

Original Research Article

Prevalence of cyber victimization, knowledge of cybercrime and its psychological impact among nursing students in New Delhi: a descriptive study

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ABSTRACT

Background: The rapid advancement of communication technology has transformed connectivity through smartphones and social media, but has also expanded avenues for online harassment, making cybervictimization a public health concern. Nursing students are particularly vulnerable due to frequent online exposure and academic demands. This study aimed to assess prevalence and knowledge of cybercrime and evaluate psychological impact of cybervictimization among nursing students in New Delhi.

Methods: A quantitative descriptive cross-sectional survey was conducted at selected nursing colleges of New Delhi from June 2024 to December 2024. A total of 701 nursing students were selected using total enumeration sampling technique. Data were collected using structured knowledge questionnaire, standardized Cybervictimization Scale (CYBVICS 2019), and Depression, Anxiety, and Stress Scale-21 (DASS-21). Data were analyzed using descriptive statistics and chi-square test.

Results: Out of 701 nursing students, 565 (80.60%) demonstrated good knowledge, 121 (17.26%) average, and 15 (2.14%) poor knowledge regarding cybercrime. Cybervictimization was present in 491 (70.05%) students, with 151 (21.54%) mild, 149 (21.25%) moderate, and 191 (27.24%) severe victimization. Among 475 victimized participants, 286 (60.21%) had depression, 279 (58.73%) anxiety, and 55 (11.57%) stress. Significant associations were observed between cybervictimization and depression, anxiety and stress at $p < 0.05$.

Conclusions: Although most students possess good knowledge, prevalence of cybervictimization remains high and significantly associated with psychological outcomes, emphasizing need for institutional cyber safety programs and psychological support.

Keywords: Cybercrime, Cybervictimization, Mental health, Prevalence, Psychological impact

INTRODUCTION

The rapid evolution of electronic communication technology has reshaped global social dynamics. While smartphones, instant messaging, and social media platforms facilitate rapid access to information and

seamless connectivity, they have also introduced complex digital threats. Cybervictimization defined as intentional, repeated harm inflicted through electronic platforms has emerged as a major form of digital aggression. Unlike traditional offline harassment, cybervictimization can occur anonymously, transcend geographical constraints,

and rapidly disseminate to broad online audiences, rendering it invasive and difficult for victims to escape.^{1,2}

Higher education students, particularly nursing undergraduates, represent a high-risk population for digital harassment. Nursing education involves high academic demands, intense clinical training, and emotional stress.^{3,4} When these existing academic stressors intersect with negative online encounters, students become increasingly vulnerable to psychological distress. Furthermore, because nursing remains a female-dominated profession, female students face elevated risks of digital harassment, online exploitation, and gender-targeted cyber aggression.⁵

Lack of adequate knowledge regarding online security practices significantly increases susceptibility to cyber threats such as phishing, identity theft, unauthorized surveillance, and cyberbullying.⁶ Delhi NCR is among India's most digitally connected regions, exposing young adults to substantial cyber risks.⁷ According to National Crime Records Bureau (NCRB) data, India recorded over 100,000 cybercrime cases in 2024, reflecting a 17.9% increase from the previous year, with Delhi officially recording 404 cases during the same period.⁸ Experts emphasize that official figures represent only a fraction of actual incidents due to underreporting linked to lack of awareness and social stigma.⁹

Although studies have evaluated cyberbullying in adolescent populations, empirical data regarding cybervictimization and its psychological consequences among nursing students in India remain limited.¹⁰ Therefore, this study was conducted to assess the prevalence and knowledge of cybercrime and determine the psychological impact of cybervictimization in terms of depression, anxiety, and stress among nursing students in New Delhi.¹¹

METHODS

Study design and setting

A quantitative research approach using a descriptive cross-sectional survey design was conducted at selected nursing colleges in New Delhi, India from June 2024 to December 2024.

Study population and sampling

The target population comprised undergraduate nursing students enrolled in selected nursing colleges in New Delhi. A total enumeration sampling technique was utilized, yielding a final sample size of $n = 701$ students.

Measurement tools and data collection

Data were collected using standardized and structured self-administered instruments:

Structured knowledge questionnaire: Developed to evaluate knowledge regarding cybercrime, cyber laws, and online safety practices. Scores were categorized into poor, average, and good knowledge levels.

Cybervictimization scale (CYBVICS 2019): A standardized scale used to measure the extent and severity of cybervictimization (categorized into no, mild, moderate, and severe victimization).

Depression, anxiety and stress scale-21 (DASS-21): A standardized 21-item instrument used to assess the severity of psychological impact across three emotional domains: depression, anxiety, and stress.

Inclusion criteria

Undergraduate nursing students (B.Sc Nursing and GNM) enrolled in selected nursing colleges of New Delhi, students who were present at the time of data collection and willing to participate, and students using smartphone/internet for at least 6 months were included.

Exclusion criteria

Students who were on long leave during the data collection period, students who did not give written informed consent, and students diagnosed with psychiatric illness and under treatment excluded.

Statistical analysis

Data were analyzed using descriptive and inferential statistics. Categorical variables were expressed as frequencies and percentages. The Chi-square test was applied to evaluate the association between the severity of cybervictimization and psychological outcomes (depression, anxiety, and stress). Statistical significance was established at $p < 0.05$.

RESULTS

Knowledge level of nursing students regarding cybercrime

Out of 701 nursing students, the majority (80.60%, $n=565$) demonstrated a good level of knowledge regarding cybercrime. A total of 121 students (17.26%) demonstrated average knowledge, while 15 students (2.14%) exhibited poor knowledge. The overall mean knowledge score was 18.701 (Table 1).

Prevalence of cybervictimization

Evaluation using the CYBVICS scale revealed that 491 out of 701 students (70.05%) experienced some degree of cybervictimization. Specifically, 191 students (27.24%) reported severe victimization, 149 (21.25%) reported moderate victimization, and 151 (21.54%) reported mild

victimization. Only 210 students (29.95%) reported no victimization (Table 2).

Table 1: Frequency and percentage distribution of knowledge scores among nursing students (n=701).

Knowledge levels	Score category	Frequency (N)	Percentage (%)
Good knowledge	High score range	565	80.60
Average knowledge	Moderate score range	121	17.26
Poor knowledge	Low score range	15	2.14
Total	-	701	100.00

Table 2: Frequency and percentage distribution of cybervictimization severity (n=701).

Victimization category	Frequency (N)	Percentage (%)
No victimization	210	29.95
Mild victimization	151	21.54
Moderate victimization	149	21.25
Severe victimization	191	27.24
Total	701	100.00

Psychological impact among cybervictims

Among the 475 cybervictimized nursing students evaluated for psychological morbidity, 60.21% (n=286) screened positive for depression, 58.73% (n=279) for anxiety, and 11.57% (n=55) for stress (Table 3).

Table 3: Prevalence of depression, anxiety, and stress across degrees of cybervictimization (n=475).

Severity levels	Depression, N (%)	Anxiety, N (%)	Stress, N (%)
Mild victims (n=151)	66 (13.89)	64 (13.47)	4 (0.84)
Moderate victims (n=149)	75 (15.78)	70 (14.73)	6 (1.26)
Severe victims (n=191)	145 (30.52)	145 (30.52)	45 (9.47)
Overall positive screen (n=475)	286 (60.21)	279 (58.73)	55 (11.57)

Table 4: Association of cybervictimization with depression, anxiety, and stress (n=475).

Variables	Chi-square value	Significance level (p<0.05)	P value
Depression	50.32	Significant	5.99
Anxiety	56.18	Significant	5.99
Stress	50.54	Significant	5.99

Association between cybervictimization and psychological outcomes

Chi-square analysis demonstrated statistically significant associations between the severity of cybervictimization and all three psychological dimensions (p<0.05) (Table 4).

DISCUSSION

The findings of this study highlight a notable paradox in digital health research: while nursing students demonstrate high levels of cybercrime awareness, their vulnerability to cybervictimization and its psychological consequences remains substantial. Over 80% of participants demonstrated good baseline knowledge regarding cybercrime, likely due to digital literacy initiatives and frequent technology use in modern healthcare curricula.¹²

Despite high knowledge levels, 70.05% of the sampled nursing students reported experiencing cybervictimization, with over 27% experiencing severe forms. This high prevalence aligns with recent national and international literature documenting increased online harassment among healthcare students.¹³ Factors such as prolonged screen time, high reliance on online platforms for peer and clinical communication, and gender composition contribute to this elevated vulnerability.¹⁴

The psychological findings demonstrate a clear dose-response relationship between cybervictimization severity and mental health impairment. Over 60% of victimized participants exhibited depression and nearly 59% exhibited anxiety, with severe cybervictims bearing the highest burden. The statistical significance of these associations underscores cybervictimization as a potent independent stressor capable of exacerbating the baseline academic and emotional demands experienced by nursing students.^{15,16}

This highlights that knowledge alone is insufficient; institutional cyber-safety protocols, digital hygiene training, and accessible psychological counselling are crucial to mitigate impact.

Implications for nursing practice and institutional policy

Given the central role of nursing professionals in healthcare delivery, emotional resilience and mental well-being are paramount. Unaddressed psychological trauma from cybervictimization can impair academic performance, compromise clinical decision-making, and lead to early professional burnout. Nursing educational institutions must institute formal support protocols, including confidential cyber incident reporting channels, institutional psychological counseling services, and targeted digital hygiene training programs.

This study has few limitations. The study was restricted to selected nursing colleges in New Delhi, limiting the generalizability of findings to other geographical regions. The cross-sectional design precludes inferring direct causal relationships between cybervictimization and psychological distress. Data were self-reported, which may introduce recall bias or underreporting due to sensitive content.

CONCLUSION

The majority of nursing students possess good knowledge regarding cybercrime; however, cybervictimization remains highly prevalent, affecting over 70% of the sample. Cybervictimization is significantly associated with depression, anxiety, and stress. Comprehensive institutional policies, mental health counselling, and preventative cyber-safety initiatives are essential to safeguard the well-being of nursing students in digital learning environments.

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