Archives of Psychiatry and Psychotherapy, 2013; 4 : 39–44

Trends of attempted suicide in Albanian children and adolescents

Vuksan Kola, Ermira Kola, Eliziana Petrela, Edmond Zaimi

Summary

Background. Attempted suicides and suicides are becoming pertinent social phenomena in Albania, with increasing trend in the last years, exceeding the road traffic accident numbers. Our objective was to examine suicide attempts trends among Albanian children and adolescents.
Methods. We conducted a retrospective analysis of standardized suicide attempts rates in Statistic Department at University Hospital Center "Mother Theresa"; epidemiology data for the period spanning from 2006 to 2012. We analyzed the data by age, sex and by suicide attempts method over time for two age groups: 10–14 year old (children) and 15–19 year old (adolescents).
Results. We found an average annual increase of the suicide attempts rate for children and adolescents ($p<0.001$), but stratification by age and sex showed significant variation. By comparing the two age groups it came out that the suicidal phenomena is more present at adolescence age ($p<0.001$).
According to the statistic data and by analyzing the cases on yearly bases it resulted that female gender is more attempt to commit suicide that male gender, with a significant statistical variation of ($p<0.001$).
From the study it was noted that the suicidal attempt methods, in the most of cases, were drug overdose (97.6%) and 2.4% hang themselves (suffocation) or cut their vein.
Conclusions. The increasing cases of suicidal tendency among children and adolescents necessitate further studies to identify the causes and risk factors, and to develop suitable preventive programs.

children / adolescents / suicide / suicide attempts / overdose

INTRODUCTION

Suicides attempt is a potentially self-injurious behavior with a non-fatal outcome, for which there is an evidence (explicit or implicit) that the person intended at some level to kill himself/herself [2, 3]. According to WHO Mortality Database, a comparison of the most recent data up to 2004 from 90 countries including the European region showed that suicide was the 4th leading cause of death among young males aged 15 to 19, and 3rd leading cause among females aged 15 to 19, which accounts for 9.1% of all fatalities in this group. In 21 out of 30 European countries covered, suicide rates for adolescents have been increasing [4, 5]. One study performed in seven EU countries reported that 24% of adolescents who had made a suicide attempt, made a second attempt within a year [6]. In a similar study, performed in 17 EU countries, it was noted that the median prevalence of any lifetime self-reported suicide attempt was 10.5% across the participant countries (range 4.1%-23.5%) [7].

The factors influencing the suicidal attempts are related to genetic characteristics, cultural

Vuksan Kola[1], Ermira Kola[2], Eliziana Petrela[3], Edmond Zaim[4]: [1]Psychiatric Service Faculty of Medicine, UHC "Mother Teresa", Tirana, Albania; [2]Pediatric Intensive Care Unit, Faculty of Medicine UHC "Mother Theresa"; [3]Department of Statistic, Faculty of Public Health, UHC "Mother Theresa"; [4] Emergency Service, Faculty of Medicine, UHC "Mother Theresa" Albania. **Correspondence address**: ermirakola@gmail.com

The authors declare no conflict of interest. This study was not sponsored by any external organization.

background, ethnicity, gender, family, and socioeconomic status. The predictive role of psychiatric disorder and past history are well recognized in adolescent suicide attempt, but the role of social and cultural factors is less clear [7]. Advancing our understanding of the influence of underlying cultural and sociological factors in adolescent's suicide attempts will allow clinicians to make a more efficient prediction, prevention and treatment.

AIM OF STUDY

The purpose of this study was to present the suicide attempt trends among Albanian childrens and adolescents based on hospital data collected at the University Hospital Centre "Mother Theresa" of Tirana, Albania.

PATIENTS AND METHODS

This was a retrospective study based on the University Hospital Centre "Mother Theresa" database in the period 2006-2012. 582 patients with suicidal attempts hospitalized at University Hospital Centre "Mother Theresa", were included in this study. The age of the patients involved in the study varied from 10 to 19 years. We stratified the data into two age groups (children 10–14 years) and adolescents (15–19 years), by sex (male and female) and by methods of suicide attempt.

STATISTICAL ANALYSIS

We examined temporal trends for the period 2006–2012 and for the ages 10–19 years. The data were presented in absolute values and in percentage, and through the simple and complex tables, using bar graphs. The differences between discrete variables were analyzed using Chi-square test & Kolmogorow – Smirnov test. Values of p≤0.5% were considered as significant. Statistical Package for Social Science SPSS 19.0, was used to perform the data analysis.

RESULTS

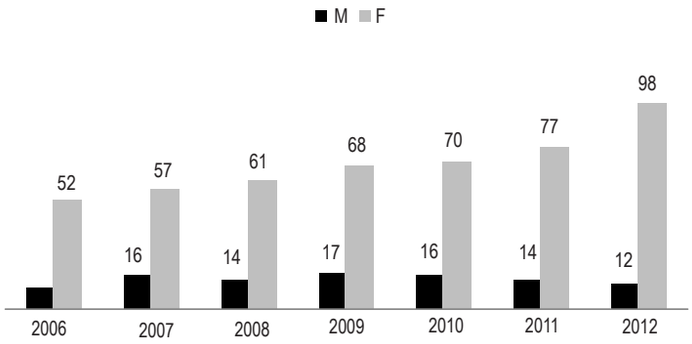
There were 582 suicide attempts among young Albanians in 2006–2012. Analysing the suicidal attempts through years it was noted that the trend has been increasing year by year, and this increasing change is statistically significant (Kolmogorow–Smirnov test, p< 0.001) (Tab. 1).

Table 1. Suicidal attempts in years

Years	Total	M	F	Value p*
2006	62	10 (16.13)	52 (83.87)	<0.001
2007	73	16 (21.92)	57 (78.08)	<0.001
2008	75	14 (18.67)	61(81.33)	<0.001
2009	85	17 (20.00)	68 (80.00)	<0.001
2010	86	16 (18.60)	70 (81.40)	<0.001
2011	91	14 (15.38)	77 (84.67)	<0.001
2012	110	12 (10.91)	98 (89.09)	<0.001

* chi square test

Graph 1. Trend of suicide in years, by gender



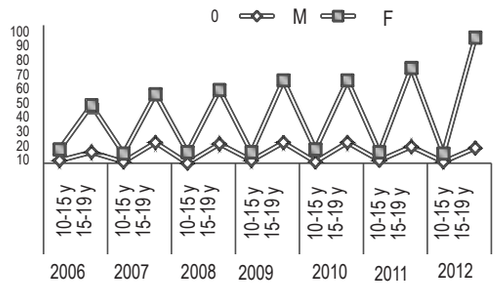
According to the cases studied, the statistical data (Tab. 1/Graph. 1) show that there are more females that males attempting to commit suicide, for both the age groups included in the study, with an important statistical variation of (p<0.001) in all years.

We studied the age groups in which the suicide attempts were more frequent. Comparing the two age groups, (10–15 years) versus (15–19 years), it turned out that the suicidal attempt phenomena are more frequent at the adolescence age (15–19 years), as compared to the other group age, puberty age (10–15 years) (p < 0.001) (Tab. 2 – next page). Graph 2 – next page) An important component in the study is the analyzing of the suicidal attempt trends. Graph 3

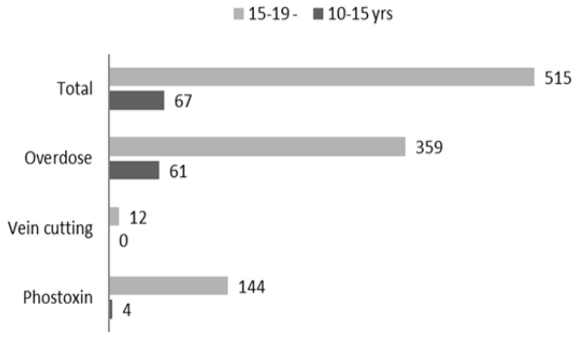
Table 2.

Years	Group – age	Male n (%)	Female n (%)	p-value
2006	10-15 yrs	2 (3.23)	10 (16.13)	0.011
	15-19 yrs	8(12.9)	42 (67.74)	
2007	10-15 yrs	1 (1.37)	7 (9.59)	<0.001
	15-19 yrs	15 (20.55)	50 (68.49)	
2008	10-15 yrs	0 (0.00)	8 (10.67)	<0.001
	15-19 yrs	14 (18.67)	53 (70.67)	
2009	10-15 yrs	2 (2.35)	8 (9.41)	<0.001
	15-19 yrs	15 (17.65)	60 (70.59)	
2010	10-15 yrs	1 (1.16)	10 (11.63)	0.009
	15-19 yrs	15 (17.44)	60 (69.77)	
2011	10-15 yrs	2 (2.2)	8 (8.79)	<0.001
	15-19 yrs	12 (13.19)	69 (75.82)	
2012	10-15 yrs	1 (0.91)	7 (6.36)	<0.001
	15-19 yrs	11 (10.00)	91 (82.73)	

Graph 2. Suicide cases, by age group



Graph 3. Suicidal attempts trends



– *next page*) shows that according to the suicidal attempts method, intoxication ranks on the top of the list (97.6%), mainly phostoxin (germ killer), which presents 35% of the overall intoxication cases. Other ways of suicidal attempts such as hanging or vein cutting are fewer or even inconsiderable (2.4%).

DISCUSSION

The suicide attempts are actions with suicidal aim, not resulting in death. The greatest part of them are done impulsively, consequently they are not well planned. They are often associated with an emotional discharge, so they can be followed by a feeling of relief. Such attempts are recidivist and the patients are at constant threat to life. 1-2% of the people, who commit a suicide attempt, commit another successful attempt and die in the next year [14].

According to WHO estimates for the year 2020, approximately 1.53 million people will die from suicide; and 10 to 20 times more people will suicide attempt worldwide [8].

In our study, analyzing the suicidal attempt tendency, an increasing trend during the years of the study (2006–2012), baring a significant variation of ($p<0.001$) between them was noted. During the years of the study took place, the number of the suicidal attempts (mainly using poisoning) has exceeded the number of the road traffic victims. One of the most important factors that influenced the increase of the number of suicide attempt cases was the political system change, which was associated with economic, social and political crises. After the breakdown of the communist regime in 1990, Albania has undergone major political, social and economic changes including an intensive internal migration from rural to urban areas. Several studies [9] have pointed out the correlation between population migration and the increase of suicidal attempts in non-European and East-European countries. It is possible that immigrants who harm themselves do so impulsively in response to stress related to their experiences as immigrants. The higher suicide-attempt rates among immigrants, compared to the host populations, may be indicative of difficulties in acculturation processes. [9, 10]

Albania has been described as a patriarchal society [11–13] and the available evidence points to a high prevalence of different types of violence [14, 15]. On the other hand, the presence of violence is part of child "education/upbringing" in Albania. Even children have absorbed the idea that physical and psychological violence are needed, both at home and in schools. Klomek et al [16], showed that bullying and victimization during childhood increase the odds of a subsequent suicide attempt.

Comparing the two age groups (10–15 years) as well as (15-19 years), it came out that the suicidal attempt phenomena is more frequent at the adolescence age (15–19 years), as compared to the other group age, puberty age (10–15 years) ($p < 0.001$). Various authors refer that the number of the suicide attempts at group age of (15-19) varies 1–2 million per year. Suicide attempts consistently increase from childhood to adolescence, perhaps because of the greater prevalence of psychopathology in adolescents, particular combinations of mood disorders and substance abuse [15–18]. School difficulties or failure, stressful life events, poor parent-child communication, parental divorce, physical abuse and biological reasons are factors that have a significant effect on suicide attempt and suicide rates in children and adolescents [20]. On the other hand, the adolescence is also a time of sexual identity and relationships and the need for independence often conflicts with the rules and expectations set by others [3].

In our study in both analyzed group ages it was shown that during 2006–2012 the number of females that attempted suicide was higher as compared to males, with a significant statistical variance ($p<0.001$). Lifetime estimates of suicide attempts among adolescents range from 1.3–3.8% in males and 1.5–10.1% in females, with higher rates in females than males in the older adolescent age range [22, 23].

In Western countries, the rate of suicide across ethnicities is higher in adolescent boys that adolescent girls (ratio of 5:1), whereas the rates of suicidal ideation and attempted suicide are higher in girls (ratio of 3:1) [22]. Explanations for the higher suicide rate in boys include higher suicidal intent, use of more violent methods, higher prevalence of antisocial disorder and substance abuse, and greater vulnerability to stressors, such legal difficulties in asking for help and communicating their distress [25]. Several authors [23, 25] think that European and American girls are more prone to suicide attempts because of the higher prevalence of depression among them, comparing to the boys. Furthermore, the relationship between girls and their parents is often more vulnerable. In the United States, sexual abuse is increasingly being recognized as a factor in girls' suicide attempts. Girls think about and suicide attempts about twice as often as boys, and tend to attempt suicide by overdosing on drugs or cutting themselves. Yet boys die by suicide about four times as often as girls, perhaps because they tend to use more lethal methods, such as firearms, hanging, or jumping from heights [3, 4]. There is an evidence that youths of non-traditional sexual orientation are at higher risk of suicide and suicide attempts, this is thought to be caused by the stigmatization, marginalization and discrimination they may feel in the school and/or home environment. [3, 25]

Alcohol abuse is known to be associated with an increased risk of suicidal behavior and suicide death among adolescents. A recent study reported that the link between heavy episodic drinking and suicide attempts is maintained even after controlling for depression. [26]. One study found that 43% of the subjects with alcohol dependency reported life-time suicide attempts [27]. The change of the communist system in Albania increased the suicide attempts in teenagers, due to gambling and high consume of alcohol and drugs.

In our study, according to statistical elaboration of the suicide attempts, 97.2%, of the cases are different drug overdoses, followed by an inconsiderable number of case of vein cutting and suffocation (hanging) (2.8 %). Differently from our study, other studies form different authors, refer to three suicide attempt methods, encountered frequently during puberty and adolescence age, such as firearm (46%), suffocation (37%), and poisoning (8%). In those countries where weapon control law prevails, the use of firearms as a mean of suicidal attempts has decreased. [19]

Suffocation has become the leading method of attempts among adolescents and children, regardless of sex [19]. In our study there are only suffocation cases, which were males in puberty age. It is a qualitative study examining factors that influenced people to select hanging to attempt suicide. Patients reported that they perceived it to be a quick and painless method [19, 28]. The authors discussed the influence of these perceptions as a possible way to prevent suicides by hanging.

Most children with suicidal attempt have at least one psychiatric disorder with mood disorders being the most common [3, 28]. In some studies, authors, have studied the relation be-

tween suicidal ideation, suicide attempts, and psychiatric disorder in 1,285 randomly selected children and adolescents aged 9–17 years (29). Of those 42 had attempted suicide and 67 had suicidal ideation only. Anxiety, mood, and substance abuse disorders were associated with an increased risk of suicide attempts. Furthermore the rates of psychiatric disorder were the same for attempters and completers [28, 30].

School based programmers again bullying, and school based programmers related to coping skills and problem solving, as well as the existence of in-school counseling services have all proven more effective than direct suicidal awareness programmers. [31]

CONCLUSION

Our study shows evidence of an increasing tendency for suicide attempt in adolescence. The increasing cases of suicidal tendency among children and adolescents necessitate further studies to identify the causes and risk factors, and to develop suitable preventive programs.

REFERENCES

1. INSAT – National Institute for Statistics. Albania
2. Boris N, Dalton R. Suicide and Attempted Suicide. In: Behrman R, Kliegman R, Jonson H, Saunders Elsevier. Nelson Textbook of Pediatrics. 19th ed. Philadelphia: 2010. p. 86–87.
3. Amitai M, Apter A. Social Aspect of Suicidal Behavior and Prevention in Early Life. A Review. Int. J. Environ. Res. Public Health 2012; 9: 985–994.
4. Wasserman D, Cheng Q, Jiang G. Global suicide rates among young people aged 15–19. World Psychiatry. 2005; 4(2): 67–72.
5. Mittendorfer R, Wasserman D. Trend in adolescent suicide mortality in the WHO European Region. European Child Adolescent Psychiatry. 2004; 13: 321–331.
6. Hulten A, Jiang G, Wasserman D et al. Repetition of attempted suicide among teenagers in Europe. European Child and Adolescent Psychiatry. 2001; 10: 161–169.
7. Kokkevi A, Rotsika V, Arapaki A, Richardson C. Adolescents' self-reported suicide attempts, self-harm thoughts and their correlates across 17 European countries. J Child Psychol Psychiatry. 2012; 53 (4): 381–389
8. an international perspective. Soc. Psychiatry Psychiatr Epidemiol. 2012; 47 (2): 241–51.
10. Bursztein C, Mäkinen H, Apter A, Wasserman D, Babes I, et al. Immigration and recommended care after a suicide attempt in Europe:equity or bias? Eur I Public Health. 2013; first published online June 27.
11. Byrazeri G, Qirjako G, Roshi E, Brand H. Determinants of witnessed parental physical violence among university students in transitional Albania. Journal Public Health. 2001; 33 (1): 22–33.
12. Byrazeri G, Roshi E, Laaser U, Bjegovic V. Factors associated with spousal physical violence in Albania: cross-section study. British Medical Journal. 2005; 331: 197–201.
13. Practice parameters for the assessment and treatment of children and adolescents with suicidal behavior. J Am Acad Child Adolesc Psychiatry. 2001; 40 (Suppl): 25S–51S.
14. Varnik P. Suicide in the Word. Int J Environ Res Public Health. 2012; 9(3): 760–771.
15. Grunbaum A, Kann L, Kinchen S, Ross J, Hawkins J, Lowry R, Harris A, McManus T, Chyen D, Collins J. Youth risk behavior surveillance. United States. 2003; MMWR Surveill Summ. 2004; 53 (2): 1–96.
16. Horowitz L, Wang P, Koocher G, et al. Detecting suicide risk in a pediatric emergency department: Development of a brief screening tool. Pediatrics 2001; 107: 1133–1137.
17. Klomek A, Sourander A, Niemela S, Kumpulainen K, Piha J, et al. Childhood bullying behaviors as a risk for suicide attempts and complete suicides: A population-based birth cohort study. J. Am. Acad. Child. Adolesc. Psychiatry. 2009; 48: 254–261.
18. Nock M, Borges G, Bromet E, Alonso J, Angermeyer M, Beautrais A, et al. Cross-national prevalence and risk factors for suicidal ideation, plans and attempts. Br J Psychiatry. 2008; 192: 98–105.
19. Bridge J, Goldstein T, Brent D. Adolescent suicide and suicidal behavior. Journal of Child Psychology and Psychiatry. 2006; 47: 3(4): 372–394.
20. Borowsky I, Ireland M, Resnick, M. Adolescent suicide attempts: Risks and protectors. Pediatrics. 2001; 107: 485–493.
21. Brent D. The rew ards of reducing risk. Archives of Pediatrics and Adolescent Medicine. 2004; 158: 824–825.
22. Becker D, Grilo C. Prediction of suicidality and violence in hospitalized adolescents: comparisons by sex. Can J Psychiatry. 2007; 52: 572–580.
23. Vermeiren R, Schwab-Stone M, Ruchkin V, King R, Van Heeringen C, Deboutte D. Suicidal behavior and violence in male adolescents: a school-based study. J Am Acad Child Adolesc Psychiatry. 2003; 42: 41–48.
24. Brent D, Baugher M, Bridge J, Chen T, Chiappetta L. Age- and sex-related risk factors for adolescent suicide. Journal

of the American Academy of Child and Adolescent Psychiatry.1999; 38: 1497–1505.

25. United Nation.The risk of suicide in young people with unconventional sexual orientations. 59th session of the Commission on Human Rights. Geneva, April 2003.
26. Carballo J, Oquendo M, Giner L, Zalsman G, Roche A, Sher L. Impulsive-aggressive traits and suicidal adolescents and young adults with alcoholism. Int J Adolesc Med Health. 2006; 18: 15–19.
27. Wojnar M, Ilgen N, Czyz E, Strobbe S, Klimkiewiez A, Jakubczyk A, et al. Impulsive and non-impulsive suicide attempts in patient treated for alcohol dependence. J. Affect Disord. 2009; 115: 131–139.
28. Lubell KMSMHCAE: Methods of suicide among persons aged 10–19 years United States, 1992–2001. MMWR M orb Mortal Wkly Rep 2004; 53: 471–474.
29. Karaman D, Durukan I. Suicide in Children and Adolescents. Psikiyatride Guncel Yaklasimar-Current Approaches in Psychiatry.2013; 5(1): 30–47.
30. Skinner R, McFaull S. Suicide among children and adolescents in Canada: trends and sex differences, 1980–2008. CMAJ 2012; 12: 184: 9.
31. World Health Organization. SUPRE WHO Initiative for the prevention of suicide.http://www.who.int/mental health/ management/en/SUPRE flye1.pdf