

Prevalence and Psychological Consequences of Cyberbullying among Students of Medical Departments at the Technical Medical Institute in Mosul, Iraq: A Cross-Sectional Study

Mohamed Sadeq Younes Alibrahim^{1*}, Ehab Mohammed shaker², Salim Shihab Almetewty³

¹MSc. Health psychology, Lecturer at Duhok Polytechnic University, Iraq

²MSc. in adult Nursing, Lecturer at Mosul Medical Technical Institute, Northern Technical University, Iraq

³PhD in PMHN, Instructor, Higher health institute Mosul, Nineveh Health Directors, Iraq

*Correspondence: Salim Shihab Almetewty, Email: almetewtysalim@gmail.com

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ABSTRACT

Background: Cyberbullying, defined as the digital platforms used for upsetting or intimidating others, is an increasingly widespread issue amongst university students, especially those in healthcare students. This phenomenon has adversely impact victims' psychological health, public relationships, and educational performance.

Objective: The current study intended to assess the prevalence, appearances, and psychological impression of cyberbullying that may affect medical departments students at the Technical Medical Institute in Mosul.

Methods: The researchers guided a cross-sectional study at the Technical Medical Institute in Mosul, via convenience sampling, handling 200 students in customary areas like the library and the student lounge. This numbers was drawn from a total student population of 1,775, based on 2023 enrollment numbers⁴. The researchers requested from each participants to complete a validated Cyberbullying Questionnaire, which measured four key areas: verbal threats, social exclusion, obscene/sexual content, and psychological impact.

Results: The study implied 200 medical departments students per an average age of 22.5 ± 4.2 years, 61% of them was female, verbal terror and social exclusion being the most cyberbullying forms of the sample. The Psychological impacts, including anxiety and decreased academic accomplishment, were reported, chiefly among females and students in Nursing and Community Health departments.

Conclusion: Cyberbullying corresponds to a widespread concern within medical education environments, beside profound psychological consequences. The findings highlight the necessity for directed interventions, including understanding struggles, advising services, and partner support programs, to address this expanding challenge.

Keywords: Cyberbullying, Medical department Students, Psychological Impact, Academic Performance, Social Exclusion

INTRODUCTION

Cyberbullying at the present time is gradually being documented as one of the serious interests globally amongst students, changing their mental health, social interactions, and academic outputs (Tokunaga, 2010; Kowalski & Limber, 2013). College students, especially those adopt medical or related courses, are also likely victims, due to their vast online activity, academic stress, and interactions with peers (Vidal-Alves et al., 2023; Northern Technical University, 2023).

The existing studies show that the most common type of Cyberbullying in medical students is verbal threats, social exclusion, followed by obscene or sexual content (Elsafty & Mohammed, 2021; Ahmed & Al-Mashhadani, 2022). Such experiences can cause feelings of anxiety, sadness, poor academic achievement, or emotional distress (El-Shennawy, 2014; Samara et al., 2021; Patchin & Hinduja, 2022). Some differences emerged regarding the type of cyberbullying, which occurred between genders, with female victims experiencing social exclusion or verbal harassment, followed by the victims being male, who also reported aggressive behaviors on the cyberbullying (Al-Balushi & Al-Saadi, 2020; Hasan & Baber, 2023).

There may be variations between departments with respect to dynamics between peers, or even Web interactions (Kowalski et al., 2014; Myers & Cowie,

2019). Despite the increasing interest in the phenomenon worldwide, the study on cyberbullying in Iraq, especially the Technical Medical Institute in the city of Mosul, is scarce (Al-Jubouri, 2022), indicating the importance of localized studies to help design interventions (Alhajji et al., 2022; Zhu et al., 2021). Therefore, this study aims to determine the prevalence of cyberbullying and to assess its psychological consequences among students of medical departments at the Technical Medical Institute in Mosul, Iraq.

METHODS

Study Design and Setting

This study employed a descriptive cross-sectional study design and was conducted at the Technical Medical Institute in Mosul, Iraq. The study involved five medical departments, including Nursing, Anesthesia, Pharmacy, Radiology, and Community Health, and included students from both morning and evening shifts.

Study Population and Sample

A sample of 200 students was selected from the total population of about 1775 students (Tokunaga, 2010). The list of students from each department was accessed through simple random sampling techniques using the number generator to give each student an equal probability of selection. The inclusion criteria included being from any of the five

departments, while those who declined or were absent would be excluded.

Data Collection Tool

Validated tool of 26-item Cyberbullying Scale are used (Kowalski & Limber, 2013), consisting of the following:

- Demographics: gender, age, marital status, study shift, department, academic stage.
- Cyberbullying section (26 items): This section evaluated the victim's experiences in cyberbullying over the last six months with regards to four components: Verbal/Threat, Social/Exclusion, Obscene/Sexual Content, and Psychological Effect. 3-point Likert type scale was adopted to calculate the result: 1 = Never, 2 = Sometimes, 3 = Always.

Scoring and Classification

The total scores of tests ranged from 26 to 78, with the students being:

- Not Exposed: 26–43
- Moderate Exposure: 44–61
- Severe Exposure: 62–78

This allows for possible the analysis of prevalence, severity, and domain-specific data according to the entire classification system.

Method of Data Collection

The questionnaires were distributed in the classrooms, having received administrative authorization and written informed consent, as well as informing the response being anonymous.

Statistical Analysis

The data was analyzed utilizing the SPSS version 23 package. The researchers determine the descriptive statistic: frequencies, percent, mean, and

standard deviation. the association between gender was measured using chi-square tests explored department, and experiencing cyberbullying. The significance level was set to $p < 0.05$.

The data collected were analyzed qualitatively to identify key themes related to the causes, impacts, and strategies for controlling hypertension. The results of the analysis are presented in the form of narratives and images to facilitate understanding. To ensure the validity and reliability of this study, the selection and analysis process was carried out by two independent researchers, where any differences in the assessment were resolved through discussion and consensus.

RESULT

Demographic Characteristics of Participants

A total of 200 students from five medical-related departments participated in this study. The demographic characteristics of the respondents are presented in **Table 1**.

The majority of participants were female (61%), and most were aged 18–23 years (72%), with a mean age of 22.5 ± 4.2 years. More than half of the respondents attended morning study shifts (62%), and the vast majority were single (85%). In terms of departmental distribution, the largest proportion of participants were from the Nursing department (29%), followed by Anesthesia (24%), Pharmacy (22%), Radiology (13%), and Community Health (12%).

Table 1. Study Participants' Distribution Based on Demographic Characteristics

Variable	Category	Frequency (F)	Percentage (%)
Gender	Male	78	39
	Female	122	61
	Total	200	100
Age (years) <i>Mean ± SD = 22.5 ± 4.2</i>	18–20	90	45
	21–23	54	27
	24–26	30	15
	27–29	15	7.5
	30–37	11	5.5
	Total	200	100
	Study Shift	Morning	124
Evening		76	38
Total		200	100
Department	Nursing	58	29
	Anesthesia	48	24
	Radiology	26	13
	Community Health	24	12
	Pharmacy	44	22
	Total	200	100
Academic Level	First Stage	82	41
	Second Stage	118	59
	Total	200	100
Marital Status	Single	170	85
	Married	28	14
	Divorced	2	1
	Total	200	100

Cyberbullying Exposure by Domain

The distribution of cyberbullying exposure across different domains is summarized in **Table 2**. Overall, most students (78.8%) reported no exposure to

cyberbullying, while 18.1% experienced moderate exposure and 3.1% experienced severe exposure.

Among the assessed domains, social exclusion and verbal threats were the most frequently reported

forms of cyberbullying. Exposure to obscene or sexual content was less common. Notably, the psychological impact domain showed the highest proportion of moderate to severe exposure (30%), indicating that emotional consequences were the

most prominent effects associated with cyberbullying experiences. Overall, approximately 21.2% of students experienced some degree of cyberbullying.

Table 2. levels of Cyberbullying by Domain area Overall, Totals numbers = 200)

Domain	Not Exposed F (%)	Moderate Exposure F (%)	Severe Exposure F (%)	Mean ± SD
Verbal/Threats	174 (87)	24 (12)	2 (1)	1.14 ± 0.35
Social/Exclusion	152 (76)	42 (21)	6 (3)	1.27 ± 0.43
Obscene/Sexual Content	164 (82)	34 (17)	2 (1)	1.19 ± 0.40
Psychological Impact	140 (70)	45 (22.5)	15 (7.5)	1.40 ± 0.55
Total per Severity Level	630 (78.8)	145 (18.1)	25 (3.1)	1.25 ± 0.43

Overall Severity of Cyberbullying

The overall severity of cyberbullying based on total score classification is presented in Table 3. The results show that 35% of students reported no exposure to cyberbullying, 50% experienced

moderate exposure, and 15% experienced severe exposure.

These findings indicate that cyberbullying is a relatively common phenomenon among medical students, with a considerable proportion experiencing moderate to severe levels of exposure.

Table 3. Overall Cyberbullying Severity (n = 200)

Severity Level	Score Range	Number of Students (F)	Percentage (%)
Not Exposed	26–60	70	35
Moderate Exposure	61–95	100	50
Severe Exposure	96–130	30	15
Total / Sample Size	26–130	200	100.0

DISCUSSION

This study supports the fact that the phenomenon of cyberbullying is common among the students in the medical departments at the Technical Medical Institute in the city of Mosul, with serious psychological impacts.

Demographic Trends:

The likelihood was higher among the female gender, young students between 18 and 23 years old, which is consistent with the international literature that indicates them to be more susceptible (Tokunaga, 2010; Northern Technical University, 2023; Elsafty & Mohammed, 2021). Most study participants are single, with most sessions held in the morning shifts, which is the norm among students.

Types of Cyberbullying:

Verbal threats and social exclusion had the highest frequency reported, followed by obscene/sexual content exposure, respectively, as shown in **Tables 2 & 3**. The result is consistent with existing literature conducted on health students worldwide^{5, 6}.

Psychological Consequences:

A serious or even moderate level of psychological effect, such as anxiety, emotional distress, or poor academic outcomes, was observed 30% of the students, pointing out the negative influence on the psyche (Kowalski & Limber, 2013; El-Shennawy, 2014; Patchin & Hinduja, 2022).

Departmental Differences:

Students in Nursing and Community Health reported higher exposure, possibly due to greater academic workload and more frequent online interactions (Hasan & Baber, 2023; Kowalski et al., 2014).

CONCLUSION

- Cyberbullying is common among medical students in Mosul, though most (78.8%) did not experience it.
- About 21% experienced moderate to severe cyberbullying, mainly verbal threats, social exclusion, and psychological effects.
- Students in Nursing and Community Health faced higher exposure, likely due to heavier workloads and frequent online interactions.
- Cyberbullying has obvious psychological influences, including anxiety, emotional distress, and academic difficulties.

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