Original article

Study the Effect of Implementation of a Health Education Program for Bullying Preventive Measures on Self-Esteem and Self-Efficacy of Undergraduate College of Medicine Students, Benha University, An Interventional Study

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Abstract:

Background: Bullying is a significant social problem that affected educational institutions everywhere, including those in Egypt. Objective: is to evaluate Benha College of Medicine student's self-efficacy and self-esteem both before and after a bullying prevention education session. **Methods:** Two phases: Phase I: A cross-sectional study was conducted on 350 medical students at Benha faculty of medicine. Phase II: An interventional study "a quasi-experimental study" was conducted on 100 students, using an online questionnaire about general knowledge of bullying, history of exposure to bullying or sharing in it, places of bullying and questions about self-efficacy and self-esteem. **Results:** 73.1% of medical students were victims of bullying during the last year. 42.0% of them offended their colleagues also. One hundred percent of the group studied confirmed that they were exposed to cyberbullying in the last month. 57.4% of the bullied students were bullied by females in their grade, 51.2 % of the studied group did nothing after their exposure to bullying. There was a highly statistically significant difference between self- efficacy scale of pre and post interventional studied groups. **Conclusions:** Bullying affected the majority of the group under study, and there were highly statistically significant differences in self-efficacy and self-esteem before and after health education.
Key-Words: Bullying; College of Medicine; self-efficacy; self-esteem.

Introduction

Bullying is a form of violence that involves intentional acts directed at victims who are powerless to protect themselves [1]. Bullying can take many forms, such as verbal, physical, emotional, psychological, or cyber aggression committed by students who abuse their position of authority to hurt their weaker peers [2&3], There are numerous explanations for why students participate in bullying behaviors and why they are more susceptible to victimization [4].

Students who bully others are either motivated by a desire for dominance or are attempting to satisfy a psychological or physical need but lack the resources to act in a prosocial manner [5&6], Certain traits and behaviors such as lack of control, low empathy, perspective taking, and unrealistic high self-esteem may contribute to the probability of esteem, perspective taking, lack of control, and inadequate empathy are some characteristics and behaviors that may increase the likelihood of being a perpetrator. By engaging in these actions, the offender may be attempting to preserve or increase their authority or sense of self-worth [7].

Bullying is a dynamic behavior. At some stage of their growth, many students may act in a bullying manner, but not at other times [5]. Medical students were particularly susceptible to bullying. Research indicates that medical students are twice as likely as students in other areas to be mistreated during their schooling. [8,9].

During their medical studies, 71.1% of Egyptian medical students experienced bullying. Verbal (51.9%), behavioral (44.8%), being ignored (24.4%), written (17.8%), and physical (15.8%) were the most commonly reported forms of bullying [10].

People who are bullied assume that others see them negatively, which lowers their self-esteem and makes them think that some aspects of themselves are fundamentally flawed [11]. In recent years, Egypt has made significant progress in preventing bullying. Law No. 189 of 2020 addresses a problem that has recently become more prevalent in Egypt and poses a threat to society as well as a barrier to the fulfilment of citizens' duties to live decent lives. [12,13].

Objective: Is to investigate the epidemiological features of various forms of bullying and harassment among Benha University undergraduate medical students.

Subjects and Methods:

1. Study design: two phases:
- **Phase I**: A cross-sectional study.
- **Phase II:** An interventional study "a quasi-experimental study".

2. Study setting: Faculty of medicine - Benha University.

3. Study period: Collection of data was from the start of May 2023 till the end of February 2025.

4. Study subjects: The studied group was recruited from medical students at Benha faculty of medicine. Participants were identified using the student list from students & education affairs at Benha faculty of medicine and fulfilling the inclusion criteria and accepting to participate in the study.

Inclusion criteria:
- All participants were medical students at Benha faculty of medicine.
- Medical students were in 2nd, 3rd, 4th and 5th, grade at Benha faculty of medicine provided that their last year was at Benha University.

Exclusion criteria:
- Students in faculties other than Benha faculty of medicine
- Students in the 1st grade at Benha faculty of medicine.

5. Sampling Design
a- Sample size:

The minimal calculated sample size was 290 by using a free online program; Open Epi: Open-Source Epidemiological Statistics for Public Health version 3.01. 6 With Confidence Interval 95%, margin of error 5% and study power 80%. The prevalence of bullying among medical students at faculty of medicine., Tanta university, Egypt was 71.1 [10]. The sample size was adjusted and increased to 350 students taking into consideration non-responders and defaulters.

b- Sample technique:

The participants from the 2nd till the 5th grade obtained by an online questionnaire (**convenient sample**), till reaching the required sample size with the following responses.

From Phase I:

100 participants (victims of bullying) from students who accepted to share in Phase II: (An intervention study "a quasi-experimental study") and connected with us.

7. Study methods and tools

Data was obtained by an online questionnaire after taking subject`s permission.

Structured questionnaire: emphasizing each of

a. For Phase I: all answered the following:

- **Socio demographic data**
- **Data about bullying behaviors**

b- For Phase II: 100 participants before and after an educational program
answered the following questionnaires.

- **Rosenberg self-esteem scale** [14]
- **Dublin antibullying Self-Efficacy Scales** [15]

II - Administrative and Ethical design:

- An official permission was obtained from the Vice Dean for Education and Students Affairs at Benha Faculty of Medicine.

Ethical consideration:

- An approval from the Research Ethics Committee (REC) at Benha faculty of medicine was obtained (NO.: MD7-2-2023).

- An informed written consent was obtained from the students before participation, it included data about the aim of the work, study design, site, time, subject, tool and confidentiality and the student right to refuse to participate and discontinue at any time.

IV- Data management and statistical analysis: -

The collected data coded, entered, analyzed then presented by suitable tables and graphs using Statistical Package for the Social Sciences (SPSS) 25.0 for windows (*SPSS Inc., Chicago, IL, USA)*. The normality of distribution for the analyzed variables was tested using Kolmogorov-Smirnov test. The collected data were summarized in terms of Median (**IQR**) for quantitative data. A comparison between categorical data was carried out using the chi-square (χ2). Z test & correlation analysis. The accepted level of significance in this work was ($p < 0.05$) (**S**)., $p < 0.01$ was considered highly statistically significant (**HS**).

Results

This study shows that the median age score of the studied group was 20 years (19-22). Students from 2nd grade represented 28.1% of the studied group. Females represented 55.1% of the studied group. Father was the family supervisor in 70.9% of the studied group. 65% of the studied group had no intimate friends while only 7.1% of the studied group complained of a psychiatric problem. (Table 1).

The current study reveals that majority of the studied group (98.9%) of the studied groups believed that bullying is not a problem for kids only; and all of them did not like bullies. The majority of the studied group (96.0%) agreed that bullies hurt people while 86.9% of the studied group thought that bullies should be punished. 79% of the studied group thought that medical schools should worry about bullying (**Table 2).**

This study demonstrates that 73.1% of medical students were victims of bullying during the last year, 42.0% of them offending their colleagues also. 100% of the group studied confirmed that they were exposed to cyberbullying in the last month, while 97.9 % of them offended others in the last month **(Table 3).**

This study illustrates that 57.4% of the bullied students were bullied by Female in their grade, 43.8% were bullied by Someone who has many friends. While 5.9% were bullied by someone they thought that he was powerful. Also, the most common situation where bullying occurred in academic class (35.5%). Followed by Text message (27.3%) **(Table 4).**

This study reveals that 51.2 % of the studied group did nothing after their exposure to bullying. While 23.8% discussed the problem with their families and 23.0% discussed the problem with their friends. 60% of those received support after their discussion **(Table 5).**

The current study shows that there was a highly statistically significant differences between pre and post interventional self-efficacy scales and also between pre and post interventional self-esteem scale of the studied group ($p <0.001$) **(Table 6).**

The current study reports that there was a strong positive correlation between the scores of self-efficacy scale and self-esteem scale ($p=0.001$) **(Fig 1).**

Table (1): Socio-demographic data of the studied group

Variable Frequency (n=350)		No.	%
Age Median (IQR)		20 (19-22)	
Gender	**Female**	193	55.1
	Male	157	44.9
Grade of study	**2nd grade**	98	28.1
	3rd grade	88	25.1
	4th grade	96	27.4
	5th grade	68	19.4
Residence	**Rural**	203	58.0
	Urban	147	42.0
Order of birth	**Eldest**	127	36.2
	Middle	150	42.9
	Youngest	73	20.9
Family supervision	**Father**	248	70.9
	Mother	48	13.7
	Both	31	8.8
	None	23	6.6
Presence of intimate friends	**Yes**	226	35.4
	No	124	64.6
Presence of disability	**Yes**	0	0.0
	No	350	100.0
Presence of mental health (psychiatric) problems	**Yes**	25	7.1
	No	325	92.9

Table (2): General knowledge about bullying among the studied group.

Frequency (n=350)	Agree		Disagree	
Variable	**No.**	**%**	**No.**	**%**
Most people who get bullied ask for it.	71	20.3	279	79.7
Bullying is a problem for kids only	4	1.1	346	98.9
Bullies are popular.	281	80.3	69	19.7
I don't like bullies.	350	100.0	0	0.0
I am afraid of the bullies at my medical school	135	38.6	215	61.4
Bullying is good for wimpy persons.	28	8.0	322	92.0
Bullies hurt people.	336	96.0	14	4.0
I would be friends with a bully	15	4.3	335	95.7
I can understand why someone would bully others	127	36.3	223	63.7
I think bullies should be punished.	304	86.9	46	13.1
Bullies don't mean to hurt anybody	52	14.9	298	85.1
Bullies make persons feel bad.	337	96.3	13	3.7
I feel sorry for persons who are bullied.	344	98.3	6	1.7
Being bullied is no big deal.	66	18.9	284	81.1
Is bullying a problem in your medical school?	164	46.9	186	53.1
Do you think that medical schools should worry about bullying?	277	79.1	73	20.9

Table (3): Bullying behaviors among medical students during the last year.

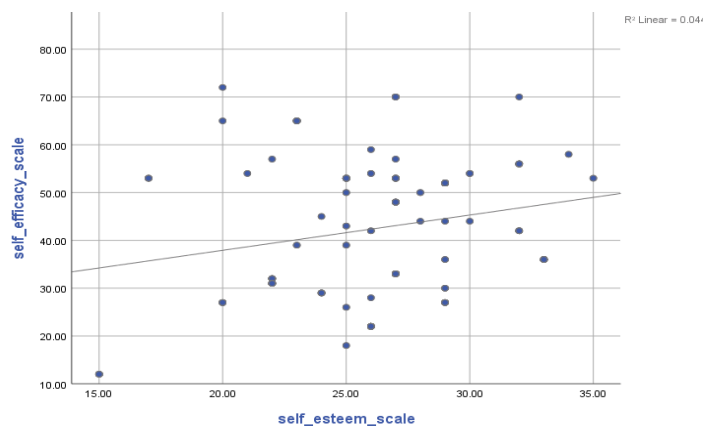| Frequency (n=350)		No.	%
Variable			
Bullying others (verbal-social-physical)	**Yes**	203	42.0
	No	147	58.0
Victims of bullying	**Yes**	256	73.1
(verbal-social-physical)	**No**	94	26.9
Cyberbullying others (last 30 days)	**Yes**	342	97.7
	No	8	2.3
Victims of cyberbullying	**Yes**	350	100.0
(last 30 days)			
	No	0	0.0

Fig (1): Simple Scatter of correlation between scores of self-efficacy scale and self-esteem scale.

Table (4): Persons who bully others most often and Common situations where bullying occurred among victims (n=256).

Frequency (n=256) Bullying behaviors		No.	%
Persons who bully others most often	Female in my grade	147	57.4
	Males in my grade	76	29.9
	Someone who has many friends	112	43.8
	Someone who is smart	28	10.9
	Someone who is popular	15	5.9
	Someone who is powerful	15	5.9
	Older females	44	17.2
	Older males	9	3.5
	Younger females	51	19.9
	Someone who I didn't know	41	16.0
Common situations where bullying occurred	Academic class	91	35.5
	Bus	37	14.5
	Telephone	44	17.2
	Text message	70	27.3
	Gym	37	14.5
	Sporting or educational events	56	21.9
	Cafeteria	53	20.7

*More than one person and one situation was reported by the bullied student.

Table (5): The response to bullying experience among the victims (n=256).

Frequency (n=256) Variable		No.	%
None (do not care)		131	51.2
Discuss with family		61	23.8
Discuss with friends		59	23.0
Sometimes face them or reply on them		5	2.0
Support after discussion(n=120)	Yes	72	60.0
	No	48	40.0

Table (6): Difference in the median score of Self-efficacies and of Self-esteem scales between pre and post interventional studied groups. (N=100)

Variable		Median (IQR)	Test of sig. Z	*p*-value
Self-efficacy(n=100)	Pre intervention	27.0 (22-31)	8.6	<0.001
	Post intervention	64.0 (60.5-69)		(HS)
Self-esteem (N=100)	Pre intervention	24.0 (22-26)	8.7	<0.001
	Post intervention	6.5 (35-38)		(HS)

Z= Wilcoxon Signed Ranks Test   HS= highly sig

Discussion

According to this study, the median age of the medical students who participated in this study was 20 years **(Table 1).** This was similar to a cross-sectional study which was conducted to show the factors which push medical students to consider, plot, and attempt suicide in India, in which the mean age of the studied group was 21.08 ±2.78 [16]. That suggested that the majority of participants were in their early twenties. In the results of this study a

significant proportion of medical students (64.6%) reported having no intimate friends **(Table 1).** This was matched with cross-sectional study on medical students in Russia that showed how difficult it is to balance social commitments and academic responsibilities [17].

Regarding this study the majority of the studied group (98.9%) disagreed that bullying was a problem for kids only, bullies hurt people and majority of them (86.9%) thought that bullies should be punished and most of them thought that medical schools should worry about bullying **(Table 2).** Conversely, a cross-sectional study on bullying prevention in Shantou, China, found that junior high school pupils had a poor level of understanding of bullying, with just 26.3% of them knowing bullying very well [18].

This study illustrated that majority of the studied group (73.1%) were victims of bullying during the last year while (42.0%) of them offended their colleagues. Also, one hundred percent of the studied group confirmed that they were exposed to cyberbullying in the last month, while (97.9 %) of them offended others in the last month **(Table 3).** This was higher than a cross-sectional study among junior high school students on bullying prevention in Shantou, China which revealed that 32.8% of students had experienced peer bullying and 16.2% had bullied their peers, whereas 24.2% of students had been the victims of cyberbullying, and 8.7% had cyberbullied others [18]. It could be explained by cultural differences.

This study illustrated that the most Common situation for bullying was in academic class (35.5%). Followed by Text message (27.3%) **(Table 4).** This was agreed with a cross-sectional study on prevalence, forms and associated Factors of Academic Bullying Among Medical Students in Tanzania, which revealed that Academic bullying was more prevalent in clinical rotation settings with 65.4 % [19].

This study showed that more than half of the studied group did nothing after exposure to bullying. While 23.8% of them discussed the problem with their families and 23.0% discussed the problem with their friends. Only Sixty percent of those who reported the bullying, received support **(Table 5).** This was similar to a cross-sectional study Nursing students' experience of bullying and/or harassment during clinical placement in Sri Lanka which showed that only 10.08 % reported the incident. And only one third of respondents (31.58 %) reported satisfactory actions were taken in response to their report [20].

Also, regarding to this current study there was a strong positive correlation between self-efficacy scale and self-esteem scale *(Fig 1).* This result was agreed with a cross-sectional study which studied the associations between self-efficacy, bullying and quality of life in adolescents in Norway. It indicated that individuals with a low score on self-efficacy scale may be more likely to set lower personal goals and to have lower self-esteem. In the context of bullying [21].

Study limitations:

This study had some limitations, including the following:

- It was limited to medical students at Benha University.
- The study depended on self-reported measures, which could be biassed and have limits.
- Potential confounding factors including parental education and socioeconomic level were not controlled for in this study.

Conclusion:

 The majority of the group under study (73.1%) experienced bullying in the previous 12 months. Before and after health education, there were highly statistically significant differences in self-efficacy and self-esteem.

Conflict of interest:

No conflict of interest.

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