Biological and Clinical Sciences Research Journal
eISSN: 2708-2261; pISSN: 2958-4728
www.bcsrj.com
DOI: https://doi.org/10.54112/bcsrj.v6i5.1759
*Biol. Clin. Sci. Res. J., Volume 6(5), **2025**: 1759*
Original Research Article

Impact of Excessive Use of Mobile Phone on Academic Performance of Students of Mohtarma Benazir Bhutto Shaheed Medical College

Youmnah Ali[*1], Sobia Mushtaq[2], Ammara Shahnawaz[3], Zaib Un Nisa[4], Hafsa Irraj Khan[5], Shahreen[6]

[1]Department of Medicine, Noor Medical Center, Dhoke Sayedan Rawalpindi, Pakistan
[2]Department of Medicine, Cleft Hospital, Pakistan
[3]Department of Medicine, Ahsan Medical Complex Mirpur Azad Kashmir, Pakistan
[4]Department of Physiology, Sialkot Medical College Sialkot, Pakistan
[5]Department of Emergency Medicine, Sarmad Hospital Jhelum, Pakistan
[6]Department of Community Medicine, Bakhtawar Amin medical and dental college Multan, Pakistan
**Corresponding author`s email address:* youmnah.rauf01@gmail.com

(Received, 14th January 2025, Accepted 15th May 2025, Published 31st May 2025)

Abstract: *Mobile phone usage has become deeply embedded in student life, offering both educational utility and considerable distraction. Among medical students, excessive screen time may impair concentration, study habits, and health, ultimately affecting academic outcomes.* ***Objectives:*** *To assess the impact of excessive mobile phone usage on the study patterns and academic performance of medical students and to compare academic outcomes between frequent mobile phone users and those who use mobile phones only when necessary.* ***Methods:*** *A cross-sectional study was conducted from April 2018 September 2018 within the premises of Mohtarma Benazir Bhutto Shaheed Medical College, Mirpur, AJK. A structured questionnaire was administered to students residing in both the college and hostel. Variables included mobile phone usage frequency, study disruptions, social media activity, and self-reported health complaints. Descriptive statistics were used to summarize data, and comparative analysis was applied between high and low phone usage groups.* ***Results:*** *Of the respondents, 46% reported experiencing attention deficits while studying. WhatsApp was the most frequently cited distraction, with 96% of students admitting to using it during study time, followed by Facebook/Instagram (39%). Furthermore, 71% reported using mobile phones for more than two hours during study periods. Health effects included hearing and vision-related issues in 60% of the students. High-frequency users demonstrated poorer academic concentration and greater interference in study routines compared to low-frequency users.* ***Conclusion:*** *Excessive mobile phone usage has a significant negative impact on the academic behavior and health of medical students. It contributes to reduced concentration, study time mismanagement, and increased risk of sensory complaints. To support academic success and student well-being, institutional awareness programs promoting responsible digital habits should be implemented.*

Keywords: Body Mass Index (BMI), HbA1c, Obesity, Outpatient Checkups, Prediabetes, Sedentary Lifestyle, Type 2 Diabetes Risk

[***How to Cite:*** Ali Y, Mushtaq S, Shahnawaz A, Nisa ZU, Khan HI, Shahreen. Impact of excessive use of mobile phone on academic performance of students of Mohtarma Benazir Bhutto Shaheed medical college. *Biol. Clin. Sci. Res. J.*, **2025;** 6(5): 87-90. doi: https://doi.org/10.54112/bcsrj.v6i5.1759]

Introduction

In the era of globalization, communication has undergone a profound transformation. The shift from handwritten letters to real-time, digital interaction has been driven by advances in Information and Communication Technologies (ICT). Mobile phones, in particular, have emerged as essential tools for communication, collaboration, and information access (1). Since their surge in popularity in the late 1990s, global mobile phone subscriptions have increased from approximately 12.4 million to over six billion, reaching more than 70% of the world's population (2). Among adolescents, mobile phones are now the most commonly used medium of communication and have become embedded in both social culture and academic life. While mobile phones offer undeniable educational advantages such as access to academic resources, self-directed learning, and peer collaboration their overuse poses significant risks to students' cognitive focus and academic performance (3). In institutions with high academic demands, such as medical colleges, this tension becomes particularly apparent. Mobile devices can either enhance learning when used judiciously or undermine academic achievement through distraction, procrastination, and decreased classroom engagement (4). The educational setting has historically been shaped by traditional agents of socialization: families and schools. With the increased need for specialized knowledge and workforce skills, schools have taken on a broader social role (5). However, the widespread presence of mobile phones introduces a conflicting influence. Teachers often prioritize discipline and learning continuity, while parents expect constant availability and communication with their children. This divergence has created a complex environment where mobile phone use may interfere with institutional authority and the student's role as a focused learner (6). Numerous investigations have recognized the disruptive nature of mobile phone use in academic settings. As one researcher has noted, "the mobile phone is at cross purpose with the mission of the school." While students are expected to concentrate solely on their academic responsibilities during class hours, mobile phones allow them to engage in external, non-academic roles blurring the boundaries between student identity and personal life (7). This blending of roles can lead to distraction, loss of concentration, and a weakening of classroom discipline. In the past, when fixed-line telephones were the norm, disruptions in the learning environment were minimal (8). However, the accessibility of modern mobile devices, coupled with the growing parental insistence on 24/7 contact, has made the mobile phone a persistent presence in academic spaces (9). Consequently, mobile phones can undermine institutional control and negatively affect students' academic performance. Paradoxically, these same technologies are also lauded for their educational potential. Mobile phones support independent study, quick content access, student organization, and collaborative learning (10). More advanced smartphones provide multimedia capabilities, high-speed internet access, and support for third-party educational apps, all of which can promote inquiry-based instruction and enhance learning experiences. Recent developments in ICT have dramatically improved the processing power, memory, and interactivity of mobile devices, increasing their appeal as instructional tools (11).

These dualities productivity vs. distraction, and enhancement vs. Disruption create a complex dynamic that warrants deeper exploration. Technologies and it has become central to their lives, so the best thing is to integrate these devices into teaching and learning. Mobile phone technology is a necessity in a student's life and also an important technological device to them. They are basically used for making and receiving calls, text, and picture messaging, and accessing the internet. Today's students are extremely competent in the use of mobile phones (12).

Methodology

This cross-sectional study was conducted at Mohtarma Benazir Bhutto Shaheed Medical College, Mirpur, Azad Jammu and Kashmir from April 2018 September 2018. Data collection took place within the academic campus as well as hostel premises to ensure diverse participant representation. A total of 153 medical students were included in the study. The participants were selected through a stratified sampling method to ensure a proportionate representation of both male and female students across all five academic years. Stratified sampling was used based on class year and gender distribution. The total student strength by academic year and gender is as follows:

Class Year	Total Students	Boys	Girls
First Year	100	29	71
Second Year	100	35	65
Third Year	96	27	69
Fourth Year	111	38	73
Final Year	91	29	62
Total	498	158	340

From this population, a stratified sample comprising 49 boys and 104 girls was drawn to reflect the existing gender distribution.
All enrolled students of Mohtarma Benazir Bhutto Shaheed Medical College, both male and female, across all academic years.
Faculty members, non-teaching staff, and students from institutions other than Mohtarma Benazir Bhutto Shaheed Medical College were excluded from the study. Data were collected using a self-administered, pre-validated questionnaire designed to assess mobile phone usage behavior, perceptions, and its impact on academic performance and health.
Collected data were entered and analyzed using Statistical Package for Social Sciences (SPSS) version 20. Descriptive statistics were applied to generate frequencies and percentages, and findings were displayed through tables and pie charts for clear interpretation.

Results

The results indicate that the majority of students who spent more than 2 hours on their mobile phones (47 out of 71) reported that it affects their vision and hearing. In contrast, very few students using mobile phones for less than 2 hours experienced such effects. Only 1 student who used a mobile for less than 30 minutes was unsure of any health impact, and a notable proportion of students who used their phones for 1–2 hours also expressed uncertainty or denied any effects.

Table 1: Time Spent on Mobile vs Effects on Vision and Hearing

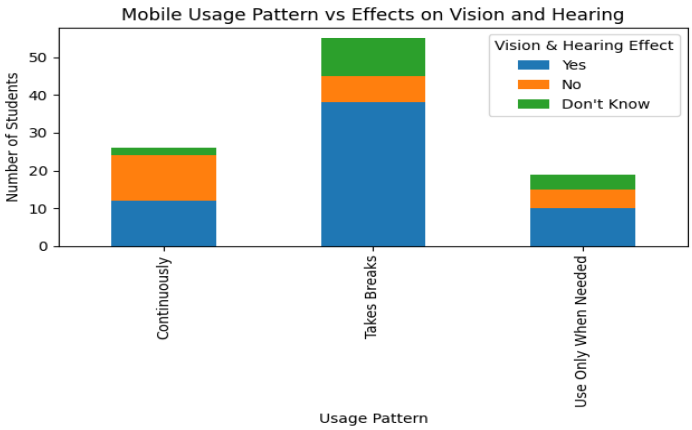
Time Spent on Mobile	Yes	No	Don't Know	Total
<30 minutes	0	0	1	1
30 minutes - 1 hour	3	1	1	5
1–2 hours	9	4	4	17
>2 hours	47	16	8	71

The results show that among students who used their mobile phones continuously, only 46.2% (n=12) reported experiencing vision or hearing effects, while an equal number (n=12) reported no such effects, and a few were uncertain (n=2). In contrast, 69.1% (n=38) of students who took breaks while using phones reported adverse effects, suggesting intermittent use might still contribute to symptoms.

Table 2: Mobile Usage Pattern vs Effects on Vision and Hearing

Mobile Usage Pattern	Yes	No	Don't Know	Total
Continuously	12	12	2	26
Takes breaks while using	38	7	10	55
Use only when needed	10	5	4	19

Among students using their phones for more than 2 hours daily, 56.3% (n=40) reported feeling bored, and a notable number also experienced depression/anxiety (n=7), loneliness (n=8), or emptiness (n=15). Comparatively, those who used their phones for 1–2 hours showed fewer psychological impacts, with only 9 reporting boredom and 2 reporting anxiety. Minimal emotional effects were observed in students using phones for less than an hour daily.



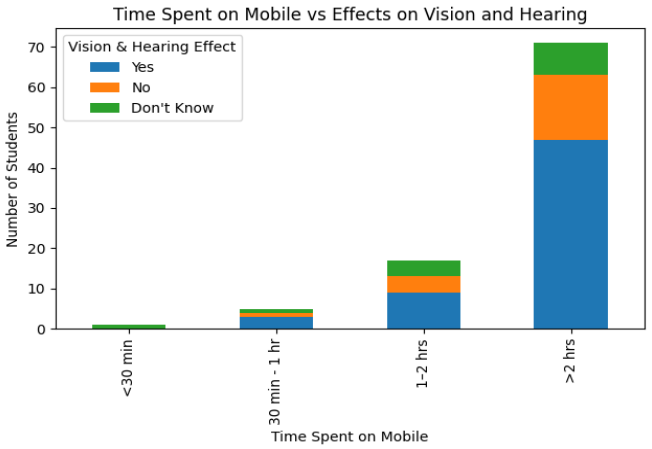


Table 3: Time Spent on Mobile vs Feelings Without Mobile

Time Spent on Mobile	Bored	Depressed/ Anxious	Alone	Nothing	Total
<30 minutes	2	0	0	4	6
30 minutes - 1 hour	2	0	1	3	6
1–2 hours	9	2	1	5	17
>2 hours	40	7	8	15	71

Discussion

Our research topic was “Impact of Mobile Phone Usage on Academic Performance of Students of Mohtarma Benazir Bhutto Shaheed Medical College.” Based on the literature review and synopsis conducted during this study, the following discussion is concluded: The mobile phone has

become a basic necessity in the present era, particularly for the educated population. Focusing specifically on students, intensive mobile phone use is increasingly associated with poor academic performance. A negative relationship has been established between excessive phone usage and students' academic outcomes, including lower GPAs, a trend previously observed in students from the United States (13). Similarly, the research findings from our study are consistent with those conducted in China. Researchers have also pointed out that modern smartphones provide access to a wide array of electronic media, anytime and anywhere. This includes activities such as video gaming, internet surfing, and the use of social networking platforms like Facebook and Twitter (14). These digital behaviors negatively affect academic results for instance, excessive video game playing has been linked to reduced academic performance. Conversely, students who limit their internet use tend to show improved academic outcomes. Particularly, Facebook stands out as a highly used platform among students (15). Several recent studies indicate that Facebook users tend to have lower grades and devote fewer hours to study compared to non-users. This adverse relationship between Facebook use and academic performance has been reported among students in both Europe and Asia. Multitasking behavior is also relevant here, suggesting that measuring mobile phone usage should go beyond just texting and calling. It should encompass the broad spectrum of activities these devices facilitate (16).

Depression has emerged as another common symptom among frequent mobile phone users, especially those who are constantly online. As noted in our synopsis, the Orissa government banned mobile phone use on college campuses due to the disruptive impact of phones in academic settings (17). Teenagers, particularly those still in school, tend to overuse phones, which has been linked to poor sleep quality, restlessness, and fatigue. In the Asian context, India ranks prominently. According to a survey, Indians were the most socially active phone users, with 69% using phones in cinemas, 20% in places of worship, 79% at wedding ceremonies, and 80% while eating. While mobile phone applications have evolved to offer various utilities including paying bills this also underscores a growing dependency on mobile technology (18). Among psychological consequences, a diminished sense of responsibility and attention deviation is commonly noted in frequent users. Mobile phone use while driving is a dangerous example of this irresponsible behavior (19,20). Shifting the focus back to students, mobile phone use has been shown to disrupt physical activities, as observed in studies supporting the "cell phone as a disrupter" hypothesis. This is consistent with the literature review findings that link mobile use to impaired cardiorespiratory fitness. Furthermore, mobile phone radiation has been investigated for its physiological implications. Notably, loneliness is more prevalent among male students who are smartphone addicts.

Conclusion

This study concludes that excessive mobile phone usage significantly impacts the academic performance and overall well-being of students at Mohtarma Benazir Bhutto Shaheed Medical College. The findings highlight that frequent mobile use not only hampers concentration and study habits but is also associated with various health concerns, including visual strain, hearing issues, and mental fatigue. These factors collectively hinder students from achieving their academic goals. Therefore, it is imperative for students to adopt more mindful and limited use of mobile phones to optimize both academic outcomes and personal health.

Declarations

Data Availability statement

All data generated or analysed during the study are included in the manuscript

Ethics approval and consent to participate

Approved by the department concerned. (IRBEC-22-21)

Consent for publication

Approved

Funding

Not applicable

Conflict of interest

The authors declared the absence of a conflict of interest.

Author Contribution

YA (Medical Officer), SM (Medical Officer)
Manuscript drafting, Study Design,
Review of Literature, Data entry, Data analysis, and drafting article.
AS (Medical Officer), ZUN (Demonstrator)
Study Design, manuscript review, critical input.
HIK (WMO), S (Demonstrator)
Conception of Study, Development of Research Methodology Design

All authors reviewed the results and approved the final version of the manuscript. They are also accountable for the integrity of the study.

References

1. Khan, S., Muneeb, A., Ahmad, M. S. (2024). *Comparative efficacy of proton pump inhibitors vs. H2 receptor antagonists in the treatment of gastroesophageal reflux disease*. Biol. Clin. Sci. Res. J., 2024:1496. doi: https://doi.org/10.54112/bcsrj.v2024i1.1496
2. Wargo, J., & Wargo, L. (2022). *Cell phones: Technology, Exposures, and Health Effects*. Environment and Human Health Monographs, 7, 65.
3. Study Title Not Provided. (2020). *Effect of using habits of cell phone on the study of the students: A case study on parents and teachers of Sargodha city*. Asian Journal of Empirical Research.
4. Bulankulama, S. W. G. K. (2020). *Factors Affecting the Demand for Mobile Phones by university students*. Proceedings of Annual Bangkok Business and Social Sciences Research Conference.
5. Zeerak Q, Imran M, Azeez K, Lokanathan TH, Ismail IM. The Effects of Smartphone Addiction on Academic Performance Among Undergraduate Medical Students in Karnataka, India: A Multi-centric Study. Cureus. 2024 Jun 20;16(6):e62796. doi: 10.7759/cureus.62796. PMID: 39036273; PMCID: PMC11260275.
6. S., P. K. R., Aruna, K., Kumar, A., & P., V. (2021). A smartphone use and its impact on academic performance of medical students: a cross sectional study. *International Journal of Advances in Medicine*, *8*(10), 1582–1586. https://doi.org/10.18203/2349-3933.ijam20213714
7. Nasser NS, Loh JL, Rashid AA, Sharifat H, Ahmad U, Ibrahim B, et al. A cross-sectional survey on smartphone usage pattern, the level of mobile phone dependence and psychosocial effects among undergraduate students in a Malaysian University. MedRxiv. 2020:341-9.
8. Khan H, Malik A. Academic use of smartphones among medical students in Pakistan. Info Develop. 2021:0266666921993518.
9. Subhash TS, Bapurao TS. Perception of medical students for utility of mobile technology use in medical education. Int J Med Pub Health. 2015;5(4).
10. Ithnain N, Ghazali SE, Jaafar N. Relationship between smartphone addiction with anxiety and depression among undergraduate students in Malaysia. Int J Health Sci Res. 2018;8(1):163-71.
11. Gavali MY, Khismatrao DS, Gavali YV, Patil KB. Smartphone, the new learning aid amongst medical students. J Clinic Diagn Res. 2017;11(5):05.
12. Oswal RM, Pal S, Patel SV, Patel A, Doshi V, Gandhi RR. Smartphone addiction among undergraduate medical students and its association with academic performance. Open J Psychiat All Sci. 2020;11(2):111-6.

13. Zeerak Q, Imran M, Azeez K, et al. (June 20, 2024) The Effects of Smartphone Addiction on Academic Performance Among Undergraduate Medical Students in Karnataka, India: A Multi-centric Study. Cureus 16(6): e62796. doi:10.7759/cureus.62796
14. Jahagirdar V, Rama K, Soppari P, Kumar MV: Mobile phones: vital addiction or lethal addiction? Mobile phone usage patterns and assessment of mobile addiction among undergraduate medical students in Telangana, India. J Addict. 2021, 2021:8750650. 10.1155/2021/8750650
15. Alharbi RS, Mohamed BA, Alshammari TM: Addiction of smartphones and its relationship to academic achievement of medical students in Saudi Arabia (Preprint). medRxiv. 2022, 4:24-6. 10.1101/2022.12.12.22283066
16. Nayak JK: Relationship among smartphone usage, addiction, academic performance and the moderating role of gender: a study of higher education students in India. Comput Educ. 2018, 123:164-73. 10.1016/j.compedu.2018.05.007
17. Khatgaonkar C, Sayyad W, Mali D, Ramesh S, Mistry M: Smartphone usage and its addiction among undergraduate nursing students. Indian J Forensic Med Toxicol. 2020, 14:3838-43. 10.37506/ijfmt.v14i4.12229
18. Jeong SH, Kim H, Yum JY, Hwang Y: What type of content are smartphone users addicted to? SNS vs. games. Comput Hum Behav. 2016, 54:10-7. 10.1016/j.chb.2015.07.035
19. A new addiction on the rise: mobile game addiction. (2024). Accessed: May 18, 2024: https://www.addictions.com/blog/a-new-addiction-on-the-rise-mobile-game-addiction/.
20. Alotaibi MS, Fox M, Coman R, Ratan ZA, Hosseinzadeh H: Smartphone addiction prevalence and its association on academic performance, physical health, and mental well-being among university students in Umm Al-Qura University (UQU), Saudi Arabia. Int J Environ Res Public Health. 2022, 19:75-7. 10.3390/ijerph19063710