



Mental Health Problems among Adolescents Engaged in Physical Fight

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Author's contribution

The sole author designed, analyzed and prepared the manuscript.

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ABSTRACT

Aim: There is scarcity of data on the prevalence and mental health correlates of fighting among school children in sub-Saharan Africa. The current study determined the association between fighting and emotional and behavioural problems in a sample of public secondary school children in Lagos, Nigeria.

Study Design and Methods: The study design was cross-sectional. The violence and injury module of the Global school-based health survey questionnaire was used to elicit history of physical fight, and the Strength and difficulty Questionnaire (SDQ) assessed mental health problems among the participants. Data was analysed with SPSS version 20.

Results: The questionnaires were completed by 342 participants, 58.5% of whom were males, with a mean age of 15.8 (± 1.2) years. About four out of ten (40.5%) students had engaged in physical fight in the past year. Fighting was significantly more prevalent among males than females ($p=0.008$). On regression analysis, fighting was independently associated with conduct problems ($p<0.001$, OR=2.94, 95% CI=1.69-5.13), emotional problems ($p=0.001$, OR= 2.13, 95% C.I.=1.37-3.30) and mental health problems ($p=0.039$, OR= 1.691, 95% CI= 1.028-2.782).

Conclusion: Adolescents engaged in fighting may benefit from screening for mental health problems and referrals for mental health interventions.

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1. INTRODUCTION

Violence is a major public health problem among adolescents globally. It is the fifth leading contributor to mortality in persons aged 15-44 years [1,2]. Fighting has been recognised as a major indicator of inter-personal violence among adolescents and youths [3,4]. It is also a known marker of a cluster of unhealthy lifestyles and problematic behavioural patterns, with associated negative physical and mental health consequences [4,5].

Fighting has been widely researched among school children in North America [6,7], South America [8], Europe [9,10] Asia [11] and Africa [3,12]. Prevalence of fighting ranged from 13% to 70% across the diverse population of school children previously studied [6-12]. A cross-cultural study of fighting among adolescent boys in nine countries reported rates of physical fighting ranging from 37% in Finland to 69% in Czech Republic [9].

The significance of fighting transcends its physical consequences which may culminate in physical injury or death, but also its association with risky behaviours and negative mental health outcomes [5,6,13-15]. A prospective study demonstrated that only a minority of boys engaged in fighting had desisted 7 years later, and persistent fighters had three fold higher risks for psychiatric disorders than non-fighters [16]. Adverse mental health outcomes commonly associated with fighting include conduct disorders [16], depression [12], psychoactive substance use disorders [16-18], psychological distress [19] and suicidal behaviour [20,21].

There is scarcity of data on the prevalence and mental health correlates of fighting among school children in Nigeria and sub-Saharan Africa. The current study assessed the prevalence of fighting in a sample of senior secondary school students in Lagos, Nigeria. The emotional and behavioural correlates of fighting were also determined.

2. METHODS

2.1 Study Design and Setting

A cross-sectional study design was used. Participants were recruited from a sample of adolescent students attending four public co-

educational secondary (high) schools within the mainland area of Lagos. Lagos is a metropolitan city in south-western Nigeria, inhabited by over 15 million people.

2.2 Ethical Consideration

Approval was obtained from the Lagos Educational Authority District Office before the commencement of the study. The students were informed about the nature and purpose of the study. This was also communicated to their parents/guardian through letters sent through their children/wards after obtaining permission from the school authority. Only students who gave their assent, and their parents/guardians consented were recruited into the study. The participants were recruited from classes 4 and 5 (grade 10 to 11) in the four secondary schools by convenient sampling.

2.3 Study Instrument and Procedure

The violence and injury module of the Global school-based health survey questionnaire (GSHS) [22] was used to elicit history of involvement in physical fight in the past one year. The Strength and Difficulty Questionnaire (SDQ) [23] was used to assess mental health problems among the participants. The participants completed the questionnaires by self-report. The GSHS was developed by the WHO in collaboration with UNICEF, UNESCO, UNAIDS and technical assistance from CDC. The main variable of interest extracted from the GSHS is engagement in a physical fight on more than one occasion in the past year. The question item on fighting was "During the past 12 months, how many times were you in a physical fight?" This was accompanied by a definition of physical fight; "when two or more students of about the same strength and power choose to fight each other". The SDQ contains twenty five item questions and five clinical sub-scales of; Emotional Symptoms, Conduct Problems, Hyperactivity, Peer Problems and Pro-social Behavior. The sum of scores on scales of Emotional Symptoms, Conduct Problems, Hyperactivity and Peer Problems account for Total Difficulties score which can range from 0 to 40. The subscales and total scale also have different cut-off scores for the presence/absence of mental health problems or probable psychiatric disorder. Only those with abnormal scores on the

four subscales of SDQ (excluding pro-social behaviour subscale) were regarded as having mental health problems. The SDQ has been widely used to assess mental health problems in several studies conducted in Nigeria [24-27]. The SDQ has also demonstrated satisfactory psychometric properties in assessing mental health problems among children and adolescents in Nigeria [28]. The internal consistency of the sub-scales were: emotional symptoms ($\alpha=0.84$), conduct problems ($\alpha=0.86$), peer problems ($\alpha=0.71$), and hyperactivity –inattentive scale ($\alpha=0.78$), which reflects high levels of reliability [28].

2.4 Statistical Analysis

SPSS-IBM (version 20) was used to analyse the data. Prevalence of involvement in physical fight on more than one occasion in the past one year and presence of mental health problems were computed as frequencies and percentages. The association between history of involvement in physical fight and categorised difficulties scores on the various sub-scales of the SDQ were determined using the chi-square test. The level of significance was set at $p<0.05$.

3. RESULTS

The total number of questionnaires administered to the participants was 412. However, 342 (83%) had completed data suitable for analysis on the variables of interest. More than half (58.5%) of the participants were males. Their mean age was 15.8 (± 1.2) years.

About four out of ten (40.5%) of the students reported having been involved in a physical fight in the past one year. More than half (51.0%) of

the male students had engaged in a fight in the past year (Table 1), compared to about a third (36.6%) of the females ($p=0.008$).

Nearly a third (32.5%) of the students involved in fighting had conduct problems, while only 12.8% of those who did not fight had conduct problem ($p<0.001$), indicating a statistically significant association between fighting and conduct problems (Table 2).

The prevalence of emotional problems among participants who had engaged in physical fight in the past year was significantly higher (61.0% vs. 41.5%) than those who were not involved in a fight ($p<0.001$).

Hyperactivity problem was twice more prevalent (9.1% vs. 4.3%) among students who engaged in physical fight in comparison to those who did not fight. However, the difference was not statistically significant ($p=0.070$). There was a marginally higher prevalence of peer problems among those who fought (35.1%) compared to those who were not involved (33.0%) in a fight (Table 3). However, this difference was not statistically significant ($p=0.685$). Overall, history of involvement in physical fight in the past year was significantly ($p<0.001$) associated with the presence of mental health problems (total SDQ scores).

On regression analysis, fighting was independently associated with conduct problems ($B=1.078$, $Wald=14.42$, $p<0.001$, $OR=2.94$, 95% $CI=1.69-5.13$), emotional problems ($B=0.754$, $Wald= 11.138$, $p=0.001$, $OR= 2.13$, 95% $CI=1.37-3.30$) and mental health problems ($B=0.525$, $Wald=4.278$, $p=0.039$, $OR= 1.691$, 95% $CI= 1.028-2.782$)

Table 1. Association between gender and fighting

Gender	Fought n (%)	Did not fight n (%)	Total	χ^2	P
Male	102 (51.0)	98 (49.0)	200	6.937	0.008
Female	52 (36.6)	90 (63.4)	142		

Table 2. Association between fighting and conduct problems

Engaged in physical fight	Conduct problems		Total	χ^2	P
	Yes n (%)	No n (%)			
Yes	50 (32.5)	104 (67.5)	154	19.379	<0.001
No	24 (12.8)	164 (87.2)	188		

Table 3. Association between fighting and emotional problems

Engaged in physical fight	Emotional problems		Total	X ²	P
	Yes n (%)	No n (%)			
Yes	94 (61.0)	60 (39.0)	154	12.942	<0.001
No	78 (41.5)	110 (58.5)	188		

Table 4. Association between fighting and mental health problems

Engaged in physical fight	Mental health problems		Total	X ²	p
	Yes n (%)	No n (%)			
Yes	48 (31.2)	106 (68.8)	154	4.335	0.037
No	40 (21.3)	148 (78.7)	148		

4. DISCUSSION

The current study determined the prevalence and mental health correlates of fighting in a sample of adolescent secondary school students in Lagos, south west Nigeria. About 4 out of 10 (40.5%) students were engaged in a physical fight in the past one year. The prevalence of fighting in the current sample is consistent with previous research on this subject. A study conducted among adolescent students in Chile found that 40.7% had engaged in physical fight in the past year [8]. Similarly, 42% of adolescent students in Turkey reported involvement in a fight in the past year [10]. In Africa, studies conducted among adolescent students in Namibia and Egypt found that 50.6% and 31% respectively had engaged in physical fight in the past year [3,12]. Research has also demonstrated high prevalence of fighting among school children in developed countries. In a North American study, nearly a third of youth (30.9%) engaged in fighting in the past year [6], while Pickett et al. [9] reported prevalence rates of 58.2% and 53.3% in Austria and Wales respectively. The significantly higher rate of fighting among males is congruent with previous research, and reflects traditional masculine gender socialisation [3].

In the current study, engagement in fighting was significantly associated with the presence of conduct problems. The association between conduct problems and fighting has also been shown by previous researchers [18,29]. This is a critical finding considering the fact that conduct disorder could be a harbinger of a cluster of risky behavioural patterns and mental health problems including substance use disorders and anti-social personality disorder [29-32]. Research has extensively substantiated that adolescents involved in fighting are more likely to have

substance use disorders than those who are not engaged in fighting [16-18].

Another important finding of the current study is the significant association between fighting and emotional problems. This finding is convergent with extant research evidence [12,19,33]. On regression analysis, adolescents engaged in fighting were three times more likely to develop emotional problems compared to those who did not fight. The relationship between fighting and emotional problems suggests that fighting may be indicative of emotional distress among adolescents. Psychological distress could impair inter-personal functioning, thereby compromising adaptive approach to conflict resolution.

Overall, engagement in fighting was associated with the presence of mental health problems. This finding substantiates previous research [10,30,33,34]. Consequently, fighting should not be merely considered as the norm or passage of rites, but rather a possible marker for behavioural problems among young people [35]. According to the Problem Behaviour Model Theory, fighting is part of a constellation of risky behavioural patterns exhibited by distressed adolescents, culminating in poor mental health outcomes [36].

The current research has a number of important implications. Firstly, the one-year prevalence of fighting in about 4 of 10 pupils indicates an unmet need to imbibe pro-social behaviour and adaptive strategies for conflict resolution. Secondly, the association between fighting and the presence of emotional and conduct problems suggest that fighting could be a proxy for identifying school children at risk of mental health problems. Thirdly, adolescents engaged in fighting could benefit from screening for conduct problems and emotional distress in order to

facilitate prompt detection and referral for timely mental health intervention.

The current study was limited by its relatively small sample size and the recruitment of participants by convenient sampling from only four public schools within a metropolitan city. This could limit the generalisation of the findings to other settings. Furthermore, the presence of mental health problems and history of engagement in fighting were elicited by self-report which may be influenced by social desirability bias. However, the anonymous nature of the questionnaire may reduce the likelihood of such influences. Notwithstanding, the study has provided salient information on a previously under-researched population, using recognized validated research instruments.

5. CONCLUSION

About 4 of 10 adolescent students reported engagement in physical fight in the past year. Fighting was significantly associated with conduct and emotional problems. The relationship between fighting and mental health problems indicates the need for mental health screening of school children engaged in fighting and teaching of adaptive social behaviour. Further research in a larger sample is desirable.

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COMPETING INTERESTS

Author has declared that no competing interests exist.

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