Bullying and Health Manifestations among Primary School Children

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Abstract:

Background: Bullying at schools is a universal problem of different predominance rates. It is portrayed as a specific sort of aggression characterized by a regular and systematic misuse of power. This is presented as verbal, relational, and cyber aggression. It is believed that the bullied children are at high risk of experiencing health and mental issues as well as lower self-confidence. **Objectives**: The present study aimed to examine the direct and relational bullying experience and their association with common health manifestations among primary school children in Tanta, Egypt. **Methods**: A cross-sectional study in Tanta city in the Middle of Nile Delta, Egypt, was conducted among 1535 students recruited using a multistage random sampling technique. Data was collected using Olweus Bullying questionnaire as well as Health questionnaire to assess the associated health problems. **Results:** Among study participants, 939 students (61.2%) were males and 884 (57.6%) were from the urban residence. Verbal bullying; mainly name-calling (5%), and physical bullying in the form of kicking and hitting (3.5%) were the commonest types of bullying. Results also indicated that boys practice bullying more significantly than girls. Victim/bully students expressed bullying manifestations more frequently. **Conclusions:** Bullying in the form of verbal, physical, and emotional violence is a considered as a major problem among primary school children. Bullied children suffer from various health and emotional-related problems, affecting their academic performance negatively.

Keywords: Bullying, Children, Mental Health, School, Violence

Introduction:

Bullying is usually defined as a subset of forceful behavior; it is described as the repetition of abusive and aggressive behavior. A victim is targeted several times and can not protect him/herself effectively for several reasons. He/she may be outnumbered, less physically solid, or less psychologically resilient than the bullies.(1)

School bullying has become a topic of open concern and extensive research in different nations in the world during the past two decades. Roughly, 8-46% of the kids are subjected to bullying in primary schools.(2-5) Bullying can affect physical and mental wellbeing of the victims in the time of being bullied as well as their future lives. It could induce physical harm as well as social and psychological maladjustment.(6)

A previous research reported that the victims of bullying are at expanded hazard for emotional wellness problems, headaches, and issues acclimating to class and school. In addition, bullying can cause long-term damage to self-esteem and feeling of inferiority.(7) Similarly, another research has indicated that a proportion of

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victims also practice bullying at other times of their lives where they have been reported to differ significantly from "pure" bullies in their behavior.[8]

Though the prevalence of bullying remarkably differs across various countries, many researchers concluded that it affects about half of children and adolescents.[9] A wide-based European study which included 40 western countries reported that the range of being involved in the 3 groups of bullying combined (i.e. being bullied, bullying others, and both a bully and victim) was from 8.6 to 45.2% between boys and from 4.8 to 35.8% between girls.[10]

Between 2006 to 2008, the Global School-based Student Health Survey (GSHS) conducted in Egypt, Libya, Morocco, and Tunisia detected that about 60% of students in Egypt and one-third of students in Libya, Morocco and Tunisia suffered from bullying during the past month.[11]

At the national level, a related study investigated the prevalence of violence at schools, reporting that around 35% of preparatory school students had violent traits and 11.7% expressed violent behavior.[12] Another Egyptian study reported that 51% of boys and 20% of girls committed abusive attacks at preparatory and secondary schools.[13]

In Egypt, most of the studies investigating school violence were mainly among adolescents.[12-15] Furthermore, previous studies of school bullying in Egypt did not correlate all subgroups of school bullying with each other (bullies, victims, bully-victims).[14,16] Hence, this study was conducted to investigate the direct and indirect bullying experiences and determine the associated common health complaints among primary school children in Tanta, Egypt.

Methods:

***Study design and target population*:**

This study is of a cross-sectional design conducted among primary school children in Tanta, Egypt, in the academic year 2016/ 2017. The sample size was calculated using EPI-INFO2002 software. Due to the unavailability of data about the bullying rate among primary school children in Gharbya governorate, we assumed that 50% of children were exposed to bullying, with a precision of 3%, confidence level of 95%, and an error rate of 0.05.

A minimum sample of 1520 students was required. A multistage stratified random sampling technique was performed. Stratification was based on Gharbya governorate educational administration, grade level, and gender. The first stage included 10 mixed schools which were randomly selected out of 133

public primary schools in Tanta after excluding one gender schools. In the second stage, the predetermined sample was proportionally allocated to the selected schools; 60 classes out of 180 classes were randomly chosen. The allocated sample for each school was equally allocated on all grades (one class/each grade from first to sixth grade was randomly chosen).

In the subsequent stage, all the children in the selected classes were included in the study to reach the required study sample. Thirty-one children (1.95 %) declined permission and 22 children (1.38%) were absent on the days of interviewing. The total number of children enrolled in the study was 1535 primary school children aging from 6 to 12 years old, with a participation rate of 96.67%. This sample compromised 939 boys (61.2%) and 596 girls (38.82%).

Instrumentation and Procedures:

1. Bullying interview:

Children were interviewed using a standard adapted bullying interview complying with the criteria specified by Olweus Bullying Questionnaire[17] and modified to be appropriate with the Egyptian culture and ethics. The present study indicated a good validity and reliability; Cronbach's alpha test was 0.89 and internal consistency was 0.79.

The questionnaire consisted of 26 questions about bullying experience in the previous six months in the school; 5 questions about direct bullying (e.g. hitting, kicking, pinching, loss or damage of personal stuff, and sexual bullying), 8 questions about relational bullying (e.g. hurtful manipulation of peer relationship and friendships such as threats, teasing, taunting, nasty names, nasty tricks, discrimination, blackmailing, telephone bullying, and social exclusion), and 13 questions about whether the children had directly or relationally bullied other children.

The frequency of bullying experience six months prior to the study was rated in 3 categories; never/rarely (one to three times during half a year), sometimes (more than three times during a half year), and usually/all the time (once a week or more). According to the manifestations of bullying and violence, students were classified into 4 groups; assaults, victims, both assaults/victims, and not involved in bullying. Detailed instructions on how to respond and explain what is meant by bullying were done by the researcher.

2. Health questionnaire:

The health questionnaire was structured by the authors after reviewing similar published literature.[10-15] For validation, the questionnaire was reviewed extensively by 3 experts and tested for its validity and reliability where the Cronbach's alpha test

was 0.89. Parents were asked to complete the health questionnaire in terms of the associated common physical and psychosomatic health problems among their children over the six months prior to the study. The items were rated as either "never", "sometimes", or "often".

Data analysis:

The analysis was done using Statistical Package for Social Sciences (SPSS), version 20 (IBM, Chicago, USA). The quantitative data were presented as mean and standard deviation and the qualitative data were presented as number and percentage. Chi-Square test was the test of significance. One-way analysis of variance (ANOVA) was used to compare means between bullying/victim groups.

Results:

Table (1) shows the socio-demographic characteristics of the studied children. Out of 1535 students, 939 (61.2%) were males and 884 (57.6%) were from the urban residence. During the six months prior to the study, school absenteeism was less than two weeks among 53%, 2-4 weeks among 11.2%, and more than one month among 3.6% of the studied students. Physical health problems were the most common cause (44%) of school absenteeism.

Table (2) presents the distribution of direct and relational bullying among the studied students. For the indirect bullying, 5.0% of the students reported that they are usually or always being exposed to nasty names and ticks, followed by 1.8% who reported their exposure to rumors and lies, while 1.8% and 1.7% suffered from exclusion from a group and exposure to threats and teasing by others, respectively. Direct bullying in the form of hitting or kicking was reported by 3.5% to happen usually or all the time, followed by stealing or destroying personal stuff which was reported by 2.7%.

The manifestations of bullying and violence determining their scorings among the studied students are explained in Table (3). Among participants, 8.9% and 3.8% of the students recorded loss or damage of personal stuff sometimes or all the time, respectively. Unexplained bruises and scratches were reported among 7.7% as happening sometimes and 3.3% as happening all the time. At the same time, 18.8% and 17.8% of the students reported a tendency for leadership and being easily and rapidly angered all the time.

The most common psychosomatic manifestations among the studied students were respectively; feeling tired/fatigue (34.6%), headache (19.9%), colic (15.1%), and cough (19.7%). A significant positive correlation was found between bullying and psychosomatic manifestations among the studied students (r=0.451,p=0.001).

According to the bully/victim scale, the studied students were classified into bullies (n=219, 14.3%), victims (n=175,11.4%), both bullies/victims (n=123, 8.0%), and not involved in either bullying or victimization (n=1018, 66.3%). Gender was a significant factor affecting bullying where it was found that the percentage of males practicing bullying (16.3%) is significantly higher than the percentage of females (11.1%). However, residence was not recorded as a significant factor affecting bullying (Table 4).

A significant difference was found between direct bullies, victims, bullies/victims, and neutral children in terms of the total health bullying manifestation score where it was 41.56±6.23 for the children of the bullies/victims group. Also, victims showed higher scores than bullies (33.77±3.53 and 32.75±4.00, respectively) (p= 0.001).

The students in the group of bullies/victims experience significantly more violence (score=30.70±9.64), followed by the victims group (30.07±9.10); these differences were found to be statistically significant (p=0.001). Days of absenteeism were highest among the victims group (9.17±10.51) compared to the bullies and bullies/victims groups (7.77±9.43 and 7.26±11.18, respectively). The groups which do not suffer from bullying had significantly lower mean days of absenteeism (5.36±8.70) compared to other groups (p = 0.001) (Table 5).

Discussion:

Bullying at school is a worldwide phenomenon with different prevalence rates. It is described as a distinct type of violence, characterized by a repeated and organized abuse of power. It involves physical, verbal, and psychological assaults performed over and again between parties where there are imbalanced power and pressure from the capable youngsters on the less intense ones, with no provocation from the victim.[18]

The current study included 1535 primary school students which were classified according to their bullying/victim scale into neutral children (66.3%), bullies (16.4%), victims (11.4%), and both bullies/victims (8.1%).

Regarding types of bullying, verbal insult (a subset of indirect bullying) in the form of nasty names recorded the highest percentage, while the most common types of direct bullying were hitting/kicking, followed by stealing/destroying personal items. Jansen et al. and Demirbag recorded hitting/kicking and stealing/destroying of personal items as the most common types of direct physical bullying among school children.[19,20]

A recent Egyptian study showed that the prevalence of bullying behavior was high (77.8%) among the adolescent students. Out of this percentage, 9.5% of the students were unique bullies, 10.5% were unique victims, and 57.8% were bully-victims.[15]

High rates of violent behaviors were reported in a previous study which included elementary school children in Egypt where the prevalence of physical violence was 69%, 82.8%, and 29% for victimization, the witness of violence, and initiation of the violent acts, respectively.[16] Meanwhile, a national survey was performed in 2009 including 40 western countries detected much lower rates of bullying (from 4.8 to 45.2%).[10] These discrepancies in prevalence might be related to methodological and cultural variations in addressing the problem and or due to the different target populations and study tools.

Furthermore, the detected bullying rates in this study are higher than other rates recorded in different studies. For instance, in Norway, victims and bullies rates were respectively; 8.3 and 4.8.[21] In a British sample of the children, 23% were pure victims, 1% were pure bullies and 1.5% were both bullies/victims. Moreover, in the German sample, 2.7% of students were pure bullies, 2.1% were bullies/victims, and 5.7% were pure victims.[22]

Exposure to sexual bullying had the lowest frequency compared to similar studies which reported a higher frequency from 15.6% to 20%.[19-23] This could be an artifact due to the cultural background stigmatizing the discussion of sexually related topics.

It is worthy to mention that a subset of emotional violent behaviors (e.g. spreading rumors, ignorance, and social exclusion) were recently shown to be harder to detect by both teachers and parents.[24] Children are less likely considered to be victims of indirect aggression compared to direct physical or verbal bullying.[25]

In the present study, emotional bullying was reported mainly in the form of being excluded from a group, telling lies/rumors, and lesser extent discrimination due to skin color. This contradicts with a study performed in Netherlands which reported higher exposure to discrimination (7.3%) among school children.[25] This may be explained by the nature of the Egyptian community with fewer different nationalities and ethnic groups compared to other countries. Also, the Egyptians had the chance to mix with different populations which invaded Egypt throughout its history.

In the present study, it was observed that the boys bullying scale was significantly higher than that of girls. Similarly, this result was reported in previous studies.[26-28] For example, Jarrett, 2001 argued that males use physical aggression, whereas females use emotional aggression instead.[29] Besides, it is difficult to recognize bullying conducted by girls since they practice bullying in a more sophisticated and hidden manner compared to males.[30]

This might be also linked to social norms and biological differences between boys and girls. On the contrary, the report of WHO Global School-based Student Health Survey (GSHS) indicated that boys reported more peer victimization than girls.[11] School phobia, sleeping disorders, loss of appetite, and anxiety were reported by the children of the present study. Similar findings were recorded among high school students in Turkey.[31]

Negative consequences of bullying are not limited to school years; they also continue to affect students after school age. Bullying in childhood causes risks for antisocial behaviors (substance abuse, criminal tendency) and psychiatric diseases in adolescence.[32]

Although the negative effects of bullying on children are well known, the current study unveiled a significant positive correlation between bullying and psychosomatic manifestations among the studied students. This finding is supported by other studies.[20,22,32] The common recorded psychosomatic manifestations were respectively: feeling tired/fatigue, headache, cough, and colic. This is consistent with a study conducted in Turkey among primary school children who recorded headache, tiredness, crying, restlessness, sleep problems, and dizziness more frequently associated with bullying.[33]

In the current study, gender was related to the child's risk of being bullied or victimized. Many studies reported that boys practice bullying more than girls.[18,34-37] However, the role of gender in victimization is less definite in other studies.[18,35,37,38] Overall, we can conclude that boys are more often involved in bullying (any type e.g. bully, victim, and/or both bully/victim) than girls.

Not only the victims but also the bullies encounter the negative impacts of bullying.[33] This observation is upheld by the present investigation where the children in the group with both high bullying and victims scores significantly experience a larger number of manifestations than other students.

Even though the issues caused by bullying are observed less frequently in

bullies than victims, their negative consequences on bullies are determined in the long-term follow-up studies.[32,39]

The current findings demonstrated that the victimized children had higher absence rate scores than children assaulting others. This could be explained by the fact that victimized students are scared to go to schools, the place of stress. Prominently, these negative practices are supposed to diminish their scholarly execution as this leads to not attending the classes and shirking from colleagues, absence of enthusiasm for studying, and other related exercises.[21]

Study Limitations:

The cross-sectional nature of the study has not allowed the researchers to detect causal relationships. Also, in the present study cultural background, the number of siblings and socioeconomic status were not investigated. Data collection was approached only from the participating students and their parents. The study did not integrate neither the teachers' observations nor the school social supervisor notes. In future research, it is necessary to assess the effect of school climate and rules on bullying behavior.

Conclusion

Bullying is a serious behavior disorder among primary school children. Verbal and physical bullying was the most detected types. The percentage of boys was significantly higher than girls in the groups of bullies, victims, and both bullies/victims. Bullying and victimization were associated with many health-related problems.

Recommendation and implication:

Bullying behavior possesses a potential threat to the physical, mental, and psychological health of primary school children. Moreover, both victims and bullies tend to have poor academic performance. This indicates the importance of implementing effective intervention at schools that should identify students who are more likely to be victims and predict those who are at risk of behavioral abnormalities.

Also, we should address family, school, and community predisposing factors. In addition, the role of supervising teachers is crucial; they shall be encouraged to enhance promotive interaction with students. It is also recommended to conduct regular awareness sessions for students and teachers about bullying as well as its forms and effects on children's wellbeing.

Competing Interest:

All authors declare no conflict of interest.

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Table (1): Socio-demographic characteristics of the studied students

Characters	Number (No.=1535)	%
Gender:		
▪ Males	939	61.2
▪ Females	596	38.8
Residence:		
▪ Urban	884	57.6
▪ Rural	651	42.4
Days of absenteeism form school last 6 months:		
▪ None	495	32.2
▪ <2 weeks	814	53.0
▪ 2-4 weeks	171	11.2
▪ More than 4 weeks	55	3.6
Reasons for absenteeism:		
▪ No answer	586	38.2
▪ Physical problems	683	44.5
▪ Environmental problems	106	6.9
▪ Psychological problems	132	8.6
▪ Family problems	28	1.8

Table (2): Types of bullying among the studied students

Exposure to bullying	Never/Rarely		Sometimes		Usually/All the time	
	No.	%	No.	%	No.	%
Relational bullying						
▪ Nasty names and tricks	1324	86.0	136	9.0	75	5.0
▪ Threats and teasing	1469	95.7	42	2.7%	24	1.6
▪ Black mailing and telephone	1504	98	13	0.8%	18	1.2
▪ Exclusion from a group	1456	94.8	52	3.4	27	1.7
▪ Discrimination by skin color	1497	97.5	22	1.4	16	1.0
▪ Spreading rumors and lies	1449	94.4	58	3.8	28	1.8
Direct bullying						
▪ Hitting/kicking	1382	90.0	99	6.5	54	3.5
▪ Stealing or destroying personal stuff	1391	90.6	102	6.7	42	2.7
▪ Sexual bullying	1530	99.7	2	0.1	3	0.2
▪ Phone and cyber bullying	1504	98.0	13	0.8	18	1.2

Table (3): Distribution of the studied students by manifestations of bullying

Manifestation of bullying	Never/Rarely		Sometimes		Usually/All the time	
	No.	%	No.	%	No.	%
▪ Loss or damage of personal stuff	1340	87.3	136	8.9	59	3.8
▪ Unexplained bruises and scratches	1366	89.0	118	7.7	51	3.3
▪ Absence or limited friends	1457	95.0	38	2.5	40	2.5
▪ Scared to go to school	1335	87.0	104	6.8	96	6.2
▪ Long unnecessary way to school	1449	94.4	32	2.1	54	3.5
▪ Low scholastic achievement	1398	91.1	91	5.9	46	3.0
▪ Sad and depressed upon coming home	1390	90.6	86	5.6	59	3.8
▪ Nightmares and irritable sleep	1402	91.3	76	5.0	57	3.7
▪ Nocturnal enuresis	1453	94.6	50	3.4	32	2.0
▪ Somnambulism	1507	98.2	14	0.9	14	0.9
▪ Loss of appetite	1283	83.5	136	8.9	116	7.6
▪ Anxiety with lack of self-confidence	1353	88.2	92	6.0	90	5.8
▪ Participation in ex-class activities	1269	82.6	110	7.2	156	10.2
▪ Sad and scared after phone calls	1511	98.5	13	0.8	11	0.7
▪ Violence attitude	1428	93.0	59	3.8	48	3.2
▪ Tendency to leadership	1323	86.2	77	5.0	135	18.8
▪ Easily and rapidly angered	1262	82.2	13	0.8	260	17.0
▪ Lack of sympathy towards others bullied students	1438	93.7	52	3.4	45	2.9
▪ Breaking rules or rudeness	1405	74.6	86	5.6	44	2.8
▪ Trouble making	1461	83.2	45	2.9	29	0.9
▪ Arrogance of body building or power	1455	94.8	34	2.2	46	3.0
▪ Using dangerous tools	1498	97.6	22	1.4	15	1.0
▪ Teachers complaining of student problems	1426	92.8	69	4.6	40	2.6

Table (4): Comparison of mean score of bullying and its manifestations in relation to sex and residence

Variables	Bullying								X^2	P
	None		Bullies		Victim		Both			
	No.	%	No.	%	No.	%	No.	%		
Gender:									11.218	0.011*
▪ Males	595	63.4	153	16.3	112	11.9	79	8.4		
▪ Females	423	71.0	66	11.1	63	10.6	44	7.4		
Residence									1.891	0.595
▪ Rural	580	65.6	125	14.1	101	11.4	78	8.8		
▪ Urban	438	67.3	94	14.4	74	11.4	45	6.9		
Total	1018	66.3	219	14.3	175	11.4	123	8.0		

*Significant

Table (5): Comparison of mean score of days of absenteeism and bullying manifestations score

Classification of bullying	Days of absenteeism	Manifestations of bullying score	Violence score
▪ None	5.36±8.70	25.47±2.93	24.27±4.90
▪ Bullies	7.77±9.43	32.75±4.00	27.27±6.83
▪ Victim	9.17±10.51	33.77±3.53	30.07±9.10
▪ Both	7.26±11.18	41.56±6.23	30.70±9.64
F	11.355	104.464	76.044
P	0.001*	0.001*	0.001*

*Significant

Bonferroni test:
Absenteeism: None significantly different from both assault and victim groups
Manifestation of bullying: Each group is significantly different from other groups
Violence: Each group is significantly different from other groups except victim versus both

الملخص العربي

التنمر و المشكلات الصحية المصاحبة له بين طلاب المرحلة الابتدائية

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المقدمة: ظاهرة التنمر في المدارس هي مشكلة عالمية ذات معدل انتشار مختلف من مكان لاخر .هو يعتبر نوع من العنف الذي يتسم بالسطوة وسوء المعاملة. قد يكون التنمر لفظي او جسدي او إلكتروني. ويعتقد أن الأطفال المعرضين للتنمر اكثر عرضة لخطر الاصابة بالمشكلات العقلية والنفسية والصحية بالإضافة الى انخفاض الثقة بالنفس. **اهداف الدراسة:** هذه الدراسة تهدف الى قياس معدل انتشار التنمر بأنواعه والمشكلات الصحية المرتبطة به, بين أطفال مدارس المرحلة الابتدائية بمدينة طنطا. **طرق الدراسة:** أجريت هذه الدراسة المقطعية في مدينة طنطا التي تتوسط منطقة الدلتا بمصر ، شملت الدراسة على 1535 طالبًا وطالبة بالمرحلة الابتدائية, تم اختيارهم باستخدام تقنية أخذ العينات العشوائية متعددة المراحل. تم جمع البيانات باستخدام استبيان أولويوس للتنمر واستبيان لتقييم المشاكل الصحية المرتبطة بها. **النتائج:** شملت الدراسة على 939 طالبًا (61.2٪) من الذكور، و 884 طالبا وطالبة (57.6٪) مقيمين في المناطق الحضرية. كان التنمر اللفظي مثل التنادي بألفاظ بذيئة (5٪) والتنمر الجسدي مثل الركل والضرب (3.5٪) من أكثر أنواع التنمر انتشارا بين الطلبة. كانت نسبة ممارسة التنمر بين الفتيان اكثر من الفتيات بدلالة احصائية حقيقية. وكانت نسبة المشكلات الصحية للتنمر اكثر بين الطلبة الضحايا واللذين يمارسون التنمر في نفس الوقت بفارق ذي دلاله احصائية . **الاستنتاجات:** يعد التنمر بأنواعه سواء اللفظي او الجسدي او النفسي من انواع العنف بمدارس المرحلة الابتدائية التي قد يعانى فيها المتنمر والضحية لعديد من المشاكل الصحية و النفسية وتؤثر بالسلب على تحصيلهم الدراسي. **التوصيات:** بناءا على النتائج المستخلصة من هذه الدراسة, نوصي بأهمية نشر ثقافة عدم التنمر بين طلاب المدارس خصيصا بين طلاب المرحلة الابتدائية لما لها من أثر نفسي و صحي على الأطفال في هذه المرحلة العمرية الحرجة . كما توصى الدراسة بوضع إجراءات لمكافحة التنمر و العنف داخل المدارس بجميع مراحلها .