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Physical fighting among school-going Portuguese adolescents: Social and behavioural correlates

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ABSTRACT

Objective. The purpose of this study was to estimate the frequency and to assess the determinants of physical fighting among Portuguese school-going adolescents.

Methods. A cross-sectional evaluation of urban adolescents born in 1990 and enrolled in public and private schools of Porto was performed in 2007. We identified 3,161 17-year-old eligible adolescents and 73.3% accepted to participate.
Information was collected using a self-administered questionnaire assessing socio-demographic, behavioural, family and health-related characteristics. The magnitude of the associations between those characteristics and physical fighting was estimated using logistic regression.

Results. Overall, 33.8% of adolescents (48.6% of boys and 20.1% of girls; $p<0.001$) engaged in a physical fight during the previous 12 months. The school premises were the most frequently reported setting where fights occurred (girls–41.2% and boys–46.7%, $p=0.179$). After adjustment, and in both genders, we found statistically significant associations between physical fighting and grade retention, smoking, drinking and age at first sexual intercourse.

Conclusion. Physical fighting among school-going adolescents is frequent, tends to occur at school premises and to cluster with other well recognized adverse health behaviours.

Introduction

Physical fighting is described as a common form of interpersonal violence among urban adolescents (Pickett et al., 2005, Muula et al., 2008, Malek et al., 1998). It is strongly associated with injury, intimidation and threats, perceptions of fear and vulnerability, and may be part of the causal pathway for serious violence and physical injuries (Malek et al., 1998, Muula et al., 2008). Despite increasing general awareness and targeted programs, the prevalence of physical fighting is not decreasing in the USA (Eaton et al., 2008) and a higher prevalence of fights was observed among low socioeconomic adolescents and an international increase in victimization recognized in more unequal societies. Family and school are important settings in shaping violent behaviours. Adolescents with low levels of parental support or growing up in violent family environments are more likely to engage in unhealthy behaviours (Baldry, 2003).

Students' physical and psychosocial well-being is expected to be promoted in schools (Fuchs, 2008). However, schools are recognized as a common setting for conflicts (Rudatsikira et al., 2008) and involvement in fights in school property is associated with a lower probability of succeeding academically (Hamburg, 1998).

To better inform the preventive strategies, we need to understand the manifestations of violence at different moments of life and under diverse cultural contexts. Thus, we estimated the frequency and assessed the determinants of physical fighting among 17-year-old Portuguese school-going adolescents.

Methods

As part of the EPITeen study (Ramos and Barros, 2007), in 2007 we identified 3,161 adolescents born in 1990 and enrolled in public and private schools of Porto, Portugal. The participation rate was 73.3%. In the present cross-sectional study, we excluded 17 adolescents unable to complete the questionnaire, due to cognitive or physical limitations, and 29 with missing information for the outcome of interest. Therefore, we included in the final analysis 2270 adolescents.

Information was collected by self-administered questionnaires that comprised socio-demographic and family characteristics, involvement in physical fights, alcohol use, tobacco smoking, marijuana and hashish use, sexual behaviour and self-reported health status.

Physical fighting was evaluated with the following question: "During the past 12 months, how many times were you involved in a physical fight?"

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Closed option answers ranged from never to 12 or more times. For the analysis, physical fighting during the previous year was computed as no or yes.

Depressive symptoms were evaluated using the Beck Depressive Inventory (BDI) II, and a score over 13 points defined the presence of depressive symptoms (Coelho et al., 2002).

Written informed consent was obtained both from parents and adolescents. The Ethics Committee of the University Hospital of São João, Porto, approved the study protocol.

To test the statistical associations between physical fighting and the independent exposure variables, we used the chi-square test; logistic regression was used to estimate the magnitude of the associations with adjustment to potential confounders [adjusted odds ratios, with 95% confidence intervals (OR 95% CI)].

Results

Overall, 768 (33.8%) adolescents reported physical fighting during the previous 12 months, boys (48.6%) more frequently than girls (20.1%; $p<0.001$). Of those involved in fights, 66 (8.6%) needed consequent health care (6.0% in girls and 9.8% in boys, $p=0.094$). The school premises were reported by 343 (45.0%) adolescents as the setting where fights occurred (girls, 41.2% and boys, 46.7%, $p=0.179$).

After adjustment for different co-variables, physical fighting remained significantly more common in girls who were smokers, in those who reported episodes of drunkenness or first sexual intercourse before 13 years old, as well in girls who had been retained more than twice or suspended from school (Table 1).

Table 1
The associations between last 12 months involvement in physical fighting and adolescents' social and behavioural characteristics, among girls (Porto, Portugal 2007).

	Total *n*	Yes *n* (%)	*p*-Value*	Adjusted ** OR (95% CI)
Parents' education (years)[a]				
<7	304	76 (25.0)	<0.001	1
7–9	226	56 (24.8)		1.02 (0.64–1.61)
10–12	305	56 (18.4)		0.86 (0.53–1.38)
>12	318	38 (11.9)		0.52 (0.31–0.88)
Household composition[b]				
Father and mother	835	142 (17.4)	0.003	1
Only mother	213	59 (27.7)		1.32 (0.89–1.95)
Only father	35	6 (17.1)		0.59 (0.21–1.65)
No parents	44	13 (29.5)		1.47 (0.67–3.21)
School[c]				
Public	947	208 (22.0)	0.001	1
Private	229	28 (12.2)		0.79 (0.49–1.28)
Grade retention			<0.001	
Never	768	106 (13.8)		1
Once	211	49 (23.2)		1.35 (0.86–2.10)
Twice or more	187	80 (42.8)		4.13 (2.63–6.49)
Ever suspended from school				
No	1078	191 (17.7)	<0.001	1
Yes	50	31 (62.0)		2.70 (1.33–5.45)
Alcohol use[d]				
Never	197	18 (9.1)	<0.001	1
Experimenter	454	91 (20.0)		3.09 (1.67–5.72)
Drinker, never drunker	329	65 (19.8)		3.60 (1.90–6.84)
Drinker, ever drunker	191	60 (31.4)		5.01 (2.50–10.04)
Tobacco use[e]				
Never	632	89 (14.1)	<0.001	1
Experimenter	369	89 (24.1)		1.41 (0.97–2.06)
Smoker	164	53 (32.3)		2.09 (1.29–3.41)
Marijuana and hashish use				
Never	1047	186 (17.8)	<0.001	1
1–2 times	42	16 (38.1)		2.13 (1.00–4.54)
≥3 times	64	26 (40.6)		1.84 (0.96–3.55)
Sexual risk behaviour[f]				
Never had intercourses	736	106 (14.4)	<0.001	1
First intercourse at age 13 years or older	410	115 (28.0)		1.53 (1.08–2.17)
First intercourse before age 13 years	17	8 (47.1)		4.24 (1.34–13.41)
Sexual partners[f]				
None	736	106 (14.4)	<0.001	1
One	292	73 (25.0)		1.14 (0.68–1.90)
Two	95	36 (37.9)		2.57 (1.38–4.80)
Three or more	40	17 (42.5)		2.13 (0.90–5.06)
Depressive symptoms				
BDI score≤13	853	158 (18.5)	0.003	1
BDI score>13	186	53 (28.5)		1.32 (0.86–2.04)
Chronic diseases[g]				
No	937	174 (18.6)	0.040	1
Yes	200	50 (25.0)		1.47 (0.97–2.21)

* *p*-Value obtained for the crude comparison of physical fighting prevalence across strata of exposure using the chi-square test.
** Adjusted for parents' education, grade retention, household composition, smoking and alcohol use.
[a] Adolescents were classified based on the parent with the higher educational level.
[b] With whom was living the adolescent.
[c] Public (state school) or private (schools not administered by local or national governments).
[d] Drinkers included those who occasionally or daily consumed alcoholic beverages, considering separately those who never got drunk and those who reported episodes of drunkenness.
[e] Smoker category includes both occasional or daily smokers.
[f] The age of the first sexual intercourse and the number of sexual intercourse partners were recorded as reported by the adolescents.
[g] Chronic disease was considered present if self-reporting a condition that required regular medical care.