

Epidemiological Pattern of Bullying among School Children in Mazandaran Province-Iran

Hamid Soori^{1,2}, Rezapour M¹ and Khodakarim S³

¹Department of Epidemiology, School of Public Health, Shahid Beheshti University of Medical Sciences, Iran

²Department of Epidemiology, School of Public Health, Safety Promotion and Injury Prevention Research Center, Shahid Beheshti University of Medical Sciences, Iran

³Department of Epidemiology, School of Public Health, Shahid Beheshti University of Medical Sciences and Assistant Professor of Biostatistics, Iran

*Corresponding author: Hamid Soori, Department of Epidemiology, Safety Promotion and Injury Prevention Research Center, martyr Beheshti University of Medical Sciences, Tehran- Iran, Tel: +98 22439980; E-mail: hsoori@yahoo.com

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Abstract

Background and Objective: School bullying, the most common type of school violence, comprises a spectrum of aggressive behaviors that involve both perpetrators and victims. The purpose of this study was to investigate extent and nature of school bullying among middle school pupils in North of Iran.

Methods: A cross-sectional study was conducted with a sample of 834 Iranian middle school students. Participants completed a self-report anonymous questionnaire measuring bullying and victimization (Iranian- Olweus Bullying Questionnaire). Descriptive statistics and the Pearson test and multinomial logistic regressions with area, gender and grade variables were applied.

Results: Prevalence rates of bullying behaviors based on the cut-off point at 2 or 3 times a month were 5.4% for only bully, 22.1% for only victim and 11% for both bully-victim. The prevalence of each form of victimization were 24.7% verbal, 15% relational, 10.3% physical and for each form of bullies 11% verbal, 5.3% relational, 6.4% physical. Boys were more involved in all forms bullying behaviors. Rural students were more involved in bullying. The most common places of victimization were the playground or athletic fields. The majority of victims were bullied by their classmates.

Conclusions: Different forms of bullying have distinct nature and epidemiological pattern indicates bullying exists in Iranian schools and that effective bullying prevention and appropriate intervention programs are recommended.

Keywords: Victim; School bullying; Epidemiological Pattern; Adolescent.

Introduction

School bullying, the widespread type of school violence, includes a spectrum of aggressive behaviors that involve both bullies and victims [1]. Bullying is defined as “a special form of aggression, which is intentional, repeated [2], and involves an imbalance of power between the victim and bullies [3]”. Three forms of bullying have been distinguished as; only bullies (those who bully other adolescents only); only victims (who are adolescents who are victimized by bullies); bully-victims (who are Adolescents who are involved in bullying other adolescents and who also are victims of bullying) [4].

Bullying may take in many forms, such as physical (e.g. hitting, pushing, and kicking), verbal (e.g. name-calling and teasing in a hurtful way), relational or social (such as social exclusion and spreading rumors), and other ways (cyber-bullying and etc.), that physical and verbal bullying consider direct type, whereas relational bullying implies to an indirect type of bullying [5,6].

In different studies conducted with diverse instruments, notable variability in the prevalence of bullying has been reported. For example in a nationally representative sample of adolescents in the United States, Nansel et al. [3] showed that the prevalence of frequent

involvement in school bullying is 29.9%, (13.0% as bullies, 10.6% as victims, and 6.3% as both). Another study in Cyprus revealed that 17% children are involved in bullying and victimization [7]. In a Korean study 40% of children involve in school bullying (17.0% as bullies, 14.0% as victims, and 9.0% as both) [1]. Verbal bullying is more common type of bullying shown in many studies [5,8,9]. In a study conducted in Turkey, the results showed that 33.5% had been bullied verbally, 35.5% had been bullied physically, 28.3% had been bullied relationally at least once during the academic year [9].

Studies show that bullying in boys is more common than girls [3,4,10,11] and they are more likely to be involved in direct bullying [5,12]. However, exposure to bullying in different countries vary, estimated ranging from 8.6% to 45.2% among boys, and from 4.8% to 35.8% among girls [13]. Where the bullying takes place is different locations, in many studies playgrounds, athletic fields, and the classrooms (while the teachers are absent) are the most common places [14,15]. Most researchers believe that bullying has extensive negative consequences for the victims, bullies, or both [16]. For example, it is shown that association between alcohol misuse [17], and substance misuse [18], affect school achievements and psychological well-being for both victims and perpetrators [5].

Some studies have shown that children involved in bullying are at increased risk for psychosomatic problems such as headache,

backache, abdominal pain and also sleeping problems, bad appetite, and bed-wetting [16,19]. Research on the prevalence and location of bullying has conducted in many high income countries, including Norway, Sweden, Denmark, Finland, Germany, Spain, Italy, England, Scotland, Ireland, Australia, Canada, United States [20] and also in Asian countries including Japan and Korea. However, in the Eastern Mediterranean states the epidemiology of bullying among school children has not been reported well. This study aims to investigate the extent and nature of school bullying as an epidemiological approach among middle school pupils in North of Iran.

Methods

Participants were 834 pupils from the 8th and 9th grades of 26 middle schools randomly selected from public schools in urban and rural areas of Mazandaran province in Iran. Sampling procedure was stratified-clustering, according to the students' population at strata (area, gender) and each of the schools as clusters, randomly selected with an equal number of students from 8th and 9th grades.

Permission to carry out the survey was obtained from the educational authority in Mazandaran province. Informed consent obtained from Community Parents and Educators of the selected schools. Data were collected through anonymous self-report questionnaires distributed in the classroom and completed under supervision of trained co-researchers. The purposes and importance of the study as well as the confidentiality of their answers were stated to the selected pupils. They were also told that it was not obligatory to complete the questionnaire. No time limit was imposed; however, the average time to complete the questionnaires was about half an hour.

To measure the frequency of bullying and victimization, the Iranian validated version [21] of Olweus Bullying Questionnaire (OBQ) was employed. For the purpose of the present study, only questions measuring frequency of types bullying and victimization were analyzed. Students were asked to indicate how often they bullied others or were victimized in during the past 2 or 3 months.

To measure different forms of perpetrator bullying: verbal (3 items), relational (2 items), physical (2 items), and other forms (2 items) were considered that obtained for 9 items with Cronbach's Alpha 0.81 and Exploratory Factor analysis (EFA) with Varimax rotation revealed 4 factors solution explaining 73% of the total variance. To measure different forms of victimization bullying: verbal (3 items), relational (2

items), physical (3 items), and other forms (2 items) were considered that obtained for 10 items with Cronbach's alpha 0.80 and the EFA with Varimax rotation revealed 4 factors solution explaining 64% of the total variance.

The cutoff point of "2 or 3 times a month" recommended as most suitable criteria for break up involved and noninvolved in bullying [11] was addressed.

All analyses were conducted using SPSS for windows version 16.0. For each form of bullying, analyses consisted in two steps: descriptive statistics and multinomial logistic regressions. Descriptive analyses were conducted for measuring the prevalence of bullying and victimization, overall and simple statistical procedures based on the χ^2 tests. Multinomial logistic regression models were used to compare bullies, victims, and bully-victims with those who were never involved, in relation to background variables (area, gender and grade).

Results

Participants were 417 middle school pupils of grade 8 and 417 grade 9. Overall, 412 (49.4%) were girls, and 553 (66.3%) from urban areas. The mean age of the pupils was 15 years.

Victim- bully		Victim only		Bully only		Non bullying		
%	n	%	n	%	n	%	n	
6.6	55	18.1	151	4.4	37	70.8	590	Verbal
2.2	18	13	107	3.1	26	81.8	682	Relation al
2.6	22	7.6	64	3.7	31	86	714	Physical
1.1	9	3.4	28	2.2	19	93.4	776	Others
11	92	22.1	184	5.4	45	61.5	513	Total

Table 1: Prevalence rate of involvement in different forms of bullying among middle school children (n= 834)

Table 1 presents the prevalence rate of involvement in different forms of bullying among middle school children a couple of months prior to data collection. Overall 38.5% of pupils

Victims																	
Grade of schooling					Residential area					Gender							
P value	9th grade		8th grade		P value	rural		urban		P value	boy		girl			Total	
	%	n	%	n		%	n	%	n		%	n	%	n		%	n
N.S	23.3	97	26.1	109	N.S*	28.1	79	23	127	<.001	34.6	146	14.6	60	24.7	206	Verbal
N.S	14.7	61	15.3	64	N.S	16.7	47	14.1	78	N.S	15.9	67	14.1	58	15	125	Relational
N.S	11	46	9.6	40	N.S	11.7	33	9.6	53	<.001	14.2	60	6.3	26	10.3	86	Physical

N.S	4.3	18	4.6	19	N.S	6	17	3.6	20	N.S	5.7	24	3.2	13	4.4	37	Others
									Bullies								
N.S	11.1	46	11	46	0.005	15.3	43	8.9	49	0.001	14.7	62	7.3	30	11	92	Verbal
N.S	5	21	5.5	23	N.S	7.1	20	4.3	24	0.03	6.9	29	3.6	15	5.3	44	Relational
N.S	5.5	23	7.2	30	N.S	6.8	19	6.1	34	<.001	9.5	40	3.2	13	6.4	53	Physical
N.S	4.3	18	4.8	20	<.01	6.8	19	3.4	19	0.006	6.2	26	2.9	12	4.6	38	Others

Table 2: Percentage of involvement in each forms of Victimization and bullies by gender, area and grade (n=834)

were victims of different forms of bullying. Bullying was more common among victims (22.1%) and 82.1% of them was verbal form.

Table 2 shows the percentage of involvement in each form of victimization and bullies by gender, area and grade. As a victim, verbal and physical bullying were more common among boys (P<0.001) with no significant differences by residential area and grade of schooling. As bullies, there were significant differences for verbal and other forms of bullying by gender and residential area. There was also a statistically

significant difference for relational and physical forms of bullying by sex among bullies.

Table 3 shows the locations where bullying occur among subjects. Overall, playgrounds and sport fields (24.0%), on the way to and from the school (13.9%) and in the classroom when the teachers are not available are the most common places for bullying among subjects. There was a significant difference for some place of bullying (such as playground or sport field and on the way to and from school by sex.

Grade of Schooling		Residential area		Gender		Total	
9th	8th	rural	urban	boy	girl	%	Place of bullying
9.6	13.7	13.2	10.8	15.4*	7.8	24	Playground/Sport field
3.8	6.2	3.9	5.6	5.2	4.9	10	Hallways/stairwells
2.9	4.3	3.6	3.6	3.6	3.6	7.2	Classroom (when the teacher was available)
7.9	5.5	5.7	7.2	6.2	7.3	13.5	Classroom (when the teacher was not available)
1.2	1.2	0.7	1.4	1.2	1.2	2.4	Locker rooms
0.5	1	0.7	0.7	0.7	0.7	1.5	Lunch room
6.5	7.4	5.3	7.8	9.0*	4.9	13.9	On the way to and from school
1	1.9	1.1	1.6	0.7	2.2	2.9	In the school bus
0.7	2.2	1.8	1.3	1.7	1.2	3.1	Pray room
5	7.7	9.3*	4.9	6.2	6.6	14.2	Other places

Table 3: Locations where bullying occur among subjects

	Verbal		Relational		Physical		Others		Total (bullying)	
	OR	CI 95%	OR	CI 95%	OR	CI 95%	OR	CI 95%	OR	CI 95%
Area(Urban)										
Bully only	0.7	(0.34 – 1.35)	0.67	(0.3 – 1.49)	1.09	(0.5 – 2.36)	0.32	(0.12 – 0.83)	1.01	(0.52 – 1.96)
Victim only	0.9	(0.62 – 1.36)	0.9	(0.59 – 1.38)	0.82	(0.48 – 1.40)	0.42	(0.2 – 0.9)	0.96	(0.67 – 1.38)
Both	0.5	(0.26 – 0.79)	0.5	(0.19 – 1.28)	0.75	(0.31 – 1.79)	1.79	(0.37 – 8.71)	0.42	(0.26 – 0.66)
Gender(Girl)										

Bully only	0.5	(0.26 – 1.02)	0.43	(0.19 – 1.02)	0.26	(0.11 – 0.6)	0.28	(0.09 – 0.87)	0.45	(0.24 0.85)
Victim only	0.3	(0.22 – 0.47)	0.87	(0.58 – 1.31)	0.38	(0.22 – 0.67)	0.64	(0.29 – 1.38)	0.52	(0.37 – 0.73)
Both	0.3	(0.15 – 0.53)	0.63	(0.24 – 1.66)	0.33	(0.13 – 0.86)	0.27	(0.05- 1.32)	0.31	(0.19 – 0.51)
Grade (8th)										
Bully only	1	(0.5 – 1.91)	0.85	(0.39 – 1.87)	1.22	(0.59 – 2.5)	1.2	(0.46 – 3.09)	1.31	(0.71 – 2.43)
Victim only	1.2	(0.83 – 1.74)	1	(0.66 – 1.50)	0.74	(0.44 – 1.25)	0.85	(0.4 – 1.83)	1.09	(0.78 – 1.53)
Both	1.1	(0.6 – 1.85)	1.55	(0.59 – 4)	1.42	(0.6 – 3.40)	2.08	(0.51 – 8.4)	1.06	(0.68 – 1.68)

Table 4: Relationship of Area, Gender, Grade with four forms of bullying using multinomial logistic regressions

Multinomial logistic regressions were performed for each of the four forms of bullying as; physical, verbal, relational, others and total. In each of the four multinomial logistic regressions, the bullying classification was the outcome variable, with noninvolved as the reference category, and with area, gender and grade variables as predictors. The odds ratios and their corresponding 95% confidence intervals from the multivariate analyses are reported in Table 4.

In total pupils from rural areas were more likely to be involved in bullying for both bully and victim in form of verbal and as a whole. Boys compared to girls were more likely to be involved in bullying as whole and different categories (bullies, victims, and bully-victims) for physical bullying. They were also more likely to be involved in verbal bullying. There was no difference between 8th graders and 9th graders on involvement in different forms and categories of bullying.

Discussion

This study showed that 38.5% of the students are involved in Mazandaran province- Iran. It is inconsistent with most studies carried out in this field in various countries [1,3,5,11,15,22-24]. This prevalence rate is lower in comparison with some studies, especially for bully only, that may contain variety of reasons such as: good management of schools, higher peer supports, religious beliefs that condemn bullying. In addition, Iranian schools have limitations in term of creating the conditions for the occurrence of different types of bullying behavior (cell phone ban, gender segregation, etc.).

Unlike studies that have been done in the US [5], Norway [11], Italy [25] and Ireland [14], in this study, difference between the prevalence of bullies and victims is large. Ethnic minorities are quite rare in Iranian schools and there is mainly no race minority in this country. Findings showed that bullying (bullies and its forms, victims and its forms) was more common among boys than girls, and it was reinforced by some of other studies [1,3,7,11,25].

Playground or sport field, and classroom (when the teachers are absent) and also on the way to and from school were the most common locations of bullying. Similar results have been found by studies taken place in Ireland [14] and also some other studies [15,26]. However, in some of studies classroom has been the most common place where the students are bullied [9,27].

In our study, the majority of victims were bullied by their classmates. Perpetrators of bullying on victims mainly was done by 1 to 3 students, that is consistent with the results of another study carried out in Ireland [14].

According to scrutiny prevalence rates and correlates for four different forms of bullying behaviors: physical, verbal, relational, and others, our findings offer the distinct natures of these four forms.

In epidemiology and natural history of non-communicable diseases, stage latent and hidden before the appearance of overt clinical disease occurs [28], and since the bullying behaviors is a spectrum [1]. So this mode can be considered for natural history of bullying behaviors: relational form as invisible or latent bullying and verbal form as interstitial and physical forms of bullying as overt bullying. Indeed, verbal and relational forms are early stages of bullying behaviors, therefore can be claimed that latent forms have better prognosis compared with overt forms. According to low prevalence overt forms of bullying in the present study can be considered a better prognosis compared with similar study carried out in America and Turkey [5,9].

This is the first ever study on pupils bullying in Iran with an epidemiological approach. However, there are some limitations in this study. First, it was a self-report study and some response biases may occurred that application of another instruments for data collection in this field and testing information from multiple sources is recommended for future studies. Another limitation is lack of assessment for cyber bullying that is suggested for future studies. Since, this study was conducted in only one province, ability to generalize it comes down to the whole country. Therefore, it is recommended that further studies be conducted in various provinces. Finally, only public secondary schools were assessment in this study and private schools were excluded that assessment bullying in private schools and another levels of school is suggested for future studies.

In conclusion, the pattern of bullying in Iranian schools is similar to many western countries, but it seems that the prevalence rate of bullies in Iran may be lower than these countries. Bullying in schools is generally, carry out by a minority of children, and forms of bullying have distinct nature and are in a spectrum. Also this study showed that bullying exists in Iranian schools and establishment of a surveillance system and employment of effective and appropriate interventions on this public health problem is recommended. According to determination descriptive epidemiology of this phenomenon, is optimal investigates analytical epidemiology (risk factors for bullying and adverse effects on physical and mental health) in Iran. Relevant organizations such as Ministry of Education and Ministry of Health should consider bullying among children as a serious problem.

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