North Clin Istanb 2018;5(2):125–131
doi: 10.14744/nci.2017.91259

Original Article PUBLIC HEALTH

Violence and related factors among high school students in semirural areas of Eskisehir

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ABSTRACT

OBJECTIVE: The aim of the study was to determine the frequency of violence-related behaviors and related factors at school or school environment among high school students educated in the semirural areas of Eskisehir.

METHODS: This was a cross-sectional study. The sample comprised 1465 high school students. Data were collected using a questionnaire that included questions regarding sociodemographic characteristics and the 2013 survey questions of the "Youth Risk Behavior Surveillance System" of the Centers for Disease Control and Prevention.

RESULTS: It was found that 8.5% of students exhibited violent behaviors at school or school environment. According to multiple logistic regression analysis, sex, father's employment status, smoking, alcohol use, and feeling unsafe were effective independent variables on violence.

CONCLUSION: Students had a high rate of violence-related behaviors at school or school environment. Community-based public health interventions are required to solve this problem.

Keywords: Violence; risk factor; adolescent; semirural; high school student.

Cite this article as: *Isiktekin Atalay B., Unal E., Onsuz M. F., Isikli B., Yenilmez C., Metintas S. Violence and related factors among high school students in semirural areas of Eskisehir. North Clin Istanb 2018;5(2):125–131.*

Violence is a critical public health problem that has been increasing. The World Health Organization (WHO) defines violence as the deliberate use of physical force or power, threatened or actual, against oneself, another person, or against a group or community, which either results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment, or deprivation. Every year, more than 1 million people die because of violence and several nonfatal injuries occur as well [1]. Moreover, violence adversely influences the quality of life apart from contributing to disease, death, and disability [2]. Because violence affects the lives of millions in the long term, it is a risk factor for lifelong health and social problems [3].

Adolescents as a whole are among the groups that are the most vulnerable to violence. In addition, violence caused by adolescents is one of the most overt forms of violence prevailing in the society [1, 2]. WHO defines the 10–19 age group, the period after childhood before adulthood, as adolescence. This period is a dynamic period wherein physical, psychological, and social maturity reach completion and adulthood-specific roles, responsibilities, and behaviors are acquired. This age group is generally considered healthy [4, 5]. Conversely, adolescents are both perpetrators and victims of violence, which does not only influence them but also affects their families, friends, and societies [1]. Physical fights, bullying, and gun possession are crucial risk behaviors. In addition, us-

Received: July 25, 2017 *Accepted:* October 04, 2017 *Online:* April 11, 2018

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ing lethal weapons, such as guns or knives, is common [1, 3]. Every day, approximately 565 people aged 10–29 years die because of violence [1]. According to the 2010 data of the Center for Disease Control and Prevention (CDC), homicide is the second cause for the death of people aged 15–24 years in the United States. In addition, 82.8% of the death of the people aged 10–24 years occurred with a gunshot [6]. The School Crime and Safety Indicators report stated that 33 deaths related to school violence occurred in the 2009–2010 among children aged 5–18 years [7]. According to a WHO study that was conducted in 133 countries, violence was observed among 26.0% of adolescents [3]. A study in Turkey found 44.0% of high school students to be exposed to verbal violence, 30.0% to physical violence, 18.0% to emotional violence, and 9.0% to sexual violence [8]. Adolescents who are involved in an act of violence during high school usually continue this behavior during their adulthood [1]. Thus, there is a need to study the dimensions of violent adolescent behavior to improve the health of adolescents and reduce problematic behaviors associated with health. Interventions conducted in this period may prevent dangers arising from violent behavior [3].

The aim of the study was to determine the frequency of violent behaviors among high school students in and around school in the semirural areas of Eskisehir and to indicate factors related to these behaviors.

MATERIALS AND METHODS

Setting and participants

This cross-sectional study was conducted in the 2014 academic year in high schools of four districts (Alpu, Mahmudiye, Beylikova, and Sivrihisar) forming the education and research area of the Eskisehir Osmangazi University School of Medicine. The frequency of students carrying weapons, such as guns, knives or sticks, which is a criterion for violent behavior, was used to determine the sample size. This frequency has been shown to range from 5.2% to 15.3 % in Turkey [9-11]. Given 15% frequency, 3% margin of error, and 95% confidence intervals, the sample size for this study was calculated as at least 1225. The sample comprised 1465 high school students who were present in the school during the study and whose verbal permissions were received.

Measures

A questionnaire was prepared comprising two sections by benefiting from the literature; the first section investigated sociodemographic characteristics of students, and the second section comprised some questions from the 2013 questionnaire of CDC's Youth Risk Behavior Surveillance [1, 2, 10, 12-14]. This questionnaire inquired about the risky behaviors that can lead to death and disability in adolescents and adults under six headings. Violence-related behaviors were captured by asking questions regarding weapon possession, the lack of a sense of security, armed threats, clothing or book theft, fights with injuries, and fights around school. Questions related to unwanted pregnancy, behaviors causing sexually transmitted diseases, and drug usage were removed from the questionnaire because of the social and cultural characteristics of the sample region.

The dependent variable of this study was determined using questions such as "how many days have you carried a gun with you in the last 30 days" and "how many times have you been involved in a fight in or around school in the last 12 months." The frequency of these behaviors was rated as "never," "at least once," or "more than once." Students who were involved in both these situations at least once were considered to be involved in a violent behavior. The family income of students in the study was evaluated as good, medium, and bad as per their own perception. Parents who were actively working on any job that delivered income were considered as "working." Necessary permissions were obtained from the district Directorate of Education and related school executives. Later, school visits were performed at designated appointment dates and hours and students were made to come together in their classes. After informing students about the subject and purpose of the study, their verbal consents were obtained. This study complied with the Declaration of Helsinki. The questionnaires were answered by students themselves under observation.

Statistical analyses

Data were evaluated using IBM SPSS (version 20.0) Statistics Package Program. For analyzing the differences between groups, univariate analysis was used, and odds ratio (OR) and 95% confidence intervals (CI) were obtained. In addition, multiple logistic regression analysis was used to identify variables that influence violent behavior. A model was constructed with eleven independent variables (class, sex, family income, education of mother, job situation of father, smoking status, alcohol consumption status, sense of safety status in school, physical activity participation status, TV watching sta-

Table 1. Distribution according to sociodemographic characteristics of the study group

	Sociodemographic characteristics	n (%) n: 1465
Class	9-10 grade	854 (58.3)
	11-12 grade	611 (41.7)
Gender	Male	759 (51.8)
	Female	706 (48.2)
Family type	Nuclear family	1282 (87.5)
	Extended family	183 (12.5)
Socioeconomic status	Higher income	357 (24.4)
	Middle income	1022 (69.8)
	Lower income	86 (5.8)
Mother's education level	Primary school and lower	938 (64.0)
	Middle school and higher	527 (36.0)
Father's education level	Primary school and lower	633 (43.2)
	Middle school and higher	832 (56.8)
Mother's working status	Employed	263 (18.0)
	Unemployed	1202 (82.0)
Father's working status	Employed	1189 (81.2)
	Unemployed	276 (18.8)
Smoking	No	1201 (82.0)
	Yes	264 (18.0)
Alcohol consumption	No	1170 (79.9)
	Yes	295 (20.1)
Making physical activity status	No	659 (45.0)
	Yes	806 (55.0)
Watching TV status	No	351 (24.0)
	Yes	1114 (76.0)
Computer use status	No	516 (35.2)
	Yes	949 (64.8)

tus, and computer use status), which gave $p \leq 0.01$ in one variable analysis. $P \leq 0.05$ was considered statistically significant.

RESULTS

The average age of high school students was 16.03±1.19 years, and 51.8% (n=759) were males, 87.5% (n=1282) grew up in a nuclear family, and 69.8% (n=1022) were from middle income families. The distribution of students according to the socio demographic characteristics is given in Table 1.

Table 2. Distribution according to violence-related behaviors in the school and school environment of the study group

Violence-related behaviors (n:1465)	To have at least once violent behavior n (%)
Had a weapon[a]	183 (12.5)
Lack of sense of security[a]	291 (19.9)
Threatened of weapon[b]	149 (10.2)
Clothes or books is stolen[b]	401 (27.4)
Involved in an injury fight[b]	223 (15.2)
Involved in a fight at school environment[b]	515 (35.2)

[a]Last 30 days [b]Last 12 months.

Of all surveyed students, 12.5% (n=183) reported that they carried a weapon at least once in the last 30 days, 10.2% (n=149) reported that they had been threatened with a weapon in and around school, 15.2% (n=223) reported that they were involved in fights that caused injuries or required treatment, and 35.2% (n=515) reported that they were involved in a fight in or around the school at least once in the last 12 months. The distribution of students according to violent behavior in schools is shown in Table 2.

It was observed that 8.5% (n=125) of students had been involved in a violent behavior. According to the univariate logistic regression analysis, students with 11–12 grades [OR (%95 GA), 1.94 (1.34–2.82)], males [10.11 (5.52–18.51)], students with lower family incomes [2.19 (1.10–4.37)], students whose mothers' education level was middle school or higher [1.78 (1.23–2.58)], students with unemployed fathers [2.20 (1.47–3.28)], students who smoked [6.96 (4.74–10.21)], students consuming alcohol [8.93 (6.04–13.22)], students feeling unsafe [3.04 (2.07–4.46)], students who were physically active [1.89 (1.28–2.81)], students who watched TV [1.96 (1.17–3.28)], and students who used computer [2.90 (1.79–4.69)] were involved in violent behavior in and around school.

According to the multiple logistic regression analysis, sex [4.66 (2.43–8.95)], employment status of father [2.27 (1.38–3.75)], smoking status [2.56 (1.61–4.07)], alcohol consumption status [3.85 (2.42–6.12)], and a sense of security status [2.88 (1.82–4.55)] were independent variables on violent behavior. The results of univariate and multivariate analyses of the factors influenc-

Table 3. Results of univariate and multivariate analyses of factors influencing the behavior, including violence in school and school environment, of students who participated in the study

	Show behavior including violence in school and school enviroment n (%)	Univariate analysis OR (95%CI)	Multivariate analysis OR (95%CI)
Class			
9-10 grade	54 (6.3)	1	
11-12 grade	71 (11.6)	1.94 (1.34-2.82)	
Gender			
Female	12 (1.7)	1	1
Male	113 (4.9)	10.11(5.52-18.51)	4.66 (2.43-8.95)
Socioeconomic status			
Good	29 (8.1)	1	
Moderate	82 (8.0)	0.98 (0.63-1.53)	
Poor	14 (16.3)	2.19 (1.10-4.37)	
Mother's education level			
Primary school and lower	64 (6.8)	1	
Middle school and higher	61 (11.6)	1.78 (1.23-2.58)	
Father's working status			
Employed	85 (7.1)	1	1
Unemployed	40 (14.5)	2.20 (1.47-3.28)	2.27 (1.38-3.75)
Smoking			
No	57 (4.7)	1	1
Yes	68 (25.8)	6.96 (4.74-10.21)	2.56 (1.61-4.07)
Alcohol consumption			
No	46 (3.9)	1	1
Yes	79 (26.8)	8.93 (6.04-13.22)	3.85 (2.42-6.12)
Feeling safe			
Yes	75 (6.4)	1	1
No	50 (17.2)	3.04 (2.07-4.46)	2.88 (1.82-4.55)
Making physical activity status			
No	39 (5.9)	1	
Yes	86 (10.7)	1.89 (1.28-2.81)	
Watching TV status			
No	18 (5.1)	1	
Yes	107 (9.6)	1.96 (1.17-3.28)	
Computer use status			
No	21 (4.1)	1	
Yes	104 (11.0)	2.90 (1.79-4.69)	

ing students' violent behaviors in and around the school are given in Table 3.

DISCUSSION

Violence, which is an important cause of mortality and morbidity among adolescents, is a public health problem that is commonly seen worldwide. There is no single factor that can explain violence. These behaviors emerge as a result of an interaction between various factors [1, 3]. Our results indicate that sex, employment of father, smoking, alcohol consumption, and a sense of security in the school are the predictors of violent behavior. Other variables that were considered statistically significant in the univariate analysis but not in the multivariable analysis are not taken in the context of the discussion.

Among the study students, 12.5% reported that they had possessed a gun in the last month and 10.2% reported that they had been threatened with a gun in the last month. Studies conducted in Turkey have indicated that 5.2%–15.3% adolescents carry a gun [9-11]. In addition, studies conducted in various countries have reported that 3.6%–17.3% adolescents carry a gun [1, 15, 16]. It is worrying that the result of this study is close to the upper limits of the ratio indicated in the results of previous studies, which suggests that adolescents have an easy access to weapons. However, this consequence may have emerged because our study was conducted in a semirural district with lower socioeconomic status. It has been reported that there is an easy access to weapons in schools that are located in districts with lower socioeconomic conditions [17]. Gun possession is one of the most important risky violent behavior for adolescents. Adolescents who consider that resorting to violence is necessary to protect themselves and their families carry weapons and threaten their environment. Such adolescents may be involved in more fights and, as a result, to feel more secure in fights, they continue to carry guns [18, 19].

In our study, 35.2% students reported that they were involved in a fight in or around school and 15.2% of them reported that they were involved in a fight where they could get injured. Studies have demonstrated that 24.5%–50.2% students are involved a fight in or around the school [9–11, 20, 21], and studies conducted in the United States and Brazil have found this frequency to be between 6.5% and 33.0% [1, 13, 15, 16, 22]. The results of our study and those of other studies conducted in our country are much higher than those of international studies. Adolescents do not prefer staying alone in the school and desire to be accepted by their peers. Adolescents consider it important to have a good position, popularity, leadership, and power among their school friends. From time to time, this need for possessing power and popularity may cause violent behaviors in adolescents [23]. Furthermore, during adolescence, which is an interim period between childhood and adulthood, acquiring a new identity and expressing the desire to make society accept this new identity or psychology that is developed by encountering a hard time, which they had not previously experienced, may have caused these results.

Our study found violent behavior to be more common among males, which is in line with the findings of previous studies [1, 9, 10, 13, 21, 24–28]. Sex is considered an important predictor of violent behavior, and the tendency of male students to exhibit violent behavior may be explained by sex roles. The construct of sex refers to the roles, behaviors, activities, and qualifications that are created by the society for females and males [29]. Regarding sex roles, males with more traditional jurisdiction, which is encouraged by the society and benefited by males themselves, may be considered to be a factor supporting this result. The violent behavior of adolescent males may be related to tolerance shown to their behavior in the framework of social and cultural rules [20, 30].

In line with the literature, students with unemployed fathers were more involved in violent behaviors in or around the school [28, 31]. Because of the role that a society ascribes on the father, an unemployed father may create a restless environment in the house, which may cause the child to be engaged in violent behavior. In addition, an employed father may resort to violence to cope with problems in stressful environments, and, thus, children may learn violent behaviors from their fathers and tend to exhibit more violent behaviors.

Our study suggested that violent behaviors were more common among students who smoke. Smoking habit is an important public health problem in our country as well as worldwide. The age average of smokers has been reported to be declining day by day both in Turkey and worldwide [32]. Previous studies have suggested a relationship between violence and smoking [2, 21, 33, 34]. In contrast, Gofin et al. have reported no relationship between violence and smoking [35]. Smoking has been reported to cause several health problems in adolescents, and, thus, is an important factor for violent behaviors [2]. Smoking and violent behavior are crucial risky health behaviors [13]. Risky behaviors can trigger and be associated with each other.

In our study, alcohol consumption was shown to influence violent behaviors in students in and around the school. According to the WHO, 34.1% of students aged 15–19 years consume alcohol worldwide. Alcohol is an important factor that can trigger violent behaviors and is an important cause of violence-related injuries [1, 12, 34, 36]. Studies conducted in our country and those conducted worldwide have also suggested that students who consume alcohol are more engaged in violent behaviors [12, 21, 33, 37, 38], which indicates that alcohol may be a cause for violent behaviors and that alcohol and violence may also trigger each other. People may be prone to apply violent behaviors in result of psychological effects caused by alcohol. In addition, conducting the study in rural areas may affect the results because providing alcohol as

a weapon supply is easier in disadvantageous districts, and violent behaviors are more commonly observed in schools [17].

Approximately one-fifth of the students surveyed in this study stated that they did not go to school because they did not feel secure. In addition, students with a lack of a sense of security presented more violent behaviors. Studies conducted in Turkey have reported lower rates of students limiting their lives because they feel insecure than the rates reported in our study [9-11, 21, 25]. The desensitization of students about violence in the school or their different perceptions about the concept of feeling secure may reveal this consequence. Previous studies have revealed a relationship between feeling insecure and violence [22, 24]. It has been reported that students assuming school as insecure because of violence in the school cause their absence unless it is compulsory [39]. Violence in the school and a lack of a sense of security could be considered as interactive factors influencing each other. This cause an insecure environment in the school, and healthy education is not possible in such environments. Ensuring a safer school environment may make students and teachers feel physically, psychologically, and emotionally free and enable them to more comfortably express themselves.

There are some limitations of our study. First, instead of a direct observation of violent behaviors, we relied on behavioral characteristics defined by the students. Second, this was a cross-sectional study. Third, this study was conducted in the rural area of Eskisehir and, therefore, cannot be generalized to entire Turkey.

In conclusion, school violence is becoming an individual and social problem in Turkey as it is worldwide. In addition, our study determined that sex, father's employment status, smoking status, alcohol consumption status, and a lack of a sense of security affected violent behavior in and around school. Moreover, violent behavior was related to changeable risky behaviors. Society-based public health interventions toward changeable risky behaviors associated with violent behaviors will be crucial for preventing violence. Further, school management should make arrangements to provide security both in the school and in the school environment. Students should also be encouraged to share this with their families and teachers when exposed to violence. Effectively implemented school health services are required to improve these interventions. Interventions executed in this framework will assist adolescents to pursue their education in a healthy and secure school environment and structure their future. The media can also play a role in this subject. Violent broadcasts must be effectively controlled, and educational programs on the subject should be made by media. Healthier adolescents far from violence will contribute toward constructing a healthy society in the future.

Conflict of Interest: No conflict of interest was declared by the authors.

Financial Disclosure: The authors declared that this study has received no financial support.

Authorship contributions: Concept – B.I.A., E.U., M.F.O., B.I., Ç.Y., S.M.; Design – B.I.A., E.U., M.F.O., B.I., Ç.Y., S.M.; Supervision – B.I.A., E.U., M.F.O., B.I., Ç.Y., S.M.; Materials – B.I.A., E.U., M.F.O., B.I., Ç.Y., S.M.; Data collection &/or processing – B.I.A., E.U., M.F.O.; Analysis and/or interpretation – B.I.A., E.U., S.M.; Writing – B.I.A., E.U., M.F.O., B.I., Ç.Y., S.M.; Critical review – B.I.A., M.F.O., B.I., Ç.Y., S.M.

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