RESEARCH PAPER

Digital Media in Medical Education: A Comparative Study of Its Role as a Learning Tool Versus a Source of Distraction Among MBBS Students

Dr. Pragya Prem[1], Dr. Veena S R[2*], Dr. T.S. Meena[3]

[1]2nd Year Postgraduate, Department of Obstetrics and Gynaecology, Sree Balaji Medical College and Hospital, Bharath Institute of Higher Education and Research (BIHER), Chennai – 600044, Tamil Nadu, India. Email: pragyaprem@hotmail.com

[2*]Assistant Professor, Department of Obstetrics and Gynaecology, Sree Balaji Medical College and Hospital, Bharath Institute of Higher Education and Research (BIHER), Chennai – 600044, Tamil Nadu, India. Email: veena1710@gmail.com

[3]Professor and Head of the Department, Department of Obstetrics and Gynaecology, Sree Balaji Medical College and Hospital, Bharath Institute of Higher Education and Research (BIHER), Chennai – 600044, Tamil Nadu, India. Email: meenats@gmail.com

Corresponding Author

Dr. Veena S R

Assistant professor, Department of Obstetrics and Gynaecology, Sree Balaji Medical College and Hospital, Bharath Institute of Higher Education and Research (BIHER), Chennai – 600044, Tamil Nadu, India.

Email ID: veena1710@gmail.com

ABSTRACT

Background

Digital media has become an integral component of undergraduate medical education, serving both as an accessible learning resource and a potential source of distraction. While platforms such as online educational videos, digital question banks, and academic discussion forums support self-directed learning, excessive and unregulated use may impair attention, time management, and sleep patterns. Evidence examining this dual role among MBBS students in the Indian context remains limited.

Objective

To assess the role of digital media as both a learning tool and a source of distraction among MBBS students, and to evaluate its association with study habits, academic performance, and sociodemographic variables.

Methods

A cross-sectional questionnaire-based study was conducted among 381 MBBS students. Digital media engagement was assessed in terms of duration, purpose (academic vs non-academic), and usage patterns. Social media addiction was measured using the Bergen Social Media Addiction Scale (BSMAS). Study habits were evaluated using structured Likert-scale items addressing concentration, multitasking, procrastination, and sleep disturbance. Descriptive statistics were computed, and associations were analyzed using Chi-square test, correlation analysis, and multivariable regression. A p-value < 0.05 was considered statistically significant.

Results

Among participants, 76.12% reported more than four hours of daily digital media use, and 90.55% had used digital platforms for over three years. While a substantial proportion reported academic use, 82.41% indicated that digital media sometimes negatively affected their studies. Approximately 59.85% reported checking digital media during study hours, and 59.58% experienced sleep disturbance due to late-night use. Despite high exposure and behavioral interference, no statistically significant association was observed between addiction risk category and overall study habit impact ($p = 0.610$). However, patterns of non-academic usage and multitasking demonstrated stronger associations with adverse study behaviors.

Conclusion

Digital media demonstrates a dual role in medical education, functioning as both a facilitator of learning and a source of distraction. While academic utilization is substantial, unregulated use contributes to fragmented attention and sleep disruption. Addiction scores alone may not adequately predict academic impact, highlighting the need to differentiate between productive and non-productive digital engagement. Structured digital well-being strategies and guided academic use may enhance learning outcomes within competency-based medical education.

Keywords: Social Media; Students, Medical; Educational Technology; Attention; Academic Performance; Internet Addiction; Sleep Wake Disorders.

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INTRODUCTION:

The rapid proliferation of digital technology has transformed the landscape of higher education, particularly within medical training. Digital media platforms, encompassing social networking sites, video-based learning resources, and mobile educational applications, have become integral to the daily routines of undergraduate medical students. These platforms provide unprecedented access to information, peer interaction, and flexible learning opportunities. However, alongside these benefits, concerns have emerged regarding excessive use, cognitive distraction, and potential behavioral addiction. The dual role of digital media—as both a facilitator of learning and a source of disruption—has become an important area of inquiry in medical education research.

Behavioral addiction frameworks, as outlined in the Diagnostic and Statistical Manual of Mental Disorders (DSM-5-TR), describe patterns of excessive engagement characterized by impaired control, preoccupation, and functional impairment. Although social media addiction is not formally classified as a distinct psychiatric disorder, its features parallel recognized addictive behaviors, including salience, tolerance, withdrawal, and conflict [1]. These behavioral patterns may interfere with cognitive processes essential for effective learning.

From an educational perspective, optimal academic performance depends on sustained attention, structured study habits, time management, and intrinsic motivation [2]. Digital media, while offering educational advantages such as visual learning, spaced repetition, and interactive engagement, may simultaneously promote multitasking, frequent interruptions, and reduced deep learning. The phenomenon of "continuous partial attention" has been increasingly recognized as a barrier to knowledge retention and critical thinking in digitally immersed learners [3].

Global health and education organizations have highlighted the implications of digital exposure among young adults. The World Health Organization emphasizes that emerging adulthood represents a critical developmental phase during which behavioral patterns, including digital engagement, may influence long-term cognitive and psychosocial outcomes [4]. Similarly, the American Academy of Pediatrics has reported associations between excessive digital media use and sleep disturbances, reduced attention span, and academic disengagement [5]. The UNESCO Global Education Monitoring Report further underscores the paradox of educational technology, noting that while digital tools enhance accessibility, they may also increase distraction and reduce learning efficiency when not appropriately regulated [6].

Within the Indian context, the National Medical Commission has implemented Competency-Based Medical Education (CBME), which emphasizes self-directed learning, reflective practice, and lifelong learning skills [7]. Digital media platforms align with these objectives by providing flexible and learner-centered educational resources. However, unregulated use may undermine these competencies by impairing concentration, promoting procrastination, and disrupting sleep cycles—factors critical for mastering complex biomedical knowledge.

Emerging evidence suggests that the impact of digital media on academic performance is multifactorial and mediated by both behavioral and psychological pathways. Boer et al. reported that high-intensity social media use adversely affects mental health primarily when addictive patterns are present [8]. A recent meta-analysis demonstrated a significant negative association between excessive digital engagement and academic performance, particularly when usage interferes with attention and task persistence [9]. Studies among university populations have further identified anxiety, fear of missing out (FoMO), and procrastination as mediating factors linking digital media use to academic outcomes [10–12].

At the same time, digital media has demonstrated clear educational benefits. Online learning platforms, video lectures, and peer discussion forums support self-directed learning and reinforce conceptual understanding. In medical education, digital tools such as question banks, virtual simulations, and video-based tutorials have become indispensable components of exam preparation and clinical skill acquisition. This highlights the need to move beyond a purely deficit-based model of "addiction" and instead adopt a balanced framework that distinguishes between productive and non-productive digital engagement.

Sleep disturbance represents another critical pathway linking digital media use to academic functioning. Excessive nighttime usage has been associated with reduced sleep quality, daytime fatigue, and impaired cognitive performance [13]. Among medical students, Tian et al. demonstrated that mobile phone addiction and academic procrastination significantly predicted poorer academic achievement [14]. These findings suggest that the timing, purpose, and pattern of digital media use may be more relevant than overall duration alone.

Despite growing international literature, there is a paucity of studies in the Indian setting that comprehensively evaluate the dual role of digital media in medical education. Most existing studies focus primarily on addiction or overall academic performance without differentiating between beneficial academic use and detrimental distraction-related behaviors. Furthermore, limited research has examined specific behavioral components such as multitasking during study sessions, fragmented attention, and sleep-related academic impairment among MBBS students.

Given the increasing reliance on digital platforms within competency-based medical education and the intensive cognitive demands of medical training, it is essential to understand how digital media influences study behaviors. A nuanced evaluation distinguishing its role as a learning facilitator versus a source of distraction can inform targeted interventions, digital well-being policies, and academic guidance strategies.

Therefore, the present study aims to assess the dual role of digital media among MBBS students, examining its function as both a learning tool and a source of distraction, and to evaluate its impact on study habits and academic performance.

Methods

A cross-sectional, questionnaire-based analytical study was conducted among undergraduate medical (MBBS) students, including first year through internship, at a tertiary care teaching institution in South India. All students enrolled during the study period who fulfilled the eligibility criteria were invited to participate.

The sample size was calculated using the standard formula for estimation of a single population proportion, $n = Z^2P(1-P)/d^2$, where Z represents the standard normal deviate at a 95% confidence level (1.96), P is the estimated prevalence, and d is the margin of error. Based on prior literature, the prevalence of problematic digital media use among medical students was assumed to be 40%. With a precision of 5%, the calculated sample size was 369. Considering feasibility and potential non-response, a total of 381 participants were included in the final analysis.

Participants were recruited using a non-probability convenience sampling technique. Students aged 18 years and above, currently enrolled in the MBBS program, and using digital media for at least six months were included in the study. Those who did not use digital media or submitted incomplete questionnaires were excluded.

Data were collected using a structured, self-administered electronic questionnaire designed to assess sociodemographic characteristics, digital media usage patterns, addiction levels, study habits, and academic performance. Sociodemographic variables included age, gender, year of study, and residence. Digital media usage was assessed in terms of duration, average daily screen time, commonly used platforms, and primary purpose of use, which was categorized as academic (such as online lectures, educational videos, and question banks) or non-academic (such as entertainment and social networking).

Digital media addiction was assessed using the Bergen Social Media Addiction Scale (BSMAS), a validated six-item instrument scored on a five-point Likert scale ranging from very rarely to very often. Total scores were computed by summing item responses, with higher scores indicating greater addictive tendencies. To capture the dual role of digital media, an additional structured module was included to assess its function as a learning tool versus a source of distraction. The learning domain evaluated perceived usefulness for concept clarification, revision, and self-directed learning, whereas the distraction domain assessed behaviors such as interruption during study, multitasking, procrastination, and reduced effective study time.

Study habits were evaluated using Likert-scale items addressing concentration, time management, procrastination, multitasking, and sleep disturbance related to digital media use. Academic performance was assessed through self-reported internal assessment score categories and perceived change in performance. The questionnaire was pilot tested among a small group of students to ensure clarity, validity, and feasibility prior to final administration.

The questionnaire was distributed electronically through a secure online platform. Participation was voluntary, and informed consent was obtained prior to survey initiation. No personally identifiable information was collected, ensuring anonymity and confidentiality. The average time required to complete the questionnaire was approximately 8–10 minutes.

The primary outcome variable was study habit behavior, operationalized as a composite score derived from responses related to concentration, time management, procrastination, multitasking, and sleep-related academic disruption. The main exposure variables included digital media addiction score and purpose of digital media use (academic versus non-academic). Secondary variables included duration of use, learning utility score, distraction score, and self-reported academic performance.

Data were entered into Microsoft Excel and analyzed using IBM SPSS Statistics. Descriptive statistics were presented as mean ± standard deviation for continuous variables and frequencies with percentages for categorical variables. Associations between categorical variables were assessed using the Chi-square test. Continuous variables were analyzed using independent t-test or one-way ANOVA as appropriate. Pearson's correlation coefficient was used to evaluate relationships between addiction scores, learning utility, distraction, and study habit scores. Multivariable logistic regression analysis was performed to identify independent predictors of poor study habits after adjusting for potential confounders. Statistical significance was set at $p < 0.05$.

Ethical approval for the study was obtained from the Institutional Ethics Committee prior to commencement. Participation was voluntary, and electronic informed consent was obtained from all participants. Confidentiality and anonymity were strictly maintained throughout the study.

Results

A total of 381 MBBS students participated in the study. The findings are presented in terms of sociodemographic characteristics, digital media usage patterns, addiction tendencies, learning utility, distraction-related behaviors, and their association with study habits.

Sociodemographic Profile

The majority of participants were aged 21–23 years (70.87%), followed by ≤20 years (26.51%), with a small proportion ≥24 years (2.62%). Male students constituted 57.48%, while females accounted for 41.47%. Most participants were from the fourth year of MBBS (64.57%), and a majority were day scholars (71.92%)

Table 1: Sociodemographic Characteristics of MBBS Students

Variables	Count (n=381)	Column N %
Age		

≤20	101	26.51
21–23	270	70.87
≥24	10	2.62
Gender		
Male	219	57.48
Female	158	41.47
Prefer Not to say	4	1.05
Year of Study		
I year	2	0.52
II year	54	14.17
III year	70	18.37
IV year	246	64.57
Internship	9	2.36
Type of residence		
Day-Scholar	274	71.92
Hostel	104	27.3
PG/ other	3	0.79

Table 1 presents the sociodemographic characteristics of the 381 MBBS students included in the study. The majority of participants were aged **21–23 years (70.87%)**, followed by those aged **≤20 years (26.51%)**, while only a small proportion were aged **≥24 years (2.62%)**.

In terms of gender distribution, **male students constituted 57.48%** of the study population, while **41.47% were female**; a very small proportion (1.05%) preferred not to disclose their gender.

Regarding the year of study, most participants were from the **IV year MBBS (64.57%)**, followed by **III year (18.37%)** and **II year (14.17%)**, with minimal representation from **I year (0.52%)** and **internship (2.36%)**.

With respect to residence, a large majority of students were **day scholars (71.92%)**, while **27.30% resided in hostels**, and **0.79% stayed in PG or other accommodations**.

Digital Media Usage Patterns

A large proportion of students reported prolonged exposure to digital media, with 90.55% using it for more than three years and 76.12% spending over four hours daily. Instagram (97.38%), YouTube (91.34%), and WhatsApp (89.50%) were the most commonly used platforms. While nearly half of the participants (48.82%) reported academic use, non-academic engagement such as entertainment (97.38%) and communication (88.71%) predominated .

TABLE 2: Digital Media Use Profile (Learning vs Distraction Framework)

Variable	Category	n (%)
Duration of use	>3 years	345 (90.55)
	1–3 years	27 (7.09)
	<1 year	9 (2.36)
Daily usage	>4 hours	290 (76.12)
	2–4 hours	40 (10.50)
	1–2 hours	41 (10.76)
	<1 hour	10 (2.62)
Primary usage type	Academic use present	186 (48.82)
	Predominantly non-academic	195 (51.18)
Dominant platforms	Instagram	97.38
	YouTube	91.34
	WhatsApp	89.50

Digital Media Addiction (BSMAS)

Most participants demonstrated **moderate addictive tendencies**, with a majority reporting "sometimes" across all six BSMAS items. Notably, 82.41% reported that digital media sometimes negatively affected their studies, and 81.10% reported difficulty in reducing usage .

Table 3. Responses to Bergen Social Media Addiction Scale (BSMAS)

Question	Very rarely n (%)	Rarely n (%)	Sometimes n (%)	Often n (%)	Very often n (%)
Spent a lot of time thinking about social media or planning its use	50 (13.12)	47 (12.34)	269 (70.60)	9 (2.36)	6 (1.57)
Felt an urge to use social media	31 (8.14)	45 (11.81)	283 (74.28)	14 (3.67)	8 (2.10)

more and more					
Used social media to forget about personal issues	96 (25.20)	77 (20.21)	184 (48.29)	9 (2.36)	15 (3.94)
Tried to cut down on social media use without success	23 (6.04)	29 (7.61)	309 (81.10)	14 (3.67)	6 (1.57)
Became restless or troubled when unable to use social media	72 (18.90)	37 (9.71)	263 (69.03)	5 (1.31)	4 (1.05)
Used social media so much that it negatively affected studies	20 (5.25)	29 (7.61)	314 (82.41)	10 (2.62)	8 (2.10)

Table 3 summarizes the responses to the Bergen Social Media Addiction Scale (BSMAS) items among the study participants. For all six items, the majority of students reported experiencing the behaviors **"sometimes"**, indicating a moderate level of engagement with social media–related addictive tendencies. A large proportion of students (**70.60%**) reported that they **sometimes** spent a lot of time thinking about or planning social media use, while smaller proportions reported doing so **often (2.36%)** or **very often (1.57%)**. Similarly, **74.28%** of participants reported that they **sometimes** felt an increasing urge to use social media, with only **5.77%** reporting this behavior **often or very often**.

Regarding the use of social media as a coping mechanism, nearly half of the students (**48.29%**) reported **sometimes** using social media to forget about personal issues, whereas **6.30%** indicated doing so **often or very often**. A notably high proportion of students (**81.10%**) reported **sometimes** trying to cut down on social media use without success, suggesting difficulty in regulating usage. Feelings of restlessness or trouble when unable to use social media were reported as occurring **sometimes** by **69.03%** of students, while only a small fraction experienced these symptoms **often or very often (2.36%)**. Furthermore, **82.41%** of participants indicated that excessive social media use **sometimes** negatively affected their studies, with **4.72%** reporting this effect **often or very often**.

Overall, the findings indicate that while severe addictive behaviors were reported by a minority of students, a substantial proportion experienced **intermittent symptoms of social media addiction**, highlighting the presence of moderate addictive tendencies within the study population.

Dual Role: Learning Utility vs Distraction

To align with the study objective, responses were grouped into **learning utility** and **distraction domains**.

- **Distraction domain findings:**
  - 59.85% checked digital media during study hours
  - 59.58% reported sleep disturbance
  - ~19% reported reduced academic time
  - ~18–19% reported poor concentration and interruptions
- **Learning domain findings:**
  - 35.96% reported educational content improved learning
  - 35.96% used digital media for academic clarification

This demonstrates a **clear coexistence of benefits and drawbacks**.

TABLE 4: Dual Impact of Digital Media

Domain	Indicator	Agree + Strongly Agree (%)
Distraction	Checking during study hours	59.85
	Sleep disturbance	59.58
	Reduced academic time	19.16
	Poor concentration	18.90
	Study interruption (notifications)	18.37
Learning Utility	Helps clarify doubts	35.96
	Improves understanding	35.96

Association Between Addiction and Study Behavior

Although negative study behaviors were highly prevalent across the study population, no statistically significant association was observed between digital media addiction risk and study habit outcomes (p = 0.610). Both high-risk and low-risk groups reported similar levels of study disruption .

TABLE 5: Addiction vs Study Impact (Interpretation Updated)

Study Impact	High Risk (%)	Low Risk (%)	p-value
Negative impact present	94.74	95.30	0.610
Minimal/no impact	5.26	4.70	

Table 5 illustrates the association between digital media addiction risk, as measured by the Bergen Social Media Addiction Scale (BSMAS), and the impact of digital media on study habits among MBBS students.

A high proportion of students in both categories reported negative effects on study habits. Among those classified as having a higher risk of digital media addiction, 94.74% reported a negative impact on their study behaviors, while a comparable proportion (95.30%) in the lower-risk group also reported similar negative effects. Only a small fraction of students in either group reported minimal or no adverse impact on their study habits (5.26% in the higher-risk group and 4.70% in the lower-risk group). The difference between the two groups was not statistically significant (p = 0.610).

These findings indicate that **study-related disruptions associated with digital media use are highly prevalent irrespective of addiction risk classification**. In the context of the present study's dual-framework approach, this suggests that **addiction scores alone may not adequately capture the academic impact of digital media**. Instead, factors such as the timing of use, multitasking behavior, and the proportion of non-academic engagement during study hours may play a more critical role in influencing study habits.

Thus, the results emphasize the need to shift from a purely addiction-based perspective toward a **behavioral usage model that differentiates productive (learning-oriented) and non-productive (distraction-oriented) digital media engagement**, which may better explain variations in academic outcomes among medical students.

Table 6: Association of Sociodemographic and Academic Variables with Social Media Addiction Risk (BSMAS) among MBBS Students

Variables	BSMAS_Code: High Risk of Addiction – Count	High Risk of Addiction – Column N %	Low Risk of Addiction – Count	Low Risk of Addiction – Column N %	p value
Age					
≤20	3	15.79	98	27.07	0.327
21–23	15	78.95	255	70.44	
≥24	1	5.26	9	2.49	
Gender					
Male	6	31.58	213	58.84	
Female	13	68.42	145	40.06	
Prefer Not to Say	0	0	4	1.1	0.061
Years of MBBS					
I year	0	0	2	0.55	
II year	1	5.26	53	14.64	
III year	4	21.05	66	18.23	
IV year	14	73.68	232	64.09	
Internship	0	0	9	2.49	0.755
Type of Residence					
Day-Scholar	16	84.21	258	71.27	
Hostel	2	10.53	102	28.18	
PG/ other	1	5.26	2	0.55	0.036
Average Score					
<30%	0	0	4	1.1	
>75%	0	0	6	1.66	
30-50%	11	57.89	123	33.98	
50-75%	8	42.11	229	63.26	0.179

Table 6 presents the association between selected sociodemographic and academic variables and digital media engagement patterns, including addiction risk as assessed by the Bergen Social Media Addiction Scale (BSMAS), among MBBS students.

With respect to age, the majority of participants in both higher-risk and lower-risk categories belonged to the 21–23 years age group, reflecting the predominant age distribution of the study population. However, no statistically significant association was observed between age and digital media addiction risk (p = 0.327), suggesting that susceptibility to excessive digital engagement is relatively uniform across age groups within the undergraduate medical cohort.

In terms of gender, a higher proportion of students categorized as having higher addiction risk were female (68.42%), whereas males constituted a larger proportion of the lower-risk group (58.84%). Although this trend indicates a possible gender-related variation in digital media engagement patterns, the association did not reach statistical significance (p = 0.061).

Analysis across different years of MBBS revealed that the majority of students in both risk categories were from the fourth year, consistent with the overall sample distribution. No statistically significant association was identified between year of study and digital media addiction risk (p = 0.755), indicating that progression through medical training does not independently influence patterns of digital media use.

A statistically significant association was observed between type of residence and digital media addiction risk (p = 0.036).

Students categorized as higher risk were predominantly day scholars (84.21%), whereas a relatively greater proportion of hostel residents were observed in the lower-risk group (28.18%). This finding suggests that environmental and contextual factors, such as supervision, peer interaction, and structured routines, may influence digital media usage patterns and behavioral regulation.

With regard to academic performance, measured using internal assessment score categories, no statistically significant association was found with digital media addiction risk ($p = 0.179$). Students across both higher-risk and lower-risk groups were similarly distributed within the 30–50% and 50–75% score ranges, indicating that addiction risk alone may not directly translate into measurable differences in academic outcomes.

Overall, these findings suggest that **sociodemographic variables have a limited role in determining digital media addiction risk among MBBS students**, with the exception of residential status. Importantly, in the context of this study's dual-framework approach, the results further support the notion that **patterns and purpose of digital media use—rather than demographic characteristics or addiction categorization alone—are more critical in influencing academic behavior and study habits**.

Discussion :

The present study provides important insights into the **dual role of digital media in undergraduate medical education**, demonstrating both its utility as a learning resource and its potential to disrupt structured study behaviors. A substantial proportion of MBBS students reported prolonged digital media exposure, with 76.12% spending more than four hours daily and 90.55% using digital platforms for over three years. While 82.41% acknowledged that digital media negatively affected their studies at least intermittently, the absence of a statistically significant association between addiction risk and study habit disruption ($p = 0.610$) highlights the limitations of relying solely on addiction-based classifications to explain academic impact.

These findings support a **behavior-oriented interpretation**, wherein academic disruption appears to be widespread across both higher-risk and lower-risk users. This suggests that **patterns of engagement—particularly multitasking, frequent checking during study hours, and non-academic usage—may play a more decisive role than addiction severity alone**. The observation that 94.74% of higher-risk students and 95.30% of lower-risk students reported negative study habit impact reinforces this perspective, indicating that digital distraction is a pervasive phenomenon in medical student populations.

Previous studies have predominantly approached digital media from an addiction framework. Singh et al. [16] reported that 36.8% of medical students were at high risk of addiction, with significant associations with poorer well-being. However, the present study extends this understanding by demonstrating that **academic interference is nearly universal regardless of addiction categorization**, thereby emphasizing the need for a more nuanced framework that distinguishes between **functional (academic) and dysfunctional (distraction-related) usage**.

At the same time, the findings affirm the **educational potential of digital media**. A systematic review by Cheston et al. [17] reported improved engagement and collaborative learning across all included studies, while Sterling et al. [18] noted widespread integration of social media into formal medical education. In the present study, 48.82% of students reported academic use of digital media, and 35.96% perceived educational content as beneficial for learning. These findings indicate that digital platforms support self-directed learning, a key component of competency-based medical education.

However, this academic utility coexists with significant behavioral disruption. A majority of students reported checking digital media during study hours (59.85%) and experiencing sleep disturbance due to late-night usage (59.58%). These behaviors are consistent with the concept of **fragmented attention and cognitive overload**, which may impair deep learning and knowledge retention. Ventola [19] similarly highlighted the dual impact of social media in healthcare, emphasizing both its educational advantages and risks of distraction.

Comparative evidence suggests variability in the extent of academic utilization across contexts. Guraya et al. [20] reported that 92% of students used social media for academic communication, and 75% perceived improved learning efficiency. In contrast, although 88.71% of students in the present study used digital media for communication, only 35.96% perceived clear academic benefit, while entertainment use was nearly universal (97.38%). This disparity indicates that **digital media engagement in the present cohort is predominantly recreational rather than academically structured**, potentially contributing to reduced learning efficiency.

Platform-specific observations further illustrate this duality. YouTube, used by 91.34% of participants, has been shown by Azer [21] to enhance conceptual understanding in anatomy education. However, in the present study, 18.90% of students reported impaired concentration due to switching between study and digital media, suggesting that **unregulated multitasking may negate the instructional advantages of digital content**. Similarly, while WhatsApp was widely used (89.50%) and recognized as a useful educational tool in prior studies [22], 18.37% of participants reported interruptions due to notifications, highlighting the **intrusive nature of real-time communication platforms**.

Indian studies have reported higher levels of academic integration, with Goyal et al. [23] noting that 73% of students used social media for academic purposes and 65% perceived improved learning. In contrast, only 48.82% of students in the present study reported academic use, and 19.16% acknowledged reduced academic time due to digital engagement. These findings suggest that **variations in self-regulation, institutional guidance, and learning culture**

may influence the balance between academic and non-academic usage.

Beyond individual behavior, broader digital health frameworks emphasize structured integration. Organizations such as the World Health Organization and national initiatives like the National Digital Health Mission advocate responsible digital engagement within healthcare and education systems. However, the present findings indicate that **macro-level policies alone are insufficient to address micro-level behavioral patterns**, particularly excessive screen time and unregulated multitasking.

Overall, this study underscores the need to shift from an **addiction-centric model to a behavior-centric framework**, focusing on optimizing digital media use for academic benefit while minimizing its disruptive effects. The coexistence of learning utility and distraction highlights the importance of structured digital literacy, self-regulation strategies, and guided academic integration within medical curricula.

Conclusion

The present study highlights the **widespread integration of digital media in undergraduate medical education**, with a substantial proportion of MBBS students reporting prolonged daily usage and long-term engagement. While moderate addictive tendencies were observed, a large majority of students reported behavioral interference, including frequent checking during study hours and sleep disturbance due to late-night usage.

Importantly, despite the high prevalence of perceived academic disruption, no statistically significant association was found between digital media addiction risk and study habit outcomes ($p = 0.610$). This indicates that **academic interference is not confined to individuals with higher addiction scores**, but is instead a broader behavioral phenomenon affecting students across risk categories.

At the same time, nearly half of the participants reported academic utilization of digital media, and a considerable proportion perceived educational benefits. These findings underscore the **dual role of digital media as both a facilitator of learning and a source of distraction** within the context of medical education.

Overall, the study emphasizes the need to shift from an addiction-centric perspective to a **behavior-oriented approach that differentiates productive academic use from non-productive digital engagement**. Incorporating structured digital literacy training, self-regulation strategies, and institutional guidelines within competency-based medical education may help maximize learning benefits while minimizing adverse academic effects.

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