Journal of Cardiovascular Disease Research
ISSN: 0975-3583,0976-2833 VOL 15, ISSUE 09, 2024

BINGE WATCHING ON OTT AND ITS ASSOCIATION WITH SLEEP PATTERN – A CROSS-SECTIONAL STUDY AMONG MEDICAL STUDENTS

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Abstract

Binge watching has emerged as a **major behavioral trend** among young adults, driven by the widespread availability of **OTT (Over-The-Top)** streaming platforms that offer unlimited access to digital entertainment. Medical students, who often experience high academic pressure, long study hours, and irregular schedules, may be particularly vulnerable to excessive OTT consumption, which can adversely impact their **sleep pattern**, daily functioning, and overall health. The present cross-sectional study aims to determine the **prevalence of binge watching** and its association with **sleep quality among medical students**, considering the rapid expansion of OTT content and its psychosocial implications (3, 2022). A self-designed structured questionnaire was administered to MBBS students to evaluate their OTT usage behavior, duration and frequency of binge watching, preferred platforms, and sleep-related habits such as sleep latency, screen exposure before bedtime, and subjective quality of sleep (14, 2023). Using a prevalence value of 49% based on a previous Indian study (1, 2021), a sample size of 391 students was obtained through the formula $4PQ/L^2$ with an allowable error of 11% of prevalence, accounting for a non-response rate. Data were analyzed using **SPSS v26** with descriptive statistics, chi-square tests, and correlation analysis to determine the association between binge watching and sleep disturbances (6, 2020). The findings indicated a high proportion of students engaging in binge watching, with many reporting delayed sleep onset, reduced sleep duration, and daytime fatigue. A statistically significant association was observed between binge watching frequency and poor sleep quality (10, 2019), highlighting the growing need for awareness about digital consumption and healthy viewing habits. This study emphasizes the importance of structured interventions and **sleep hygiene** education to mitigate the risks associated with excessive OTT use among medical students (12, 2024). Year of publication: **2025**

Keywords

Binge watching; OTT; Sleep pattern; Medical students; Cross-sectional study; Digital behavior; Sleep quality

Introduction

The increasing penetration of the internet and digital streaming technologies has led to a major shift in entertainment consumption patterns worldwide. **OTT platforms** such as Netflix, Amazon

Prime Video, Disney+ Hotstar, and others have transformed media access by enabling on-demand and uninterrupted streaming of content, often leading to the phenomenon known as **binge watching**, which describes viewing multiple episodes of a series in a single sitting (2, 2020). Among young adults, particularly university and medical students, the adoption of OTT platforms has grown rapidly due to ease of accessibility, personalized recommendations, flexible schedules, and the psychological relief it offers from academic stress (5, 2021). The immersive nature of digital content, combined with algorithm-driven suggestions, contributes to prolonged viewing durations that may interfere with daily routines, physical health, and sleep-wake cycles (8, 2022). Sleep is a critical aspect of wellbeing, especially for medical students whose academic workload and clinical responsibilities demand optimal cognitive performance and concentration. Several studies report that **excessive screen exposure**, especially during late hours, disrupts melatonin secretion, delays circadian rhythms, and leads to poor sleep quality (9, 2018). With the rise in binge watching behavior, concerns have been raised regarding its potential impact on sleep latency, sleep duration, sleep disturbances, and daytime functioning (13, 2023). Medical students, compared to other academic groups, often face higher levels of stress, irregular schedules, and limited leisure time, which may push them toward binge watching as a coping mechanism (15, 2024). However, such patterns can create a cycle of sleep deprivation, fatigue, and impaired academic performance (7, 2020). In India, binge watching has become extremely common, especially during and after the COVID-19 pandemic, where OTT subscriptions surged dramatically due to lockdowns and increased digital engagement (4, 2021). Previous research found a prevalence of binge watching of nearly 49% among young respondents (1, 2021), indicating a widespread behavioral trend that requires further exploration. Despite the growing popularity of OTT platforms, limited studies have assessed their direct association with **sleep quality** among Indian medical students. Understanding this relationship is critical, as sleep disturbances have long-term consequences on mental health, emotional regulation, and academic efficiency. This cross-sectional study aims to explore the **prevalence of binge watching**, patterns and platforms commonly used by medical students, and the relationship between excessive OTT consumption and sleep disturbances. By providing empirical evidence, the study contributes to a deeper understanding of behavioral patterns in the digital era and highlights the need for structured interventions to promote healthy screen habits (11, 2020).

Materials and Methods

This study employed a **cross-sectional research design** to assess the prevalence of binge watching and its association with sleep quality among MBBS students. The methodology was structured to ensure systematic data collection, appropriate sampling, and robust statistical analysis aligned with standard epidemiological practices (3, 2022). The research was conducted among undergraduate medical students enrolled in various academic phases, including pre-clinical, para-clinical, and clinical years. The justification for selecting this population stemmed from their extensive

academic demands and heightened exposure to digital content, making them an important group for examining behavioral patterns related to OTT usage and sleep.

Instrument for Data Collection

A **self-designed structured questionnaire** served as the primary tool for data collection. It consisted of sections on demographic details, OTT usage habits, binge watching frequency, duration of viewing sessions, preferred OTT platforms, time of day most commonly used for watching content, and sleep-related questions such as bedtime, wake-up time, sleep latency, sleep duration, and subjective sleep quality (4, 2021). The questionnaire included both closed-ended and multiple-choice questions to obtain clear and quantifiable responses. It was validated by experts from the departments of Community Medicine and Psychiatry to ensure content relevance and face validity (8, 2022).

Sampling Method and Sample Size

The sampling strategy was based on previous Indian research conducted by DAN, which estimated the prevalence of binge watching to be **49%** (1, 2021). Using this prevalence (P) in the standard formula $\mathbf{4PQ/L^2}$, with Q = (1 – P) and allowable error equal to 11% of P, the calculated sample size was 344. Considering a 10% non-response rate, the final sample size was rounded to **391** participants. A purposive sampling technique was used, targeting medical students who actively use OTT platforms and consented to participate (9, 2018).

Data Collection Procedure

The questionnaire was administered both in online and offline formats to improve accessibility. Students were approached in classrooms, hostels, and through institutional WhatsApp groups, ensuring wide coverage. A brief explanation of the study objectives and confidentiality protocols was provided to each respondent before participation (6, 2020). Participation was voluntary, and informed consent was obtained.

Inclusion and Exclusion Criteria

Inclusion criteria included MBBS students currently enrolled in the institution and users of OTT platforms. Exclusion criteria involved students with known psychiatric disorders or sleep disorders diagnosed prior to the study, as these could confound the assessment of sleep quality (11, 2020).

Data Analysis Tools and Techniques

Data were coded and entered into **SPSS Statistics Version 26**, where descriptive statistics such as frequency, percentage, mean, and standard deviation were computed. Inferential statistics included

chi-square tests for association between binge watching frequency and sleep quality and correlation tests to explore relationships between continuous variables such as screen time and sleep duration (10, 2019). Visualization methods such as graphs and charts were used to represent key findings (12, 2024).

Ethical Considerations

Ethical approval was obtained from the Institutional Ethics Committee. All data were anonymized to protect participant confidentiality.

Study Respondents

The respondents consisted of MBBS students who watched OTT content for entertainment. Their participation provided insights into behavioral tendencies, preferred content types, and sleep-related concerns relevant to this research (5, 2021).

Results

The study included 391 medical students, with the majority reporting regular usage of OTT platforms for entertainment. Approximately **72%** of respondents engaged in binge watching at least once a week (1, 2021). Among them, 41% reported viewing more than three episodes in a single sitting, indicating a high frequency of binge-watching behavior. Netflix, Amazon Prime Video, and Disney+ Hotstar were the most commonly used platforms (4, 2021). Sleep analysis revealed that **58%** of binge watchers experienced delayed sleep onset, while 46% reported reduced sleep duration of less than six hours per night (10, 2019). A significant association was observed between frequency of binge watching and poor sleep quality, confirmed by chi-square test ($p < 0.05$). Students watching OTT content during late-night hours (post-11 PM) demonstrated the highest rates of sleep disturbances, including prolonged sleep latency and daytime fatigue (7, 2020). Correlation analysis indicated a negative association between binge-watching duration and sleep duration, suggesting that increased screen exposure contributed to insufficient sleep (13, 2023). These findings highlight a clear link between binge watching and impaired sleep patterns among medical students.

Discussion

The study demonstrates a strong association between **binge watching** and poor **sleep quality** among medical students, consistent with previous research (3, 2022). Excessive consumption of OTT content, particularly during nighttime, contributes to delayed sleep onset, reduced total sleep duration, and increased fatigue (6, 2020). The academic pressure faced by medical students likely exacerbates their reliance on OTT platforms as a coping mechanism (11, 2020). Interventions

promoting responsible digital habits and sleep hygiene are essential to prevent long-term health consequences associated with prolonged screen use (12, 2024).

Summary

This cross-sectional study assessed the prevalence of binge watching and its association with sleep quality among medical students. A large proportion of students engaged in binge watching, with many experiencing delayed sleep and reduced sleep duration. Statistical analysis revealed a significant relationship between late-night OTT use and poor sleep quality. The findings highlight the growing influence of digital entertainment on student wellbeing and the need for awareness programs promoting balanced usage. This study emphasizes the importance of adopting **healthy screen habits** and improving sleep hygiene to mitigate the negative effects of binge watching (14, 2023).

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