



Self-harm, suicidal ideation and suicide attempts among college students

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ARTICLE INFO

Article history:

Received 25 August 2009

Received in revised form 18 September 2010

Accepted 26 September 2010

Keywords:

Student
Adolescent
Youth
Self-mutilation
Self-injury
Suicidality
Turkish

ABSTRACT

Self-harm, suicidal ideation, and suicide attempts are well represented behaviours in the general population of both developed and developing countries. These behaviours are indicative of underlying risk factors that show a strong interdependent correlation. In this study we attempted to define correlates for and prevalence of self-harm, suicidal ideation, and suicide attempts among Turkish college students. This 2006 study included 636 students from two Turkish state universities. Our results showed that the lifetime prevalence of self-harm was 15.4%, the prevalence of suicidal ideation was 11.4%, and the prevalence of suicide attempts was 7.1%. We uncovered correlates for self-harm, including low income, unsatisfying familial relationships, smoking, and alcohol, inhalant, and tranquilizer abuse. Tranquilizer abuse shared a dual role as a correlate for suicide ideation and as a means to attempt suicide. Additionally, we found that drug abusers and adolescents who practise self-harm presented the highest suicide risk.

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1. Introduction

In recent literature self-harm has been recorded most prevalently among young people (Ross and Heath, 2002; Nock et al., 2006; Laukkanen et al., 2008). Historically related to different psychiatric disorders such as depression, bipolar disorder, and borderline personality disorder (Suyemato, 1998), self-harm has also been shown to be common in non-clinical samples of adolescents and young adults (Laye-Gindhu and Schonert-Reichl, 2005).

The dominant approach of the literature is to distinguish between suicide attempts and self-harm without intent to die (Messer and Fremouw, 2008). "Although suicidal ideation has been found in 28–41% of self-injury cases, still, upward of 85% of self-injury events are undertaken with the primary goal of releasing tension, rather than of ending life" (Yates, 2004). On the other hand, recent non-fatal self-harm indicates a large increase in the individual risk of lethal suicide intervention (Owens et al., 2002). Furthermore, those who have attempted suicide and present a history of self-harm also tend to be more depressed, impulsive (Dougherty et al., 2009), anxious and underestimating the lethality of their suicide attempts. Therefore, clinicians may be unintentionally evaluating the suicide risk in self-mutilators as less serious than it actually is (Stanley et al., 2001).

The incidence and prevalence of self-harm are difficult to calculate because of the lack of a stringent definition of self-harm. However, previous studies show the incidence of self-harm in the psychiatric population to be much higher than in the general population – ranging from 4.3% to 20% of all psychiatric inpatients and ranging from 40% to 61% of adolescent inpatients (Suyemato, 1998). In the literature the prevalence of self-harm in community adolescents ranges from 15% to 46.5% (Laye-Gindhu and Schonert-Reichl, 2005; Lloyd-Richardson et al., 2007) and in college students from 6.9% (Rodham et al., 2004) to 13.9% (Favazza et al., 1989; Ross and Heath, 2002). A relatively new study evaluating 13 to 18-year-old Finnish adolescents found that 11.5% had a lifetime prevalence of self-cutting, 1.8% is currently self-cutting, and all other self-harm was recorded at 10.2% (Laukkanen et al., 2008). A study performed on Turkish college students in 2003 in a metropolitan university found self-mutilation rate to be 8% (Oksuz and Malhan, 2005). A Turkish regional study sampling a group of students from a non-clinical high school found self-mutilative behaviour at 21.4% (Zoroglu et al., 2003).

Additionally, deliberate self-harm and suicide attempts have been associated with many familial and external factors, such as parental psychopathology, neglect, parental substance abuse, and abuse in the context of pathological family relationships (Hawley et al., 1995; Baer and Maschi, 2003; Gratz, 2003; Ystgaard et al., 2004; Ilomäki et al., 2006).

In a sample of non-clinical Turkish high school students, suicide attempts were found to be more frequent in probands who self-mutilated (58.6) (Zoroglu et al., 2003). Turkish researchers, (Evren

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and Evren, 2005) found that age at initial substance use among substance dependent patients was lower in the group reporting self-harm (14.8 ± 3.5 years) than the group not reporting self-harm (18.7 ± 4.6 years).

Rapid urbanization and economic restructuring are defining forces in much of the developing world and may lead to unique stressors (Das et al., 2007). Most of violence-related deaths occur in low- to middle-income countries, such as in a substantial number of those countries in 2000 the suicide rate was considerably higher than the global average (13.5 per 100,000 population) (Matzopoulos et al., 2008). Although suicide is forbidden in Islamic culture, a recently published review showed that deliberate self-harm and suicide have increased in recent years in Pakistan, a low income country with a predominantly Muslim population (Shahid and Hyder, 2008). Contrary to Pakistan, official suicide statistics suggest that suicide mortality is low in Turkey; as low as 3 per 100,000 population (Oksuz and Malhan, 2005; Eskin et al., 2007). On the other hand non-fatal suicidal behaviours have been found to be common among younger segments of the population in Turkey, such as among college students (Eskin et al., 2007).

We investigated self-harm in non-clinical samples of college students. By using different sample groups than prior studies we aimed to expand the data pool concerning self-harm, suicide ideation, and suicide attempts in Turkey. Most research on self-harm has examined the correlates for this behaviour; however, this area has not yet been adequately researched (Gratz, 2003). We analysed correlates of self-harm, suicide ideation, and suicide attempts. It is our hope that the basic research of our study will help our colleagues understand regional differences (Madge et al., 2008; Portzky et al., 2008) in their evaluation of self-harm in Turkish college students in comparison to other countries.

2. Materials and methods

The presented data were collected as part of a larger study on behaviour and attitudes of students about diet, exercise, ethics, demographics, and risk taking behaviour.

2.1. Subjects

The study sample included 293 (46.1%) males and 343 (53.9%) females aged 16–22. The average female age was slightly younger than the males (19.2 ± 0.9 and 19.5 ± 0.7 years, respectively). The subjects of the study comprised undergraduate students at Gaziosmanpasa University (rural setting) and Istanbul University (metropolitan setting). Gaziosmanpasa University's students represent rural university students in our sample and Istanbul University's students represent metropolitan university students in our sample. Between March 2007 and May 2008 we studied both the Faculty of Education and the Faculty of Arts and Sciences from each university.

The required sample size for expected lifetime prevalence of self-harm was 10% (Hawton et al., 2002) $\pm 2\%$ error with a 95% confidence interval. This was based on 710 students from a total of 3991 sampled using a stratified cluster sampling procedure. Faculty departments were the primary sampling unit. The sample was stratified on the basis of gender and grade. All students present in class on the day of the survey were asked to complete the forms inside the classroom. Seventy-four questionnaires were excluded from data analysis because they were not filled in seriously/declined to participate ($n=5$) or were missing data ($n=69$), which yielded an overall response rate of 89.6%. A signed informed consent, including information about the type of research and objectives of the study, was collected from all participants. Confidentiality and anonymity were assured, participation was on a voluntary basis, and participants did not receive any payment.

2.2. Questionnaires

Two questionnaires were used in this study. The first questionnaire was used to define the basic demographic characteristics of the participants, such as age, gender, etc. The second questionnaire, developed and the reliability and validity have been demonstrated by Ogel et al. (2003), consisted of seven sections covering housing and family, health, self-harm, illicit drug abuse, peer pressure, trauma experience, and legal and psychiatric situations. The second questionnaire has been previously used in published studies (Corapcioğlu and Ogel, 2004). The questionnaire was given in Appendix 1.

2.3. Statistical analysis

The significance of observed associations was tested using the chi-square statistic. Odds ratios (OR) with 95% confidence intervals were used to illustrate the differences of correlates for self-harm, suicide ideation, and suicide attempt. Identifying self-harm, suicide ideation, and suicide attempt as dependent variables, the Forward Stepwise (Wald) Logistic Regression model was performed. The odds ratio (with 95% confidence intervals) was used to assess significant associations. Data gathered from this study was analyzed with a computer using SPSS 10.0 for Windows (Istanbul University with permission and license, 2005; Chicago, IL, USA). The significance level was considered to be $p < 0.05$.

3. Results

As shown in Table 1, self-harm was significantly common among females and self-harm and suicide attempts were significantly common in the rural area. In contrast, age and maternal and paternal educational levels were not significant factors for self-harm, suicidal ideation, and suicide attempts.

As seen in Table 2, low income and not having good family relationship were significant correlates for self-harm and suicide attempt. According to Table 3, frequent alcohol consumption, smoking, cannabis, and inhalant and tranquilizer abuse are correlates for self-harm.

In the sample, the lifetime prevalence of self-harm was 15.4%, suicidal ideation 11.4%, and suicide attempts 7.1%. While self-harm (70.4% vs. 37.4%, $\chi^2 = 65.0$, d.f. = 1, $p < 0.0001$) was significantly higher among males than females, no gender difference was reported in the prevalence of suicidal ideation (11.8% in both genders) and suicide attempts (6.7% vs. 6.8%, $\chi^2 = 0.001$, d.f. = 1, $p > 0.05$). We also found that self-harm and suicide attempts were significantly more common among adolescents sampled in the rural area ($\chi^2 = 4.76$, d.f. = 1, $p < 0.05$ and $\chi^2 = 5.13$, d.f. = 1, $p < 0.05$ respectively) (Table 1).

According to univariate analysis, self-mutilators were more likely than non-self-mutilators to report suicidal ideation (59% vs. 11%), ($\chi^2 = 102.8$, d.f. = 1, $p < 0.001$) and suicide attempt (63% vs. 14%), ($\chi^2 = 67.6$, d.f. = 1, $p < 0.001$). Moreover, after adjusting for age and gender in the multivariate model, self-harm is a strong predictor of suicide ideation and attempt; OR (95% CI) for suicide ideation was 9.4 (4.4–20.3) and suicide attempt was 7.6 (2.9–20.0).

Table 1
Demographic characteristics of the sample (univariate analysis).

	Self-harm: <i>n</i> (%)	Suicidal ideation: <i>n</i> (%)	Suicide attempts: <i>n</i> (%)
<i>Gender</i>			
Female	39 (11.4)*	42 (11.8)	24 (6.7)
Male	70 (23.9)	38 (11.8)	22 (6.8)
<i>Age distribution</i>			
17 or less	3 (13.0)	4 (16.7)	2 (8.3)
18	12 (13.5)	8 (8.3)	5 (5.2)
19	26 (20.2)	23 (16.9)	9 (6.5)
20 or more	68 (17.7)	45 (11.0)	30 (7.3)
<i>Location</i>			
Rural area (Tokat)	96 (18.7)*	69 (12.6)	43 (7.8)*
Metropolitan area (Istanbul)	13 (10.5)	11 (8.4)	3 (2.3)
<i>Maternal education</i>			
Did not complete high school	94 (17.6)	67 (11.8)	38 (6.6)
Completed high school	9 (11.1)	9 (10.3)	4 (4.7)
Completed university	5 (25.0)	4 (19.0)	3 (14.3)
<i>Paternal education</i>			
Did not complete high school	69 (16.7)	52 (11.8)	30 (6.7)
Completed high school	18 (15.4)	10 (7.9)	8 (6.4)
Completed university	20 (19.4)	17 (16.0)	6 (5.7)

* $p < 0.05$.

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