.3. Questionnaire
For this study was used questionnaire structured specifically for this research. The questionnaire contained the following areas: socio-demographic data, data on psychiatric heredity, data on addiction characteristics and on judicial issues. In addition, respondents filled out the Minnesota Multiphasic Personality Inventory MMPI-2, which objectively assessed personality structure (14).

For statistical analysis were used Student’s t test and Pearson’s chi-square test. Odds relations and confidence intervals of 95% (CI) were also calculated.

### 4. RESULTS
In relation to social factors—with whom they live: alone, with a partner or with a partner and children in relation to the life with the primary family or with other/friend, suicidal and non suicidal addicts do not show a statistically significant difference. The level of significance in relation to the employment status is only marginally significant. Education among the groups showed no statistically significant difference. Addicts who attempted suicide were statistically significant more often unmarried and divorced.

Analysis of psychiatric heredity is performed with respect to the family members and psychiatric disorders. In respect of family members, there was no statistically significant difference, while in relation to psychiatric disorders there was. Among addicts who attempted suicide were more common psychotic disorders, drug addiction and suicide attempts in the family.

Analysis of heroin use onset, between groups showed no statistically significant difference. Unlike the previous variables, duration of addiction and duration of intravenous heroin use are at border levels of statistical significance in relation to the mean, and highly statistically different in relation to the analysis of variance. Addiction duration and the duration of intravenous use among persons who attempted suicide is longer.

In relation to judicial issues, also there is no statistical significant difference. In the group of addicts who have attempted suicide 15 respondents did not have problems with the law, 14 subjects have committed offenses, and 69 criminal offenses. In the group of addicts who have not attempted suicide 9 respondents did not have problem with the law, 14 subjects have committed offenses, and 77 criminal offenses. Chi square was 2.07; DF-2, and p = 0.354.

Using MMPI is performed detection of disorders in eight categories: psychopathy-1, hypersensitivity structure-2, symptoms of alleviating problems-3, passive-aggressive structure-4, narcissistic structure-5, borderline personality disorders-6, passive-aggressive structure-7 and schizoid personality structure-8. Passive-aggressive and schizoid structure was not diagnosed in any case. Statistical analysis showed that the difference between groups is statistically significant: Chi-square- 13.892, df5, p = 0.0163.

### Table 1. Socio-demographic data

| Variable          | Suicidal | Non suicidal | Chi square | DF | p   |
|-------------------|----------|--------------|------------|----|-----|
| **Social factors**|          |              |            |    |     |
| Independently     | 82       | 71           | 4.521      | 2  | 0.014|
| Dependently       | 18       | 29           |            |    |     |
| **Employment status** |         |              |            |    |     |
| Employed          | 22       | 25           |            |    |     |
| Unemployed        | 66       | 72           | 5.852      | 2  | 0.053|
| Disabled          | 12       | 3            |            |    |     |
| **Education level** |         |              |            |    |     |
| Incomplete primary school | 2   | 0            |            |    |     |
| Primary school    | 17       | 17           | 7.182      | 4  | 0.126|
| High school       | 60       | 73           |            |    |     |
| College           | 8        | 4            |            |    |     |
| Faculty           | 13       | 6            |            |    |     |
| **Marital status** |         |              |            |    |     |
| Married           | 27       | 33           | 10.502     | 3  | 0.014|
| Single            | 54       | 58           |            |    |     |
| Divorced          | 19       | 6            |            |    |     |
| Widowed           | 0        | 3            |            |    |     |
| **Children**      |          |              |            |    |     |
| Yes               | 34       | 33           | 0.022      | 1  | 0.88091|
| No                | 66       | 67           |            |    |     |
| **Marital status of parents** |     |              |            |    |     |
| Married           | 81       | 77           | 0.482      | 1  | 0.48742|
| Child out of wedlock | 0   | 0            |            |    |     |
| Divorced          | 19       | 23           |            |    |     |

### Table 2. Psychiatric heredity

| Variable          | Suicidal | Non suicidal | Chi square | DF | p   |
|-------------------|----------|--------------|------------|----|-----|
| **Psychiatric treatment** |        |              |            |    |     |
| Father            | 27       | 26           | 4.027      | 4  | 0.40232|
| Mother            | 5        | 5            |            |    |     |
| Siblings          | 12       | 6            |            |    |     |
| Close relatives   | 2        | 6            |            |    |     |
| No heredity       | 54       | 57           |            |    |     |
| **Psychiatric disorder** |     |              |            |    |     |
| Alcoholism        | 21       | 30           |            |    |     |
| Drug addiction    | 10       | 2            |            |    |     |
| Psychosis         | 9        | 6            |            |    |     |
| Psychoneuroses    | 0        | 2            |            |    |     |
| Depression        | 0        | 3            |            |    |     |
| Suicide           | 5        | 0            |            |    |     |
| No disorder       | 54       | 57           |            |    |     |
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5. DISCUSSION

Suicide is closely linked to the substance use. Therefore it is very important to confirm the factors that influence the possibility of suicidal behavior. As presented in literature data, older men who use drugs are at greater risk for suicide attempts than younger addicts (15,16). In this study, we did not verify that, nor are the studies that claim the women about four times more likely to attempt suicide than men in addict population as reported by National Center for Disease Prevention and Control of injuries (17). From the tested socio-demographic data separates living in marriage or with partner. It can be assumed that the entry into the community with a partner is a sign of stability in social functioning and thus reduces suicide risk (18-20).

Psychiatric heredity is always associated with psychiatric disorders of children, as well as in the case of suicide. This research has, however, confirmed that the psychiatric heredity is significant predictor of suicidal attempts in the case when the family members present psychotic disorders, drug abuse and suicide attempts. Besides the classical genetic heritage, which is primarily related to psychotic disorder, behavior patterns also can be significant. Specifically, for suicidal behavior it cannot be said that the disorder but rather a pattern of behavior that is transmitted (21-23).

Addiction characteristics are significant in terms of duration of substance use and duration of intravenous use. This way of use is the most invasive and inherently carries the risk of suicide. The question is whether suicidal people are more prone to intravenous injection of entering into such a state of “protracted suicide” or that the existing manner of use carries higher risk also for completed suicidal attempts (24).

The tendency toward criminal behavior that is often associated with addicts with violent behavior is potentially a significant risk factor for suicide among drug users. Up to 75% of drug users are involved in violent behavior (e.g. physical assault, robbery, assault with weapons) (20,21). This research data did not confirmed that. In our research, the crimes as a form of bullying had 69% of respondents who have attempted suicide and 77% of respondents who have not attempted suicide. Although the percentage distribution corresponds to these data from the literature, that factor did not show significance in suicidal behavior (25,26,27).

The structure of personality is assessed by the MMPI-2 questionnaire indicated the most marked distinction in the subjects who are hypersensitive.

Hypersensitive (Highly Sensitive Person- HSP) persons are very vulnerable people therefore are very empathetic but show major problems and impotence in fighting the symptoms of anxiety and depression. HSP external and internal stresses tolerate far more difficult experiencing distress because they are often carriers of psychosomatic and mental disorders. Heroin in such cases could represent a way of becoming more resistant to internal and external stimuli causing pain and discomfort. Insight into their state of dependency or still present problems that result from these structures can tend towards suicide.

6. CONCLUSION

In this study, as the main risk factors for suicide attempts among addicts were proven the following variables: heredity, primarily psychotic disorders, drug addiction and suicide attempts in the family, then the duration of substance use and intravenous heroin use and hypersensitive personality structure. When this is integrated, we conclude that these are interfered biological and psychological factors and the effects of the substances themselves.

CONFLICT OF INTEREST: NONE DECLARED.

REFERENCES

1. Harris EC, Barraclough B. Suicide as an outcome for mental disorders. A meta-analysis. Br J Psychiatry. 1997;170:205-228.
2. Centers for Disease Control and Prevention. National Center for Injury Prevention & Control: Data & Statistics [WISQA-RSTM]; 2009. http://www.cdc.gov/injury. Accessed November 16, 2010.
3. Kessler RC, Borges G, Walters EE. Prevalence of and risk factors for lifetime suicide attempts in the National Comorbidity Survey. Arch Gen Psychiatry. 1999;56:617-626.
4. Wilcox HC, Conner KR, Caine ED. Association of alcohol and drug use disorders and completed suicide: an empirical review of cohort studies. Drug Alcohol Depend. 2004;76(suppl)S11-S19.
5. Maloney E, Degenhardt L, Darke S, et al. Suicidal behaviour and associated risk factors among opioid-dependent individuals: a case-control study. Addiction. 2007;102:1933-1941.
6. Darke S, Ross J, Lynskey M, Teesson M. Attempted suicide among entrants to three treatment modalities for heroin dependence in the Australian Treatment Outcome Study (ATOS): prevalence and risk factors [published correction appears in Drug Alcohol Depend. 2004;73:315]. Drug Alcohol Depend. 2004;73:1-10.
7. Min Kwon, Soo Yang, Kyongran Park, Dai-Jin Kim. Factors
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that affect substance users suicidal behavior: a view from the Addiction Severity Index in Korea. Annals of General Psychiatry 2013, 12:35.

8. Schneider B: Substance use disorders and risk for completed suicide. Arch Suicide Res 2009, 13(4):303-316.

9. Borges G, Loera CR: Alcohol and drug use in suicidal behaviour. Curr Opin Psychiatry 2010, 23(3):195-204.

10. Conner KR, Beautrais AL, Conwell Y. Risk factors for suicide and medically serious suicide attempts among alcoholics: analyses of Canterbury Suicide Project data. J Stud Alcohol. 2003;64:551-554.

11. Darke S, Ross J. Suicide among heroin users: rates, risk factors and methods. Addiction. 2002;97:1383-1394.

12. Ilgen MA, Harris AH, Moos RH, Tiet QQ. Predictors of a suicide attempt one year after entry into substance use disorder treatment. Alcohol Clin Exp Res. 2007;31:635-642.

13. Wojnar M, Ilgen MA, Czyz E, et al. Impulsive and non-impulsive suicide attempts in patients treated for alcohol dependence. J Affect Disord. 2009;115:131-139.

14. Butcher, J. N., Dahlstrom, W. G., Graham, J. R., Tellegen, A, & Kaemmer, B. (1989). The Minnesota Multiphasic Personality Inventory-2 (MMPI-2): Manual for administration and scoring. Minneapolis, MN: University of Minnesota Press.

15. Sundin M, Spak F, Spak L, Sundh V, Waern M: Substance use/abuse and suicidal behavior in young adult women: a population study. Subst Use Misuse 2011, 46(13):1690-1699.

16. Haw CM, Hawton K: Problem drug use, drug misuse and deliberate self-harm: trends and patient characteristics, with a focus on young people, Oxford, 1993–2006. Soc Psychiatry Psychiatr Epidemiol 2011, 46(2):85-93.

17. Darke S, Ross J, Williamson A, Mills KL, Havard A, Teesson M: Patterns and correlates of attempted suicide by heroin users over a 3-year period: findings from the Australian treatment outcome study Drug Alcohol Depend 2007, 87(2–3):146-152.

18. Bohnert ASB, Roeder K, Ilgen MA: Unintentional overdose and suicide among substance users: a review of overlap and risk factors. Drug Alcohol Depend 2010, 110(3):183-192.

19. Ilgen MA, Burnette ML, Conner KR, et al. The association between violence and lifetime suicidal thoughts and behaviors in individuals treated for substance use disorders. Addict Behav. 2010;35:111-115.

20. Artenie A. A, Bruneau J., Zang G. Et all Associations of substance use patterns with attempted suicide among persons who inject drugs: Can distinct use patterns play a role? Drug and Alcohol Dependence 2014, 147.

21. Murphy G. E., Weiz J., Richard D. Family History of Suicidal Behavior Among Suicide Attempters. Journal of Nervous & Mental Disease: 1982, vol. 170.

22. Bansal P, Gupta A, Kumar R. The Psychopathology and the Socio-demographic Determinants of Attempted Suicide Patients. Journal of Clinical and Diagnostic Research 2011;5(5):917-920.

23. Nagendra Gouda MR, Rao S M. Factors related to attempted suicide in Davanagere. Indian J of Community Medicine.2008;33(1):15-18.

24. Centers for Disease Control and Prevention. National Vital Statistics System. 2010 Multiple Cause of Death File. Hyattsville, MD: US Department of Health and Human Services, Centers for Disease Control and Prevention; 2012.

25. Chermack ST, Fuller BE, Blow FC. Predictors of expressed partner and non-partner violence among patients in substance abuse treatment. Drug Alcohol Depend. 2000;58:43-54.

26. Conner KR, Swoeger MT, Houston RJ. A test of the reactive aggression-suicidal behavior hypothesis: is there a case for proactive aggression? J Abnorm Psychol. 2009;118:235-240.

27. Chermack ST, Murray RL, Walton MA, et al. Partner aggression among men and women in substance use disorder treatment: correlates of psychological and physical aggression and injury. Drug Alcohol Depend. 2008;98:35-44.

28. Loewen S. Addictive Personality Disorder. HealthGuidance. Retrieved November 26, 2012.

29. Franken, Ingmar H.A.. Behavioral approach system (BAS) sensitivity predicts alcohol craving. 2002. Personality and Individual Differences; 32 (2): 349.