MEDDOCS Open Access Publisher

Journal of Psychiatry and Behavioral Sciences

Open Access | Research Article

Parental socio-economic position and suicidal ideation among adolescents in Rural Bangladesh

Afroza Begum[1]; Eija Viitasara[1]; Joaquim Soares[1]; AKM Fazlur Rahman[2]; Gloria Macassa[1,3*]

[1]Department of Health Sciences, Mid-Sweden University, Sundsval, Sweden

[2]Department of Epidemiology, Bangladesh University of Health Sciences, Dhaka, Bangladesh

[3]Department of Occupational and Public Sciences, University of Gävle, Gävle, Sweden

***Corresponding Author(s): Gloria Macassa**

Department of Occupational and Public Sciences, University of Gävle, Sweden

Email: Gloria.Macassa@hig.se

Received: Jul 21, 2017

Accepted: Dec 27, 2018

Published Online: Dec 31, 2018

Journal: Journal of Psychiatry and Behavioral Sciences

Publisher: MedDocs Publishers LLC

Online edition: http://meddocsonline.org/

Keywords: Parents; Socio-economic; Suicidal ideation; Rural; Adolescents

Abstract

Background: Suicide is a leading cause of death worldwide and becoming a public health concern among adolescents. However, adolescent suicidal behaviour is a neglected public health issue, especially in low-income countries such as Bangladesh. Of great importance is the understanding of which factors might be related to this growing public problem.

Objective: To examine the relationship between parental socio-economic position and suicide ideation among adolescents in rural Bangladesh

Methods: A cross-sectional survey was conducted in 2013 among 2,476 adolescents, aged 14-19 years, selected randomly from a rural community of Bangladesh. An adapted version of the WHO/SUPRE-MISS questionnaire was used to collect data in the Raiganj sub-district, which is a surveillance area of the Centre for Injury Prevention and Research, Bangladesh (CIPRB).

Descriptive statistics and binary logistic regression analyses were used to analyze the data. Comparisons of proportions between groups were carried out using the $\chi 2$ test. Multivariate logistic regression analysis was used to examine the relationship between parental co-variants and suicidal thoughts among adolescents. The significance level was set atp <0.05. All analyses were performed using SPSS 20.

Results: The majority of parents had education only up to primary school (mothers 58.7% and fathers 49.5%). Most of them were farmers (53.3% of fathers) and housewives (96.5% of mothers). Monthly income and expenditure of the adolescent's parents were mainly upto 10,000 taka only. Suicidal ideation is more common among adolescents of low income group parents 104 (5.5%) and who were not living with their parents 18 (8.2%). Adolescent's suicidal ideation was found to be significantly associated with education, marital status and house ownership of their parents. Not

Cite this article: Begum A, Viitasara E, Soares J, Rahman AKMF, Macassa G. Parental socio-economic position and suicidal ideation among adolescents in Rural Bangladesh. J Psychiatry Behav Sci. 2018; 4: 1018.

being able to live with their parents was also a significant factor. Parents who received education up to SSC had odds ratio of 2.10 (1.21,3.64) and 1.92 (1.15, 3.23) for mothers and fathers respectively. Parent's income or expenditure was not associated with adolescent's suicidal ideation. Adolescent's suicidal ideation of single parents had higher odds (OR 3.00, CI 1.75-5.19) in comparison to adolescents who had both parents. Adolescents whose parents owned a house and who weren't living withtheir parents had odds ratios of 0.14 (0.05,0.35), and 1.80 (1.07,3.03) respectively. After adjusting for other covariates parents' marital status and house ownership significantly associated with the adolescent suicide ideation.

Conclusion: Parental socio-economic position was associated with suicidal ideation. Adolescent with single parents were more likely to report suicidal ideation. Low parental education and socio-economic status, marital status, house ownership, not living with parents at home as well as adolescent loneliness were the important factors for suicidal ideation.

Introduction

Every year more than 800,000 people take their own life and there are many more people who attempt suicide. In 2012, 75% of global suicides occurred in low- and middle-income countries and was the second leading cause of death among 15-29-year-olds globally [1]. General population epidemiological surveys of adolescents indicate that such acts occur more frequently than suggested by hospital statistics [2]. Defining suicidal ideation as intended thoughts of engaging in behaviour to end life [3] is an important indicator of mental health. It emphasizes on the risk of engaging in suicidal attempts during adolescents [4]. More specifically, it is found that during adolescence, there is an increasing risk of suicidal ideation [3]. Suicidal thoughts and suicidal behaviors are more prevalent in late adolescence [5]. Available studies indicate that there is a number of factors that contribute to the occurrence of suicidal ideation including family and social factors. Among them, stress that result from factors such as parental divorce and other difficult life events and environmental factors [2].

Various studies have been conducted looking for a relationship between Socio-Economic Status (SES) and health outcomes such as suicidal ideation among adolescents [3]. Household income, parents' education, occupation and marital status are the factors that are generally used to measure SES. For instance, a study in Hong Kong discovered a significant relationship between adolescent's suicidal ideation. The study showed that adolescents with lower SES displayed higher levels of suicidal ideation than adolescents with higher SES. Thus the socio demographic status was found to be associated with suicidal ideation [6]. It is possible that low socioeconomic status could result in negative family interaction patterns which in turn can influence child behavior [7]. Parental education may influence their ability to deal with the adolescent's stressful life events. Living with parents or others, single or both parents play a role on psychological and behavioral wellbeing of the adolescents.

In Bangladesh very few studies have investigated suicidal ideation among adolescents.

Like most Southeast Asian countries, a fundamental challenge for Bangladesh is the lack of quality suicide data or system for monitoring and surveillance. According to WHO Global Health Estimates, the suicide rate for 2012 in Bangladesh was 7.8 per 100,000 population (8.7 in females and 6.8 in males) [8]. Demographic and health surveillance in two rural sub-districts of Bangladesh between 2004 and 2010 revealed that the most common cause of death for young adults (aged 15-49) was injury (23.5%) with suicide accounting for 11.9% [9]. Suicide rates were found to be higher among the younger population specifically the adolescents compared to the adults and the elderly. The adjusted risk of fatal suicidal behavior was clearly higher, by six and four times among the 15-17 year olds and 18-24 year old respectively, compared to those aged between 25-64 years old [10].

About 28 people commit suicide each day in Bangladesh, mostly young females between 15 and 29 years. The number of incidents has grown over the last four years [11]. These deaths from suicide are only a small part of a much larger problem that is suicidal behavior [12].

In previous year, a few studies done on prevalence and factors related to suicidal ideation.

The Government needs data on the social and economic factors associated with suicide to drive development and implementation of prevention programs. The objective of this study is to examine the spectrum of parental socio-economic position in suicidal ideation among adolescents. It will focus specifically on the role of Parental socio-economic position on adolescent's suicidal ideation. It could play an important role in the development of school or community-based adolescent suicide prevention and intervention programs.

Methods

Setting and participants

The study was conducted in Raiganj, one of the sub-districts of Sirajganj district, located in the North-West part of Bangladesh. The total population of Raigonj is estimated to be around 317 thousand inhabitants to which approximately 30 thousands are adolescents aged 14-19 years. Demographically and geographically rural Bangladesh is almost homogeneous. Therefore, the selected sub-district is representative of the rural community of Bangladesh. Adolescent's aged 14-19 years comprised the study population.

Study design and sample

The study was a cross-sectional survey conducted to examine the relationship of parental socio-economic position with suicidal ideation among adolescents aged 14-19 years. The sample size was calculated assuming the prevalence of suicidal ideation among adolescents at .04 and a precision of .008 (20% of prevalence). Accordingly, the total estimated sample size was 2,304. Expecting an approximate refusal rate of 8%, the survey recruited 2,500 adolescents and interviewed 2,476 (refusal rate was 1%).

Sample selection

The sampling frame was developed using surveillance data of the CIPRB. The surveillance procedure of the CIPRB has been published previously [13]. Out of 30,242 adolescents aged 14-19 years, 2,500 adolescents were selected by a two stage cluster sampling method. The CIPRB surveillance area at Raiganj was divided into 19 blocks for regular data collection. Out of 19 blocks, 6 blocks were selected randomly for this study. Again

from each selected block, 417 adolescents were selected randomly. Then the name and address of each selected adolescent was given to a data collection team for interview.

Data collection procedure

The research team communicated with the selected adolescents and their families, and informed them about the study. The participant who agreed to take part in the study was interviewed face-to-face, using the SUPRE-MISS questionnaire (adapted for the Bangladesh context). The project started with the preparation phase, where issues such as compiling the questionnaires and cultural adaptation of the instruments were dealt with. The SUPRE-MISS questionnaire is an instrument developed by the WHO [14], and has been validated both in developed and developing countries [15]. This questionnaire was translated into local language "Bangla" and adapted by a group of public health professionals and psychologists working at Dhaka University. The questionnaire covered relevant detailed background and socio-demographic information. It was pre-tested before finalization. Participation was voluntary and confidentiality was emphasized. Each participant and her or his caregiver signed an informed consent form. Codes rather than names were placed on the questionnaire. Data were collected in two phases. In the first phase, adolescents having suicidal ideation were identified by the screening questionnaire. In the second phase, detailed information was gathered from the adolescents reporting suicidal ideation by the clinical psychologist followed by a counseling session.

Measurement of variables

Dependent variable

In the present study, the outcome variable was suicidal ideation. Suicidal ideation was assessed using the following question, "Have you ever seriously thought of committing suicide?" (To estimate the life-time prevalence). For this study, the answers were dichotomized. Those who answered 'yes' were regarded as having suicidal ideation and those who answered 'no' were regarded as not having suicidal ideation.

Independent variables

Demographics and socio-economic variables such as parent's occupation & education, marital status, family income and expenditure, wealth index, parents alive or not, adolescents living with whom were included as independent variables. Education was assessed by the classification of the parent's illiteracy to highest level of formal education. Four levels of education were created, i.e. illiterate, primary school or equivalent, Secondary School Certificate (SSC) or equivalent and Higher Secondary School Certificate (HSC) or equivalent.

Occupation was grouped into 4 categories, i.e. unemployed, student, household work and others.

Marital status was defined in terms of two groups, married and others.

Monthly family income and expenditure

Three groups were created for total monthly family income and expenditure, up to 10 thousands BDT, 10 thousands to 20 thousands BDT and 20 thousands BDT and above.

The wealth Index was grouped into 5 statuses, lowest, second, middle, fourth and highest.

Statistical analyses

Data were analyzed using descriptive statistics and a logistic regression analysis. Comparisons of proportions between groups were carried out using $\chi 2$ tests. Furthermore, a binary logistic regression was used to examine the associations of independent variables with suicidal thoughts, simultaneously adjusting for potential confounders. Furthermore, multivariate analysis was carried out and results were presented as odd ratios with 95% confidence intervals. The significance level was set at $p<.05$. All analyses were performed using SPSS 20 [16].

Results

a) Descriptive results

As shown in Table 1, the majority of parents have studied only up to primary school (mothers 58.7% and fathers 49.5%). The occupation of the fathers (53.3%) was primarily working within agriculture, whereas almost all the mothers (96.5%) were involved in household works. Almost 94% parents were married and they had own house. Among adolescents 91% living with their parents. Most of the parents had monthly family income and expenditure up to 10,000 taka (76% and 82% respectively). Monthly family income mean ± SD is 10194±4743 Taka and that of expenditure is 9045±12881 Taka.Regarding the wealth index, about 20% of the parents had the lowest status and 19% had the highest. There were modest differences between all the categories of wealth index.

Table 1: Socio-economic attributes of the adolescent's parents.

Socio-economic variables	N (2476)	Percentage (%)
Mother's Education		
Illiterate	72	29.00%
Primary	1424	58.70%
Secondary	248	10.20%
HSC and above	31	1.30%
Father's education		
Illiterate	752	31.90%
Primary	1169	49.50%
Secondary	326	13.80%
HSC and above	113	4.80%
Mothers Occupation		
Service	31	1.30%
Business	37	1.50%
Agriculture/House work	2356	96.50%
Day laborer	17	0.70%
Fathers Occupation		
Service	179	7.60%
Business	523	22.10%
Agriculture/House work	1262	53.30%
Day laborer/Rickshaw or van puller	403	17%

Parents Marital Status		
Married	2321	93.70%
Single Parent	155	6.30%
Living With		
Parents	2249	91.10%
Others	220	8.90%
House Ownership		
No	22	0.90%
Yes	2,454	99.10%
Monthly Household's family income		
Upto 10000tk	1887	76.20%
10001-20000tk	546	22.10%
20001- above	43	1.70%
Monthly Family Expenditures		
Upto 10000tk	2044	82.60%
10001-20000tk	405	16.40%
Wealth Index Status		
Lowest	505	20.40%
Second	527	21.30%
Middle	454	18.30%
Fourth	524	21.20%
Highest	466	18.80%

b) Prevalence of suicidal ideation according to parental factors

In table 2, this study has found suicidal ideation to be prevalent (12.7%) in adolescents who grow up in single parent families. In terms of parent's occupation, children of day laborer and rickshaw or van pullers have higher suicidal ideation. Children of parents who has specifically completed only until secondary education show higher suicidal ideation.

Families with income below 10000 display higher suicidal ideation among adolescents (5.5%) than families earning more. Similarly, adolescents belonging to families with expenditure upto 10000 per month have higher suicidal ideation (5.4%). Adolescents who don't have a home show higher suicidal ideation (27.3%) than adolescents who do. Suicidal ideation was more common among adolescents who don't live with parents (8.2%).

Table 2: Prevalence of Suicidal ideation according to parent's SES.

Characteristics	Suicidal Ideation (N= 125)	Prevalence (%)
Parents Marital Status (n=124)		
Married	107	4.60%
Single	17	10.96%
Fathers Occupation (n=122)		
Service	9	5.00%
Business	25	4.80%
Agriculture/ Housework	61	4.80%
Other (Day Laborer/ rickshaw or van puller	27	6.70%
Mothers Occupation (n=122)		
Service & Business	4	5.90%
Agriculture/ Housework	115	4.90%
Other (Day Laborer/ rickshaw or van puller	3	17.70%
Education of Mother (n=122)		
Illiterate	34	4.70%
Primary	64	4.50%
Secondary and above	24	8.60%
Education of Father (n=123)		
Illiterate	34	4.50%
Primary	57	4.90%
Secondary	28	8.60%
HSC and Above	4	3.50%
Income (n=124)		
Up to 10000	104	5.50%
10001-20000	20	3.70%
Expenditure (n=125)		
Up to 10000	110	5.40%
10001-20000	15	3.70%
Have your own house (n=124)		
No	6	27.30%
Yes	118	4.80%
Living with Whom (n=124)		
Living With Parents	106	4.70%
Living With Others	18	8.20%

c) Bivariate and multivariate analysis (Parental Factors of Adolescent's suicidal ideation)

Unadjusted binary logistic regression analysis (Table 2) showed that parent's secondary level of education is significant risk factors of adolescent are suicidal ideation. For mothers, OR 2.10 (95% CI 1.21, 3.64) and for fathers, OR 1.92 (95% CI 1.15, 3.23). Controlling other demographic variables it is showed that for mothers, adjusted OR 2.0 (95% CI .97, 4.12) for fathers, OR 1.39 (95% CI .71, 2.72).

Adolescents living with other than parents is also a factor that remained associated with suicidal ideation. Odds of having suicidal ideation were higher among adolescent (unadjusted OR 1.80 [95% CI 1.07, 3.03]) who do not living with parents compared to adolescents living with their parents. When adjusted with other covariates odds reduced to 1.51 [95% CI .87, 2.65].

Parent's having own house is a protective factor for adolescent's suicidal ideation (unadjusted OR 0.14 [95% CI .05, 0.35] but when adjusted with other socio-demographic variable OR reduced to 0.13 [95% CI 0.05, 0.36]. There is no association of adolescent's suicidal ideation with parent's income or occupation.

Discussion

The present study measured the association of adolescent suicidal ideation with parent's socio-economic position by using education, occupation, marital status, income, adolescent living with parents or others and house ownership as factors. This study found that majority of the parents of adolescents had education only upto primary school and their occupation were farmers and housewives. Only a few of adolescents were not living with their parents.

Suicidal ideation among adolescents was found to be significantly associated with education, marital status and house ownership of their parents. Not being able to live with their parents was also a significant factor. Parents who were educated up to SSC had higher odds in comparison with illiterate and highly educated parents. Parents of adolescents with house ownership had lower odds than the group who don't own a house. Adolescents not living with their parents had odds than the adolescents who live with the parents. After adjusting for other covariates parents' marital status and house ownership significantly associated with the adolescent suicide ideation. Studies Suggest Socioeconomic Status (SES) is widely considered to be a key factor that affects adolescent health as it has an impact on the availability of resources to maintain healthy lifestyle [17]. Moreover, it has also shown to be a conciliating factor for depression and suicidal ideation among adolescents [18].

In the present study nearly 91% adolescents lived with both parents while another study reported 87% of the respondents lived with both parents, which is about the same. With regard to parental education about 3%-4% adolescents reported that either their father or their mother had achieved college graduation or higher in the present study, which is very low in comparison to another study where 54.2% of students reported that either their father or their mother had achieved college graduation or higher [19]. This is because fewer people pursue higher education in Bangladesh.

Previous studies demonstrated that parent's education level and family income were significant predictors of adolescent suicidal ideation [20,21]. Parent's secondary level of education as a measure of socio-economic position has been found to be associated with suicide ideation among adolescents in the current study. This could be due to less educated parent's high expectation regarding adolescent's academic performance/income generating capacity. Because they are deficient in parenting: more critical and less caring. On the other hand educated parents who are more caring would inevitably have a better relationship with their children, which could have positive impact on the adolescents' psychological well-being and lower their suicidal ideation. In another study the authors reported elevated odds of suicidal behavior among male adolescents whose parents had middle school or lower level of education [19]. Regarding family income, current study observed a higher prevalence of suicidal ideation among adolescents with low family income but the association was not significant.

Current study observed significant association between parent's marital status and adolescent's suicidal ideation. Adolescents living with single parent had significantly higher suicidal ideation than married parents, which corroborates previous findings [6].

The adolescents living with parents has a protective factor as parental attachment is very important for the adolescent's healthy behavior. Present study found significantly elevated odds despite adjusting other factors. A study also found that adolescents living apart from parents is a risk factor for attempted suicide, even after adjusting for other risk factors [22]. One of the factors that contribute to developing a healthy behavior in adolescents is parental attachment. Adolescents who live with their parents and have a healthy relationship with them show less signs of suicidal ideation. In another study it has been also discovered that lack of parental support or availability is also related to suicidal Ideation [23].

In rural Bangladesh, most of the adolescents have their own family house, but those who do not have their own family house are more vulnerable to suicidal ideation. House ownership acts as a strong protective factor against suicidal ideation and it was attributable to increasing the insecurity feeling to homelessness. Similar finding was reported by a study where homeless youth presented with a higher prevalence of suicidal ideation [24,25].

This study is the first to assess the relationship of parental socio-economic position with suicidal ideation among adolescents in rural Bangladesh, which can be considered as strength. In addition, the participants were selected by random sampling in a surveillance area. Also, data collection was performed by highly trained clinical psychologists and sociologists. However, the study is not without limitations. The findings cannot be generalized for the whole country even if rural communities throughout the country can be considered homogenous. Furthermore, the study used a cross-sectional design making it difficult to determine the causality of the observed associations.

Table 3: Prevalence of Suicidal ideation according to parent's SES.

	Suicidal Ideation among adolescents	Unadjusted		Adjusted	
	n (%)	OR	95 % CI	OR	95 % CI
Mother's education					
Illiterate	34(4.7%)	Reference			
Primary	64(4.5%)	0.97	0.63, 1.48	0.87	0.50, 1.50
Secondary and above	24(8.6%)	1.8	1.11, 3.10	1.69	.87, 4.12
Father's education					
Illiterate	34(4.6%)	Reference			
Primary	57(4.9%)	1.08	0.70, 1.66	1.16	0.66, 2.01
Secondary	28(8.4%)	1.92	1.15, 3.23	1.39	0.71, 2.72
HSC and above	04(3.8%)	0.82	0.29, 2.36	0.5	0.15, 1.733
Parent's Marital status					
Married	107(4.6%)	Reference			
Single	17(12.7%)	3	1.75, 5.19	2.35	1.31, 4.20
Living with whom					
Living with parents	106(4.7%)	Reference			
Living with others	18(8.2%)	1.8	1.07, 3.03	1.51	0.87, 2.65
Having own house					
No	6(27.3%)	Reference			
Yes	118(4.8%)	0.14	0.05, 0.35	0.13	0.05, 0.36

Conclusion

Parent's socioeconomic statuses are associated with the suicidal ideation among adolescents in rural Bangladesh. Adolescents living with single parernts, and poor economic environment are vulnerable for suicidal ideation. Low parental educational status is also associated with suicidal ideation. Effective community-based mental health programs for adolescents including their parents needs to be implemented in Bangladesh.

References

1. World Health Organization. Fact sheet, Reviewed September 2016. Geneva, Switzerland: World Health Organization. 2016.
2. Evans E, Hawton K, Rodham K. Factors associated with suicidal phenomena in adolescents: A systematic review of population-based studies. Clin Psychol Rev. 2004; 24: 957-979.
3. Nock MK, Borges G, Bromet EJ, Cha CB, Kessler RC, et al. Suicide and Suicidal Behavior. Epidemiol Rev. 2008; 30: 133-154.
4. Andrews JA, Lewinsohn PM. Suicidal Attempts among Older Adolescents: Prevalence and Co-occurrence with Psychiatric Disorders. J Am Acad Child Adolesc Psychiatry. 1992; 31: 655-662.
5. Strandheim A, Bjerkeset O, Gunnell D, Bjørnelv S, Holmen TL, et al. Risk factors for suicidal thoughts in adolescence-a prospective cohort study: the Young-HUNT study. BMJ Open. 2014; 4: e005867.
6. Kwok SY, Shek DT. Socio-demographic correlates of suicidal ideation among Chinese adolescents in Hong Kong. Int J Adolesc Med Health. 2008; 20: 463-472.
7. Eric F Dubow, Paul Boxer, L Rowell Huesmann. Long-term Effects of Parents' Education on Children's Educational and Occupational Success: Mediation by Family Interactions, Child Aggression, and Teenage Aspirations. Merrill Palmer Q (Wayne State Univ Press). 2009; 55: 224-249.
8. GHO by Category Suicide Rates-Data by Country.
9. Alam N, Chowdhury HR, Das SC, Ashraf A, Streat field PK. Causes of Death in Two Rural Demographic Surveillance Sites in Bangladesh, 2004-2010: Automated Coding of Verbal Autopsies UsingInter VA-4. Glob. Health Action. 2014; 7: 25511.
10. Salam SS, Alonge O, Islam MI, Hoque DME, Wadhwaniya S, et al. The Burden of Suicide in Rural Bangladesh: Magnitude and Risk Factors. Int J Environ Res Public Health. 2017; 14: 1032.
11. Dhaka tribune, 10.9.14. http://www.dhakatribune.com
12. Wasserman D, Cheng Q, Jiang G-X. Global suicide rates among young people. World Psychiatry. 2005; 4: 114-120.
13. Rahman F, Bose S, Linnan M, Rahman A, Mashreky SR, et al. Cost-effectiveness of an injury and drowning prevention program in Bangladesh. Pediatrics. 2012; 130: e1621-e1628.
14. World Health Organization. Multisite intervention study on suicidal behaviours-SUPRE-MISS: Protocol of SUPRE-MISS. De-

partment of Mental Health and Substance Dependence. Gneva, Switzerland: World Health Organization. 2002.

15. Bertolote JM, Fleischmann A, De Leo D, Bolhari J, Botega N, et al. Suicide attempts, plans, and ideation in culturally diverse sites. Psychol Med. 2005; 35: 1457-1465.

16. IBM Corp. IBM SPSS Statistics for Windows. 2011; 20.

17. Kuh D, Ben-Schlomo Y. A life course approach to chronic disease epidemiology (2nd ed.). New York: Oxford University Press. 2004.

18. Gong Y, Zhang L, Wang Z, Liang Y. Pathway analysis of risk factors for severe suicidal ideation: a survey in rural China. Canadian Journal of Public Health. 2011; 102: 472-475.

19. Effects of Objective and Subjective Socioeconomic Status 481.

20. Ref. (Zeng Q. An exploratory study of child development and parenting): a Chinese perspective. ProQuest Information and Learning. 1999.

21. Brent D, Greenhill L, Compton S, Emslie G, Wells K, et al. The treatment of adolescent suicide attempters study (TASA): predictors of suicidal events in an open treatment trial. J Am Acad Child Adolesc Psychiatry. 2009; 48: 987-996.

22. Breuer C. Unemployment and suicide mortality: Evidence from regional panel data in Europe. Health Econ. 2015; 24: 936-950.

23. Gex CR, Narring F, Ferron C, Michaud PA. Suicide attempts among adolescents in Switzerland: Prevalence, associated factors and comorbidity. Acta Psychiatrica Scandinavia. 1998; 98: 28-33.

24. Fergusson DM, Lynskey MT. Suicide attempts and suicidal ideation in a birth cohort of 16-year-old New Zealanders. Journal of the American Academy of Child & Adolescent Psychiatry. 1995; 34: 1308-1317.

25. Votta E, Manion I. Suicide, high-risk behaviors, and coping style in homeless adolescent males' adjustment. Journal of Adolescent Health. 2004; 34: 237-243.