Soc Psychiatry Psychiatr Epidemiol (1998) 33: 111–117

ORIGINAL PAPER

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Gender differences in symptoms of adolescents reporting sexual assault

Accepted: 27 March 1997

Abstract Sexual assault on children and adolescents has become a common topic of study, but there has been little research into the specific characteristics of the population of male victims. A national survey representative of school-age adolescents in France enabled us to study 465 adolescents reporting sexual assault (121 boys, 344 girls; mean age 15.4, SD 2.5 years). Girls were shown to be more frequently affected by certain medico-psychological symptoms: nightmares, multiple somatic complaints and some items concerning mood disorders. On the other hand, behavioural symptoms were much more frequently expressed in boys, in particular: repeated suicide attempts, running away, fits of violence and substance use. Boys presenting these symptoms should be questioned as a matter of routine concerning a history of sexual assault.

Introduction

Although the issue of sexual victimization is increasingly under discussion (Finkelhor 1994; Mullen et al. 1994), certain preconceived ideas are still in circulation concerning sexual assaults on males. Such beliefs mainly concern their supposedly low prevalence and limited effects (Hunter 1990).

Studies of male sexual abuse victims remain rare (Mendel 1995; Mezey and King 1992). Further, there is a tendency to restrict the issue of sexual assault on men to problems linked to institutions such as prison (Rideau and Sinclair 1982; Sagarin 1976), the armed forces or boarding schools (Goyer and Eddleman 1984). Men who undergo assault are stigmatized even more than women. It is difficult to accept that men may be victims and suffer sexual assault. The incestuous nature of abuse, or the fact that the aggressor was a woman, can also contribute to them remaining silent (Thomas 1989). All this explains why complaints lodged by male victims are scarce (Forman 1982).

Although figures for the prevalence of sexual abuse in boys and male adolescents vary widely, even the most conservative estimates show such abuse is far from rare. Finkelhor and his colleagues (1990), in a national survey of the general population, reckon on a prevalence of 16%. Cameron et al. (1986) also found a 16% prevalence in a national sample of the general population. As the definition of abuse is wide ranging, the prevalence of the most serious form of abuse, i.e. rape, must also be indicated. Sorenson et al. (1987) gathered complementary data from the Los Angeles Epidemiologic Catchment Area Project, which is one of the sites for the American National Institute of Mental Health scheme. According to them, 2.7% of men are thought to have been raped once in their life. Contrary to received opinion, the proportion of boys who are victims of sexual abuse may only be slightly less than that of girls (Baker and Duncan 1985; Finkelhor 1984; Kercher and McShane 1984).

Certain populations of boys have a high prevalence of past history of sexual abuse. This is especially true for adolescents who run away, a population that numbers between one and two million adolescents each year in the United States (McCormack et al. 1986; Stiffman 1989). McCormack states that 38% of boys who run away have a history of sexual abuse. Other children with a high incidence of past history of sexual abuse are those who have required a stay in a psychiatric department (Emslie and Rosenfeld 1983; Husain and Chapel 1983; Kohan et al. 1987; Kolko et al. 1988; Livingston 1987; Randall et al. 1994; Singer et al. 1989). Sansonnet-Hayden et al. (1987) found that, in their sample of 54

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hospitalized adolescents, 24% of boys asserted they had been sexually assaulted. Finally, boys who have experienced prostitution also have a particularly high prevalence rate (Gonsioreh et al. 1994; James and Meyerding 1977).

Not only are sexual assaults on boys less frequently reported, their consequences are also less well known. Whether sexual trauma causes differing psychological reactions in boys and girls is still an open question. Indeed, most of the time, studies on the subject have only come up with indications to be confirmed. Neilsen (1983) reported that two-thirds of male victims had experienced some kind of emotional disorder following assault. The most common psychological reactions were guilt, depression, low self-esteem, sleeping disorders and social withdrawal. Other studies have noted high levels of anxiety in boys (Burgess et al. 1981; Dixon et al. 1978; Mendel 1995; Rogers and Terry 1984). Others note their intense fears (Sebold 1987). Reactions of anger and aggressiveness were noted by Summit (1983). Thus, most of the studies, as Browne and Finkelhor noted (1986), highlight the fact that psychological distress is no less intense in boys than in girls. Several authors have stressed that, amongst sexual assault victims, behavioural disorders were more frequent in boys than in girls (Bolton et al. 1989; Friedrich et al. 1988; Sebold 1987). Suicide attempts were also noted as being frequent in boys (Spencer and Dunklee 1986). Concerns about identity or sexual orientation have been reported common (Johnson and Shrier 1987).

During a French national survey on health behaviour among high school students, questions dealing with sexual assaults were asked. On this point, the survey had four objectives:

1. To illustrate the feasibility and utility of gathering information concerning sexual assault directly from adolescents (Finkelhor and Dziuba-Leatherman 1994), in particular by means of self-administered anonymous questionnaires in representative samples.
2. To assess the prevalence and the sex ratio of sexual assaults among French adolescents, and to analyse the victims' sociodemographic characteristics. We hypothesized that the sex ratio of sexual assault victims was similar in France and in the USA (Finkelhor 1994).
3. To determine in victims, among the medico-psychological and behavioural problems much more common in victims than in non-victims, those problems that were more, less or equally specific to each gender, in order to find appropriate indicators that could help professionals (general practioners, paediatricians, school doctors, school nurses, social workers, or even mental health professionals) to suspect sexual assault among adolescents of both genders. We thus investigated problems that could be easily identified by health professionals (medico-psychological symptoms) or social care professionals (behaviour symptoms). We hypothesized that sexual assault had no less impact on boys than on girls.
4. To assess, according to the victims' gender, in what way sexual assault victims had recourse to mental health care.

Methods

The survey was carried out by INSERM Unit 169 together with the Ministry of Education, and dealt not only with sexual assault but many topics in which the different researchers involved in the survey were interested. The sample was designed to be nationally representative of state secondary school attendees. In France 80% of students go to state schools, 20% to private schools. Regional education areas were selected according to their geographical location and number of students enrolled in these areas. Eight of the 22 educational areas of France were selected and in each area a random sample of 1% was drawn. One hundred and eighty-six schools were randomly selected according to the type of school (junior high school, senior high school and vocational school) and 578 classes (14278 students) were randomly selected in these schools. Three school principals refused to participate (their schools represented 3% of the initial sample), 7% of the students were absent on the day of the survey, 1.4% did not participate for scholastic reasons (preparation for examinations, training programmes) and 1.3% of parents and 1% of adolescents refused to participate. There resulted a sample of students nationally representative of state secondary school attendees, as the general report of the survey (Choquet et al. 1994) described regarding the sampling design. Among the participants, 4251 students (34.3%) were in the first two grades, and 8140 (65.7%) were in higher grades. School nurses or school doctors explained the procedure to the students in class and remained there, available for further information, during the hour the students were given to fill in the questionnaire.

The main part of the questionnaire was derived from the Choquet-Ledoux-Menke study (1988) and the WHO-HBSC study (World Health Organization, Health Behaviour among School Children, Aaro et al. 1986). The multiple choice questions (n = 274) mainly dealt with sociodemographic characteristics, schooling, licit and illicit substance consumption, delinquent and violent behaviour, suicide attempts, psychological complaints and lifestyle. Psychological trauma had not been looked for in the previous studies. Reporting of sexual assault was therefore screened by a new question: "At some time in my life I have been a victim of sexual assault." (in French: "Au cours de ma vie, j'ai été victime d'une agression sexuelle."). This question was followed, for the older students only, by details on the type of sexual assault (rape, rape attempt or other sexual assault), and was preceded by questions on physical assault with some of their characteristics (with or without a weapon). Medico-psychological symptoms during the past 12 months were assessed by multiple choice items (never, seldom, fairly often, very often). The answers were combined into [fairly often + very often], and [never + seldom]. Behaviour disorders were generally assessed for the past 12 months, except for illicit substance use and suicide attempt, which were assessed for the lifetime period. Mental health care was assessed by asking whether, during the past 12 months, subjects had consulted a psychiatrist or psychologist, and whether they took psychotropic medication.

We compared boy and girl sexual assault victims regarding symptoms that appeared significantly more frequently in our survey in victims of sexual assault than in non-victims ($P < 0.001$). We compared the two genders using the χ^2 test. Odds ratios (OR) adjusted for age were calculated, as well as their 95% confidence interval (95% CI), the dependent variable being a symptom and the covariables the age and the gender. The analysis was completed by logistic regression in order to find the clinical symptoms best differentiating boy and girl victims of sexual assault, age being equal. During a logistic regression, the covariables are introduced one by one into the model, starting with the one having the strongest link to the dependent variable, and at each step the covariables are kept within the model only if their link to the dependent variable is strong enough ($P < 0.10$). SAS version 6.08 on a VAX 6000 was

used for bivariate analysis and BMDP software (Dixon 1988) for logistic regressions.

Results

Sociodemographics

Responses to the questionnaires showed that 465 subjects (3.8%) had been sexually assaulted (2.0% in boys, 5.6% in girls). The mean age was 15.4 years (SD = 2.5 years), subjects under the age of 16 years representing 54%. Fifty-seven percent were junior high school students (vs 43% senior high school students); 8% were of foreign nationality; 38% of the fathers worked in a management capacity, the socioprofessional category of the others was lower. A boy/girl comparison between sexually assaulted adolescents (Table 1) showed above all the boys' younger age (whereas the age distributions according to gender in the whole sample were similar).

Symptom comparison between sexually assaulted boys and girls

Lifestyle and schooling

A larger proportion of boys reported that they *went out frequently* and felt *dissatisfied with school*, but as regards any emotional isolation or failure at school, the boys were not significantly different from the girls (Table 2). A logistic regression proposing *gender* as dependent variable, and the items on Table 2 (*going out, having friends, dissatisfaction with school, years repeated*), as well as age as covariables, showed that two items distinguished between boy and girl victims, age being equal, with regard to lifestyle and schooling. These were: *going out frequently* OR = 2.85, 95% CI = [1.69–4.82] and *don't like school* OR = 2.37, 95% CI = [1.44–3.92], the other variables not being kept within the model.

Medico-psychological symptoms

Several medico-psychological symptoms are significantly more common in girl victims: *nightmares*, related to the

Table 1 Gender comparison of the sociodemographic characteristics in sexually assaulted adolescents

	Boys (n = 121)	Girls (n = 344)	Difference boys/girls	P
Age (years)[a]				
Mean age (±SD)	14.1 (±2.1)	15.9 (±2.4)	7.1[d]	<0.001
Age < 16 years	76%	47%	29.4[e]	<0.001
Type of school				
Pupil in junior high school[b]	82%	49%	39.8[e]	<0.001
Father's socioprofessional status				
Executive[c]	31%	41%	3.0[e]	0.080
Nationality				
Foreign	8%	8%	0.001[e]	0.977

[a] At the time of the survey
[b] Versus pupil in senior high school
[c] Executive or middle management, the remainder being factory, office, agricultural or manual workers
[d] Student's t-test
[e] χ^2 with df = 1

Table 2 Gender comparison of the lifestyle and schooling in sexually assaulted adolescents (*OR* odds ratio, *95% CI* 95% confidence interval)

	Boys (n = 121)	Girls (n = 344)	Difference boys/girls		Approximated relative risk boys/girls[e]	
	%	%	χ^2	P	OR	95% CI
Going out often[a]	76	56	14.7[c]	<0.001	2.98	1.78–4.99
Having no or only one friend	10	8	0.3[c]	0.566	ns	
Dissatisfaction with school						
Don't like school[b]	40	24	11.2[c]	0.001	2.23	1.42–3.49
Years repeated						
None	48	42				
One	31	34				
Several	20	25	1.7[d]	0.418	ns	

[a] Going often to cafés, to nightclubs or hanging around in town
[b] Versus like school a lot or think school is alright
[c] df = 1
[d] df = 2
[e] Age being equal

Table 3 Gender comparison of medico-psychological symptoms in sexually assaulted adolescents

	Boys (n = 121)	Girls (n = 344)	Difference boys/girls[d]		Approximated relative risk boys/girls[e]	
	%	%	χ^2	P	OR	95% CI
Sleeping disorders						
Sleep badly[a]	26	25	0.1	0.778	ns	
Nightmares[a]	15	24	4.2	0.040	0.560	0.316–0.995
Waking up in the night[a]	39	34	0.7	0.392	ns	
Anxiety disorders						
Nervous tension[b]	26	30	0.8	0.367	ns	
Worries[b]	15	20	1.6	0.209	ns	
Depressive disorders						
Feel depressed[a]	24	45	17.1	< 0.001	0.389	0.239–0.631
Low morale[a]	32	29	0.6	0.424	ns	
Can't look on the bright side[a]	26	30	0.6	0.448	ns	
No hope for the future[a]	34	44	3.6	0.057	ns	
Feel like crying[a]	28	55	24.4	< 0.001	0.329	0.206–0.524
Suicidal thoughts[a]	32	30	0.2	0.632	ns	
Lack of energy[a]	34	35	0.01	0.935	ns	
Somatoform disorders						
Multiple somatic complaints[c]	21	37	11.1	0.001	0.517	0.304–0.878

[a] Quite or very often over the last year
[b] Very often over the last year
[c] Over the last year, frequent presence of more than three out of the following five somatic complaints: fatigue, headaches, digestive pain, nausea, back pain
[d] df = 1
[e] Age being equal

notion of post-traumatic stress disorder (Rowan and Foy 1993); *depressed* and *feel-like-crying feelings*, approximating to the category of depression; *multiple somatic complaints*, representing somatoform disorders. However, many other items do not differ significantly according to gender (Table 3). A logistic regression proposing *gender* as dependent variable, and the symptoms on Table 3 (*sleep badly*, *nightmares*, *waking up in the night*, *depressed*, *low morale*, *can't look on the bright side*, *no hope for the future*, *feel like crying*, *suicidal thoughts*, *lack of energy*, *somatic complaints*) as well as age, as covariables, showed that only one item distinguished between boy and girl victims, age being equal, from the medico-psychological point of view. This was *often feel like crying* OR = 0.323, 95% CI = [0.196–0.531], the other variables not being kept within the model.

Behaviour symptoms

All the behaviour problems studied were overrepresented in boys (Table 4). In particular, compared to girls, boy victims had frequently consumed *heroin* (21% vs 2%, χ^2 = 34.9, P < 0.001, adjusted for age OR = 14.5, 95% CI = [4.85–43.4]). A logistic regression proposing gender as dependent variable, and the disorders on Table 4 (*running away*, *aggressive behaviour*, *theft in a public place*, *fits of violence*, *single and repeated suicide attempts*, *illicit drugs*, *alcohol*, *school absenteeism*, *accident*) as well as *age*, showed that three items distinguished between girl and boy victims, age being equal, from the behavioural point of view. These were: *illicit drugs* OR = 3.54, 95% CI = [1.86–6.74]; *fits of violence* OR = 2.34, 95% CI = [1.43–3.85]; and *running away* OR = 2.33, 95% CI = [1.32–4.12]; the other variables not being kept within the model.

A logistic regression proposed *gender* as dependent variable and, as covariables, *age* as well as the medico-psychological symptom (*often feel like crying*) and the behaviour disorders (*illicit drugs*, *running away*, *fits of violence*) previously selected as items distinguishing between boy and girl victims of sexual assault, age being equal, from the medico-psychological point of view and from the behavioural point of view, respectively. It then enabled us to classify these items, considered simultaneously and age being equal, as discriminating for gender. This classification was as follows: *illicit drugs* OR = 4.18, 95% CI = [2.10–8.30]; *often feel like crying* OR = 0.254, 95% CI = [0.145–0.444]; *fits of violence* OR = 2.77, 95% CI = [1.63–4.72]; *running away* OR = 2.64, 95% CI = [1.43–4.87].

Mental health care

More boys in the sample consult psychiatrists or psychologists but, age being equal, the difference is not significant; more girls use psychotropic medication (Table 5). A logistic regression proposing *gender* as dependent variable, and the items of mental health care on Table 5 (*consulting a psychiatrist or a psychologist*, *using psychotropic medication*) as well as *age*, as covariables, showed that the only item that distinguished between boy and girl victims, age being equal, from the mental

Table 4 Gender comparison of behavioural symptoms in sexually assaulted adolescents

	Boys (n = 121)	Girls (n = 344)	Difference boys/girls[h]		Approximated relative risk boys/girls[j]	
	%	%	χ^2	P	OR	95% CI
Running away[a]	34	15	19.9	< 0.001	3.13	1.89–5.16
Aggressive behaviour[a,b]	61	26	44.8	< 0.001	3.07	1.91–4.92
Theft in a public place[a]	40	22	14.3	< 0.001	2.31	1.45–3.68
Fits of violence[c]	51	27	21.9	< 0.001	2.81	1.80–4.38
Suicide attempt[d]	31	26	1.1	0.277	ns	
Several suicide attempts[d]	20	8	12.6	< 0.001	3.15	1.72–5.79
Illicit drugs[d,e]	29	11	20.4	< 0.001	4.83	2.64–8.81
Alcohol[a,f]	34	15	20.1	< 0.001	2.9	1.77–4.75
School absenteeism[a,g]	32	20	7.0	0.008	2.1	1.30–3.39
Accident[a]	63	51	4.8	0.028	1.58	1.01–2.48

[a] During last year
[b] Involved in racketeering, or often fights, hits out or breaks things
[c] Frequent
[d] Over whole life
[e] Has taken an illicit substance more than ten times: cannabis, heroin, cocain, inhaled drugs or narcotic medical products
[f] One drink of an alcoholic beverage (beer, wine or hard liquor) at least twice per week, or becoming drunk at least three times
[g] Often truants, or often is late, or often is absent at least 1 day
[h] df = 1
[j] Age being equal

Table 5 Gender comparison of some aspects of mental health care in sexually assaulted adolescents

	Boys (n = 121)	Girls (n = 344)	Difference boys/girls[c]		Approximated relative risk boys/girls[d]	
	%	%	χ^2	P	OR	95% CI
Mental health care[a]						
Has consulted a psychiatrist or psychologist[c]	20	12	4.7	0.031	ns	
Has taken psychotropic medication[b]	23	41	10.3	0.001	0.521	0.303–0.896

[a] Over the last year
[b] Prescribed by a doctor
[c] df = 1
[d] Age being equal

health care point of view was: *using psychotropic medication* OR = 0.498, 95% CI = [0.270–0.948]; the variable *consulting a psychiatrist or psychologist* did not lead to a significant OR in the model.

Discussion

This survey was the first attempt in France to investigate certain aspects of the problem of sexual assault based on a national sample representative of school-age adolescents. The question screening for sexual assault was one among many other items on the questionnaire. The question, which was formulated in relation to *sexual assault* and not, for instance, *sexual abuse*, was designed to screen for sexual acts accompanied by offensive violence (Koss 1992), which excludes non-consensual sexual acts without violence (Spira and Bajos 1993).

The advantage of using the technique of a self-administered questionnaire is that it becomes possible to study large samples taken from the general population, which is difficult when one is dealing with a problem that only involves a small proportion of the population in statistical terms, even if it concerns a large number of people and poses a major public health problem in absolute terms. Surveying within senior and junior high schools led to a high participation rate. Other authors, however, feel that this technique, as opposed to the interview, minimises the observable phenomena (Demause 1991). Our experience shows that it is possible to study a large sample of boys reporting sexual assault, which has seldom been the case whatever the method of inquiry used.

Sexual assault is reported by 3.8% of French adolescents. For girls, the prevalence (5.6%) is close to that found for slightly older American girls (Breslau et al. 1991). Despite the low number of surveys concerning boys, specialists assess the sex ratio at one boy to two girls (Finkelhor 1994; Sheldrick 1991), while our survey shows one boy to three girls. Our sample only concerns school attenders; school is compulsory up to 16 years of age, but between 16 and 18, only 90% of teens attend

school (INSEE 1995). The younger average age of boy sexual assault victims compared to girls would seem to suggest that the trauma frequently occurs earlier for them. However, this could be due partly to the fact that some boy victims leave the school system. Our study results (especially those concerning school absenteeism and dissatisfaction with school in victims, in particular in boy victims) would tend to bear this out. We are led to believe that restricting our survey to school attenders may have minimised the prevalences and the boy/girl ratio of sexual assaults, as well as the symptoms observed in victims.

The majority of the victims do not consult mental health professionals. This justifies our objective to find simple screening indicators for non-specialist medico-social care workers.

The cross-sectional nature of this survey meant that many victims were assessed a long time after the sexual assault, if indeed it is true that acts of sexual violence mainly occur before puberty, as Halperin et al. assert (1996). This would tend to minimise the post-traumatic symptoms in victims. It also means that the aetiological nature of the sexual assault for the symptoms observed cannot be stated. Yet the recurrent studies showing disorders to be massively present in any group of victims (Sheldrick 1991) suggest this. Moreover, asserting the contrary, that is that sexually assaulted adolescents were previously children and teenagers with psychiatric and behavioural problems, even if it cannot be excluded, is nonetheless an offensive attitude towards the victims which we do not take on board. The issue may only be settled by future follow-up studies.

Conclusions

Our conclusions are as follows: a history of sexual assaults is not uncommon in boys; boy victims seem to be often younger than girls; not only are the symptoms in boy victims no less common than in girls, but they are often as common from the medico-psychological point of view, and always more common for behavioural symptoms, which are symptoms especially difficult to treat. Boys who use illicit drugs, have fits of violence, run away or attempt suicide should be questioned as a matter of routine concerning a history of sexual assault.

Acknowledgements For their participation in the data collection we acknowledge the work of Dr. Brice, consultant physician to the Minister of Education; Mr. Forestier, National Director of Secondary Schools; Mr. Monnier, Mr. Bonneau-Walzer, Mr. Fisher, Mrs. Seneterre and Mrs. Narbonni; the doctors, nurses, social workers and principals of the schools of eight participating academies; the parents and the adolescents. For their methodological advice we thank Drs. M. Chavance and T. Moreau. This survey was supported by the French Health Directorate (Direction Générale de la Santé), the National Public Health Network (Réseau National de Santé Publique), the Mutuelle Générale de l'Education Nationale and the French Committee for Health Education (Comité Français d'Education pour la Santé).

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