Original Article

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Public Health Section

Factors Influencing Binge-watching Behaviour and its Impact on Loneliness among Undergraduate Medical Students: A Cross-sectional Study from Chengalpattu District, Tamil Nadu, India

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ABSTRACT

Introduction: Binge-watching, a common behaviour among youth, is especially prevalent among medical students due to academic pressures and the accessibility of streaming services. This behaviour may lead to potential mental and physical health impacts.

Aim: To assess the prevalence of binge-watching and identify associated risk factors among undergraduate medical students.

Materials and Methods: A cross-sectional study was conducted among MBBS students in Chengalpattu, Tamil Nadu, India using multistage sampling. A total of 400 students were selected through simple random sampling. Socio-demographic details, including age, gender, family type, residence, year of study and risk factors for binge-watching (such as sleep duration, participation in recreational activities, Over-The-Top (OTT) platform subscription status, the number of OTT platforms subscribed to, frequency of binge-watching, devices used for binge-watching and consumption of snacks or junk food during binge-watching), were gathered using a pretested semistructured questionnaire. The University of California, Los Angeles (UCLA) Loneliness Scale and the Binge-watching Addiction Questionnaire assessed loneliness and binge-watching behaviour. Statistical analysis included mean and standard deviation, independent t-tests for continuous variables, Chi-square tests, univariate regression for categorical variables, and binary logistic regression for significant variables (p-value <0.05) to control for confounders.

Results: The participants had a mean age of 20.71±2.04 years, with the majority being females (58.6%) and from nuclear families (86.1%). Most students (84.4%) had subscriptions to OTT platforms, with 50.8% binge-watching more than twice a week. The prevalence of binge-watching was 64% (381 participants). The overall mean binge-watching score was 33.14±13.012. Mild binge-watching was observed in 172 students (70.5%), moderate binge-watching in 53 students (21.7%), and problematic binge-watching in 19 students (7.8%). The overall mean loneliness score was 44.44±9.39. Univariate analysis identified significant associations between problematic binge-watching and being a hosteller, lack of recreational activities, OTT platform subscription and consumption of snacks or junk food. Binary logistic regression revealed significant associations between problematic binge-watching and factors such as the absence of recreational activities (AOR=2.298, p-value=0.012) and consuming snacks (AOR=2.518, p-value=0.006). Higher loneliness scores were significantly associated with problematic binge-watching (46.67±8.85) compared to mild binge-watching (43.51±9.47) (p-value=0.016).

Conclusion: The study revealed a high prevalence of binge-watching among medical students, which was linked to loneliness and a lack of recreational activities. This emphasises the need for awareness and interventions to promote balanced media consumption.

Keywords: Addictive, Internet use, Mental health, Screen time, Social isolation

INTRODUCTION

Binge-watching, or watching multiple episodes of a television show back-to-back, is quickly becoming a new normative mode of viewing television programmes, particularly among young adults [1]. The rise of OTT platforms has led to a growing global engagement with web series and movies [2]. The transition from traditional weekly episode releases to the simultaneous release of entire seasons is a significant change brought about by these technologies, which has altered viewing habits [2].

Netflix defines binge-watching as watching 2-6 episodes of the same TV show in one sitting and there is no guilt in it [3]. According to a study by Nielsen (2013), 88% of Netflix users and 70% of Hulu Plus users in the US reported watching a minimum of three episodes of the same show in a single day [4]. At present, there is no consensus regarding an empirical definition of binge-watching.

A global study conducted in 2020 revealed that the Chinese are the most likely to binge-watch, with 68%, followed by the US at 67% [5]. Dentsu Aegis Network's (DAN) data sciences division reports that 49% of Indian youth spend 2-3 hours per day binge-watching content [6].

Preliminary research indicates that excessive binge-watching can cause various issues, including sleeplessness and chronic fatigue, sedentary and unhealthy lifestyles, neglect of other activities, and a decrease in social interactions [7,8]. Loneliness, defined as a sense of social isolation and a lack of meaningful social connections, is a mental health issue linked to binge-watching [9]. Binge-watching may cause individuals to become isolated for extended periods, resulting in a diminished sense of connection to the outside world. Moreover, binge-watching may enable individuals to avoid real-life interactions, exacerbating feelings of loneliness [9].

It remains unclear whether viewers can determine an ideal viewing duration on their own and adjust their behaviour accordingly. This

conundrum has previously been addressed in contexts where the term "binge" refers to excessively harmful self-indulgence, such as "binge eating" and "binge drinking." Overindulging in media content may result in a "guilty pleasure," which is similar to binge-eating and occurs when enjoyment becomes unpleasant during or after consumption. Excessive binge-watching has been linked to behavioural addictions such as video games, internet addiction, and problematic social media use. Immersive behaviour can lead to a loss of self-control and excessive TV viewing time [2,7]. Students are at high-risk for behavioural addictions such as binge-watching, with emotional loneliness and the desire to escape from daily problems intensifying this behaviour [10].

This study aimed to estimate the prevalence and risk factors associated with binge-watching among undergraduate medical (MBBS) students.

MATERIALS AND METHODS

This cross-sectional study was carried out among undergraduate medical college students at a medical college in the Chengalpattu district, Tamil Nadu, India from August 2024 to September 2024, after obtaining ethical clearance from the Institutional Ethics Committee (SRMIEC-ST0724-1396).

Inclusion criteria: Undergraduate MBBS students over 18 years of age were included in the study.

Exclusion criteria: Those who were unwilling to participate in the study and those diagnosed with any psychiatric illness were excluded from the study.

Sample size: From a study done by Singh DR, [11] standard deviation- 15.36 and taking absolute precision of (d)2% using the formula

$$n=\left\{\frac{z_{1-\alpha/2}\sigma}{d}\right\}^2$$

$$\frac{1.96\times15.362}{2}$$

$$(15.05)^2$$

226

Adding a non respondent rate of 10% minimum sample size of 248 was calculated. Final sample size rounded off to 250.

Four blocks were randomly chosen using the lottery method out of the eight blocks in the Chengalpattu district. A list of the medical colleges in each block was compiled, and two colleges were randomly selected by the coin toss method. The sampling frame included all undergraduate medical students from the selected colleges. A total of 400 students were selected randomly from the sampling frame.

The questionnaire was administered via Google Forms; however, only 381 students responded, resulting in a 96% response rate. Out of the 381 students, only 244 engaged in binge-watching. These 244 students were included in the final analysis, while the other 137 students who did not binge-watch were excluded from the study.

Study tool: The study tool comprised a questionnaire with four domains: socio-demographic details, risk factors, binge-watching addiction and a loneliness questionnaire. Data on socio-demographic characteristics, including age, gender, family type, residence, year of study and risk factors for binge-watching (such as sleep duration, participation in recreational activities, OTT platform subscription status, number of OTT platforms subscribed, frequency of binge-watching, device used for binge-watching, and snacking/junk food consumption during binge-watching) were gathered using a pretested semistructured questionnaire.

In this study, binge-watching was defined as watching more than three episodes or more than two hours of continuous viewing without a break. The Binge-Watching Addiction Questionnaire [12], a standardised tool to assess binge-watching behaviour, was employed. Each question is scored on a five-point scale: never (0), rarely (1), sometimes (2), often (3), and always (4). Since each question has a maximum score of 4, the highest possible total score across the 20 questions is 80. Non problematic binge-watching is indicated by scores below 51, reflecting occasional or controlled binge-watching. Moderate binge-watching is represented by scores between 51 and 69, signalling more frequent behaviour with emerging risks. Problematic binge-watching is denoted by scores above 69, indicating addictive patterns with potential mental, physical, or social consequences.

The ULCA Loneliness Scale was utilised to measure subjective feelings of loneliness [13]. Participants were asked to rate statements regarding their feelings about social relationships on a 4-point Likert scale (e.g., "never," "rarely," "sometimes," and "often") across a scale that typically contains 20 items. Each item receives a score between 1 and 4, resulting in an overall score that can vary from 20 to 80.

STATISTICAL ANALYSIS

Data were analysed using Statistical Package for the Social Sciences (SPSS) version 26.0. Results were expressed as frequency and percentage for categorical variables, while mean, standard deviation, and independent t-tests were used for continuous variables. The Chi-square test was applied to categorical variables. Univariate analysis was performed to determine the odds ratio. Variables that were found to be significant in the univariate analysis (p-value <0.05) were further analysed using binary logistic regression to eliminate confounders.

RESULTS

Out of 381 participants, 244 (64%) had the habit of binge-watching. The mean age of the participants was 20.71±2.04 years. Female participants constituted 143 (58.6%) of the study population, while males made up 101 (41.4%). The majority of respondents were second-year students (73, 29.9%), followed by fourth-year students (61, 25%). Most of the students (210, 86.1%) came from nuclear families. A total of 139 (57%) lived in hostels, while 105 (43%) were day scholars.

In terms of sleep patterns, 114 (46.7%) reported sleeping less than six hours per day, whereas 130 (53.3%) slept for more than six hours. A significant proportion of students (159, 65.2%) did not engage in recreational activities such as playing, walking, or dancing. A majority of participants (206, 84.4%) had subscriptions to OTT platforms, with 122 (59.2%) subscribing to more than two platforms. Regarding binge-watching frequency, 124 (50.8%) reported watching more than twice a week, while 80 (32.8%) binge-watched once a week. The most commonly used devices for binge-watching were multiple devices (111, 45.5%), followed by mobile phones (70, 28.7%). Content preferences varied, with 52% watching a mix of series, movies, and documentaries, 29% preferring series, and 13% favouring movies. Additionally, 154 (63.1%) reported consuming snacks or junk food while binge-watching [Table/Fig-1].

Variables		n (%)
Gender	Male	101 (41.4)
	Female	143 (58.6)
MBBS Year of studying	1st	58 (23.8)
	2nd	73 (29.9)
	3rd	52 (21.3)
	4th	61 (25)
Type of family	Nuclear family	210 (86.1)
	Joint family	34 (13.9)
Residence	Hostel	139 (57)
	Day scholar	105 (43)

Duration of sleep (hours)	<6	114 (46.7)
	>6	130 (53.3)
Involved in recreational activities	No	159 (65.2)
	Yes	85 (34.8)
OTT platform subscriber	Yes	206 (84.4)
	No	38 (15.6)
No of OTT platforms subscribed (n=206)	>Two	122 (59.2)
	<Two	84 (40.8)
Frequency of binge-watching	>2 times in a week	124 (50.8)
	Once in a week	80 (32.8)
	Once in a month	40 (16.4)
Device used for binge-watching	Mobile	70 (28.7)
	I-pad/Tab/Laptop	63 (25.8)
	More than 1 device	111 (45.5)
Preference of usage of OTT platforms	Series, movies and documentaries	127 (52)
	Series	71 (29)
	Movies	31 (13)
	others	15 (6)
Snacking/Junk food consumption while binge-watching	Yes	154 (63.1)
	No	90 (36.9)
Body Mass Index (BMI)	Underweight <18.5 kg/m^2	24 (9.8)
	Normal 18.5-24.9 kg/m^2	89 (36.5)
	Overweight 25.0-29.9 kg/m^2	128 (52.5)
	Obese >30 kg/m^2	3 (1.2)

[Table/Fig-1]: Sociodemographic and risk factors for binge-watching among study participants (n=244).

According to [Table/Fig-2], 112 (45.9%) of viewers found it difficult to stop after watching just one episode, while 109 (44.7%) watched more than they had initially planned. Additionally, 96 (39.3%) admitted to neglecting household chores due to binge-watching, and 108 (44.3%) reported sacrificing sleep to continue watching. Emotional attachment to television content was evident, with 92 (37.7%) stating that life would feel dull without it, and 115 (47.1%) using binge-watching as a coping mechanism for stress. Social interactions were also impacted, as 91 (37.3%) prioritised watching content over socialising, and 88 (36.1%) reacted negatively when interrupted while watching. Furthermore, 105 (43%) attempted to minimise or hide their viewing time, suggesting a sense of guilt or awareness of excessive consumption. Interest in new releases remained high, with 117 (48%) expressing enthusiasm for newly released content, reinforcing sustained engagement with on-demand streaming platforms.

Questions	Never n (%)	Rarely n (%)	Sometimes n (%)	Often n (%)	Always n (%)
1. How many times have you been watching OTT more than you would have liked?	24 (9.8)	51 (20.9)	109 (44.7)	45 (18.4)	15 (6.1)
2. Do you happen to neglect household chores to spend more time watching OTT?	39 (16)	76 (31.1)	96 (39.3)	18 (7.4)	15 (6.1)
3. Do you read reviews and opinions about new series/ movies?	35 (14.3)	47 (19.3)	85 (34.8)	41 (16.8)	36 (14.8)
4. Do people you hang out with complain about the amount of time you spend watching OTT?	93 (38.1)	59 (24.2)	71 (29.1)	12 (4.9)	9 (3.7)
5. Do you happen to check out the new on-demand releases before doing anything else important?	66 (27)	67 (27.5)	82 (33.6)	16 (6.6)	13 (5.3)
6. Do you try to minimise when someone points out the time you spend watching OTT?	35 (14.3)	44 (18)	104 (42.6)	37 (15.2)	24 (9.8)
7. How many times do you find yourself diverting your attention from negative thoughts with the consoling thought of your favourite series/movie?	21 (8.6)	34 (13.9)	13.9 (43)	34 (23)	13.9 (11.5)
8. Do you anticipate to rewatch a series/movie again in OTT?	43 (17.6)	47 (19.3)	112 (45.9)	27 (11.1)	15 (6.1)
9. Do you happen to think that your life without the OTT would be boring, empty, and joyless?	51 (20.9)	53 (21.7)	92 (37.7)	27 (11.1)	21 (8.6)
10. Do you happen to react abruptly, raise your voice, or rudely reply if someone disturbs you while you are watching a content in OTT?	78 (32)	58 (23.8)	88 (36)	10 (4.1)	10 (4.1)
11. Do you sleep less to stay up late to watch?	45 (18.4)	51 (20.9)	108 (44.3)	27 (11.1)	13 (5.3)
12. Do you happen to concentrate on your thoughts on series/movies and fantasise about the evolution of the plot?	35 (14.3)	51 (20.9)	117 (48)	23 (9.4)	18 (7.4)
13. Do you happen to find yourself saying "one more episode and I'll turn it off" when you watch?	19 (7.8)	42 (17.2)	112 (45.9)	44 (18)	27 (11.1)
14. Do you try to minimise or hide how much time you spend watching in OTT?	57 (23.4)	51 (20.9)	105 (43)	17 (7)	14 (5.7)
15. Do you feel depressed, irritable, or nervous when you can't watch a series/ movies?	105 (43)	43 (17.6)	83 (34)	5 (2)	8 (3.3)
16. Do you happen to choose to spend more time watching in OTT rather than hanging out with?	75 (30.7)	47 (19.3)	91 (37.3)	22 (9)	9 (3.7)
17. Do you happen to feel good when you are able to watch a content in OTT again?	25 (10.2)	50 (20.5)	119 (48.8)	28 (11.5)	22 (9)
18. Do you happen to think that people overestimate the time you spend watching in OTT?	64 (26.2)	54 (22.1)	105 (43)	13 (5.3)	8 (3.3)
19. Are you interested in new releases in OTT?	21 (8.6)	41 (16.8)	117 (48)	37 (15.2)	28 (11.5)
20. Does thinking about the moments when you watch your favourite series/movies help you manage your stressful moments?	31 (12.7)	40 (16.4)	115 (47.1)	31 (12.7)	27 (11.1)

[Table/Fig-2]: Responses participants for Binge watching Addiction Questionnaire [12].

The overall mean score for binge-watching was 33.14±13.012. Mild binge-watching was observed in 172 (70.5%) of the students, moderate binge-watching in 53 (21.7%) and problematic binge-watching in 19 (7.8%) [Table/Fig-3].

Variables		n (%)
Binge watching	Non problematic binge-watching	172 (70.5)
	Moderate binge-watching	53 (21.7)
	Problematic binge-watching	19 (7.8)

[Table/Fig-3]: Distribution based on non problematic, moderate and problematic Binge watching.

For further analysis, we classified mild binge-watching as non problematic binge-watching, while moderate and problematic binge-watching were grouped together as problematic binge-watching.

According to [Table/Fig-4], participants' perceptions of social connectedness varied. A total of 92 (37.7%) felt there was no one available for support, despite 94 (38.5%) reporting that they had people they could turn to. There were mixed feelings regarding companionship; 129 (52.9%) of respondents stated they felt in tune with others, while 104 (42.6%) reported that they did not share the same interests. Notably, 106 (43.4%) of respondents said no one really knew them well, and 90 (36.9%) felt alone. With 100 (41%) of respondents indicating that their social relationships lacked depth, friendships seemed to be rather shallow. However, 119 (48.8%) thought that people genuinely understood them, and 113 (46.3%) believed they could find company when needed.

Univariate regression analysis revealed that hostel students were more likely to engage in problematic binge-watching compared to day scholars (67% vs. 33%), with a significant association (p-value=0.049). Students who did not participate in recreational activities were more likely to engage in problematic binge-watching (76% vs. 60%), showing significant differences (p-value=0.019). Similarly, OTT subscribers exhibited a significantly higher prevalence of problematic binge-watching (91.7%) compared to non subscribers (8.3%) (p-value=0.049). Additionally, participants who consumed snacks or junk food while binge-watching were more likely to engage in problematic binge-watching than those who did not (p-value=0.003) [Table/Fig-5].

Statement	Never n (%)	Rarely n (%)	Sometimes n (%)	Often n (%)
1. There are people I can turn to	19 (7.8)	43 (17.6)	94 (38.5)	88 (36.1)
2. I feel in tune with the people around me?	15 (6.1)	41 (16.8)	129 (52.9)	59 (24.2)
3. I lack companionship	70 (28.7)	76 (31.1)	77 (31.6)	21 (8.6)
4. There is no one I can turn to	76 (31.1)	61 (25)	92 (37.7)	15 (6.1)
5. I do not feel alone	32 (13.1)	66 (27)	100 (41)	46 (18.9)
6. I feel part of a group of friends	17 (7)	42 (17.2)	105 (43)	80 (32.8)
7. I have a lot in common with the people around me	19 (7.8)	60 (24.6)	119 (48.8)	46 (18.9)
8. I am no longer close to anyone	88 (36.1)	59 (24.2)	77 (31.6)	20 (8.2)
9. My interests and ideas are not shared by those around me	48 (19.7)	74 (30.3)	104 (42.6)	18 (7.4)
10. I am an outgoing person	27 (11.1)	64 (26.2)	108 (44.3)	45 (18.4)
11. I feel left out	54 (22.1)	75 (30.7)	91 (37.3)	24 (9.8)
12. There are people I feel close to	18 (7.4)	38 (15.6)	110 (45.1)	78 (32)
13. My social relationships are superficial	45 (18.4)	68 (27.9)	104 (42.6)	27 (11.1)
14. No one really knows me well	35 (14.3)	62 (25.4)	106 (43.4)	41 (16.8)
15. I feel isolated from others	54 (22.1)	76 (31.1)	90 (36.9)	24 (9.8)
16. I can find companionship when I want it	21 (8.6)	53 (21.7)	113 (46.3)	57 (23.4)
17. There are people who really understand me	18 (7.4)	45 (18.4)	119 (48.8)	62 (25.4)
18. I am unhappy being so with drawn	70 (28.7)	69 (28.3)	90 (36.9)	15 (6.1)
19. People are around me but not with me	40 (17.2)	69 (28.3)	100 (41)	33 (13.5)
20. There are people I can talk to	15 (6.1)	44 (18)	93 (38.1)	92 (37.7)

[Table/Fig-4]: Response of participants to ULCA loneliness scale [13].

Variables		Problematic Binge-watching	Non problematic Binge-watching	Total (n=244)	Chi-square	Odds ratio (CI)	p-value
Gender	Male	33 (45.8%)	68 (39.5%)	101 (41.4%)	0.830	1.294 (0.743-2.255)	0.363
	Female	39 (54.2%)	104 (60.5%)	143 (58.6%)			
Year of studying	1st	17 (23.6%)	41 (23.8%)	58 (23.8%)	1.56	0.917 (0.418-2.00)	0.827
	2nd	18 (25%)	55 (32.0%)	73 (29.9%)		0.723 (0.338-1.54)	0.404
	3rd	18 (25%)	34 (19.8%)	52 (21.3%)		1.170 (0.532-2.572)	0.696
	4th	19 (26.4%)	42 (24.4%)	61 (25%)		1	-
Type of family	Nuclear family	60 (83.3%)	150 (87.2%)	210 (86%)	0.636	0.733 (0.341-1.575)	0.426
	Joint family	12 (16.7%)	22 (12.8%)	34 (14%)			
Residence	Hostel	48 (67%)	91 (53%)	139 (57%)	3.92	1.780 (1.003-3.161)	0.049*
	Day scholar	24 (33%)	81 (47%)	105 (43%)			
Duration of sleep (hours)	<6	36 (50%)	78 (45.3%)	114 (46.7%)	0.44	1.205 (0.695-2.091)	0.507
	>6	36 (50%)	94 (54.7%)	130 (53.3%)			
Involved in recreational activities	No	55 (76.4%)	104 (60.5%)	159 (65.2)	5.67	2.115 (1.134-3.948)	0.019*
	Yes	17 (23.6%)	68 (39.5%)	85 (34.8%)			
OTT platform subscriber	Yes	66 (91.7%)	140 (81.4%)	206 (84.4%)	4.1	2.514 (1.002-6.307)	0.049*
	No	6 (8.3%)	32 (18.6%)	38 (15.6%)			
No of OTT platforms subscribed (n=206)	>Two	33 (54.1%)	89 (61.4%)	122 (59.2%)	0.943	0.742 (0.405-1.357)	0.332
	<Two	28 (45.9%)	56 (38.6%)	84 (40.8%)			
Frequency of binge-watching	>2 times in a week	38 (52.8%)	86 (50%)	124 (50.8%)	0.237	1.031 (0.474-2.241)	0.939
	Once in a week	22 (30.6%)	58 (33.7%)	80 (32.8%)		0.885 (0.384-2.041)	0.775
	Once in a month	12 (16.7%)	28 (16.3%)	40 (16.4%)		1	

Snacking/unk food consumption while binge-watching	Yes	56 (77.8%)	98 (57%)	154 (63.1%)	9.4	2.643 (1.404-4.974)	0.003*
	No	16 (22.2%)	74 (43%)	90 (36.9%)			

[Table/Fig-5]: Association between problematic binge watching and risk factors.
p-value <0.05 statistically significant at 95% Confidence Interval (CI)

The overall mean loneliness score was 44.44±9.39. The average loneliness score for mild binge-watching was 43.51±9.47, while for problematic binge-watching it was 46.67±8.85. The mean difference in loneliness was 3.2, with a p-value of 0.016, indicating that the difference was statistically significant. This suggests that higher levels of loneliness are linked to more problematic binge-watching [Table/Fig-6].

Variable	Binge watching	n	Mean±SD	Mean difference	p-value
Age	Non problematic	172	20.67±2.01	0.14	0.634
	Problematic	72	20.81±2.10		
BMI	Non problematic	172	23.52±4.84	0.68	0.343
	Problematic	72	24.21±5.75		
Loneliness	Non problematic	172	43.51±9.47	3.2	0.016
	Problematic	72	46.67±8.85		

[Table/Fig-6]: Association between binge watching with age, BMI, loneliness.

In the binary logistic regression model, variables that were significant in the univariate analysis were included as independent variables (residence, recreational activities, OTT platform subscription, and snacking/junk food consumption) to examine their impact on problematic binge-watching. Students who did not engage in recreational activities were 2.29 times more likely to exhibit problematic binge-watching (p-value=0.012, 95% CI: 1.200-4.401). Similarly, snacking or consuming junk food while binge-watching increased the likelihood of problematic binge-watching by 2.5 times (p-value=0.006, 95% CI: 1.310-4.838). Other variables did not show any significant association with binge-watching [Table/Fig-7].

Variable		Adjusted odds ratio	95% CI	p-value
Residence	Hostel	1.620	0.883-2.971	0.119
	Day scholar	1		
Recreational activities	No	2.298	1.200-4.401	0.012*
	Yes	1		
OTT platform subscriber	Yes	2.050	0.794-5.288	0.138
	No	1		
Snacking/ junk food consumption	Yes	2.518	1.310-4.838	0.006*
	No	1		

[Table/Fig-7]: Binary logistic regression analysis of factors associated with Problematic Binge watching.

DISCUSSION

This study, focusing on undergraduate medical students (MBBS), revealed a 64% prevalence of binge-watching. This binge-watching behaviour is rapidly evolving into the new way of consuming TV shows, particularly among young adults and adolescents. While initially considered a harmless leisure activity, prolonged and frequent binge-watching has raised concerns about its potential impact on physical, mental and social wellbeing. Notably, present study findings align closely with a study conducted in Kancheepuram, which reported a 63.3% prevalence of binge-watching among medical college students [14], but was higher than the national study conducted by DAN, which found a prevalence of 49% [5]. This disparity could be attributed to the fact that the medical college environment includes younger people, primarily in their late teens and early twenties, who are more likely to engage with streaming platforms and binge-watching trends than the more diverse age range included in the national study. Students' common interests in popular shows or series may also contribute to the increased prevalence of this behaviour, whereas the DAN report's national sample may reflect a broader cultural engagement with media.

A study among college students in New Delhi found that 101 (44.8%) had at least one OTT platform subscription, while 27 (11.7%) had four or more subscriptions. Approximately 80% of participants reported that streaming videos for entertainment was a significant reason for increased screen time. This was consistent with present study finding that among those who exhibited problematic binge-watching, 33 (54.1%) had more than two OTT subscriptions [15]. Chang YJ and Peng CY, discovered that participants needed to steadily increase the intensity or duration of their binge-watching in order to experience delight. The amount of time spent binge-watching could have varied depending on work status. Many students reported gradually increasing their binge-watching time. Married or employed individuals over the age of 30 were more likely to limit their binge-watching time due to work and family obligations [16].

According to earlier studies, individuals at a higher risk of binge-watching addiction may find comfort in forming parasocial bonds with fictional characters that can be just as strong as face-to-face interactions. Those who experience loneliness, have emotional disorders, or lack self-control are more likely to engage in binge-watching. In addition to providing amusement and temporary solace from loneliness, binge-watching can lead to behavioural addiction and increased feelings of loneliness, as it often prevents genuine social interaction [10,17]. A study of Polish medical and non medical students discovered that lower levels of psychological wellbeing, emotional loneliness and a desire to escape from one's own issues were linked to higher levels of binge-watching in both the general population and specific subgroups of medical and non medical enrolments [18]. The present research also found a significant association between loneliness and problematic binge-watching (p-value=0.016).

The impact of late-night binge-watching on sleep quality and duration is a growing concern. On-demand content encourages viewers to extend their screen time, often resulting in prolonged viewing sessions that encroach upon sleep hours. This pattern makes it difficult to distinguish between rest and leisure, thereby increasing the risk of sleep deprivation [19]. The current study revealed that around 50% of binge-watchers slept for less than six hours. Consistent with present study findings, Exelmans L and Van den Bulck J, demonstrated a strong link between frequent binge-watching and poor sleep quality. They found a clear association between binge-watching frequency and sleep disturbances, including poorer sleep (β=0.145, p-value <0.01), increased fatigue (β=0.131, p-value <0.05), and insomnia (β=0.161, p-value <0.01). Notably, these negative effects were specific to binge-watching, rather than regular television viewing, highlighting the potential role of brain hyperactivation associated with addictive behaviours [20].

Binge-watching can also lead to mindless eating, where food becomes an automatic response to screen time rather than a response to hunger. Consuming high-carbohydrate, high-fat processed foods triggers dopamine release, reinforcing cravings and overeating. Additionally, divided attention while watching TV reduces awareness of portion sizes and satiety cues [21].

Univariate analysis identified loneliness, residence, recreational activities and snacking/junk food consumption as being associated with problematic video streaming. The absence of recreational activities and the consumption of snacks or junk food during

binge-watching emerged as significant predictors in the binary logistic regression analysis.

Problematic binge-watching was significantly associated with junk food consumption (AOR=2.518, p-value=0.006, 95% CI: 1.310-4.838). Additionally, students who did not engage in recreational activities were 2.29 times more likely to exhibit problematic binge-watching (p-value=0.012, 95% CI: 1.200-4.401). Findings from a study conducted by Petriuc R and Drugaşa, revealed that binge-watching often serves as a maladaptive coping mechanism, leading to emotional dysregulation and increased stress, which can trigger unhealthy eating patterns [22]. A study conducted by Da Cunha Goncalves KV, found a significant negative correlation between binge-watching and self-regulation skills regarding eating behaviour (rs=-0.25; p-value <0.001), suggesting that those who binge-watch tend to have poor dietary choices [23]. BMI is a long-term physiological outcome influenced by sustained dietary habits and levels of physical activity. Although this study found no statistically significant link between problematic binge-watching and BMI (p-value=0.343), it may be associated with the development of obesity and related health issues if these habits persist over time. This could be because the study did not examine the chronicity or frequency of binge-watching, as well as the snacking behaviours that accompany it.

While the ICD-11's criteria for gaming disorder (WHO, 2018) share similarities with problematic video streaming, these criteria have not been consistently applied to streaming behaviours. Consequently, problematic streaming is characterised by poor control, prioritising streaming over other activities and persistent streaming despite negative consequences, all occurring over at least 12 months. Critically, this behaviour must result in clinically significant distress or impairment in social, educational, financial, professional, or personal functioning [22].

Strengths: The UCLA Loneliness Scale and the Binge-Watching Addiction Questionnaire are validated tools used in the study to accurately measure loneliness and binge-watching behaviour. The study examines several significant variables, such as residence, engagement in recreational activities and OTT platform subscriptions. This in-depth analysis of risk variables provides a thorough understanding of the ways in which different elements impact binge-watching behaviour.

Limitation(s)

The reliance on self-reported data may introduce response biases, as participants could either over-report or under-report their binge-watching habits and related behaviours. Since the study was cross-sectional, it was impossible to definitively establish a causal relationship between binge-watching and the risk factors linked to it, such as loneliness or sleep patterns. It is difficult to determine how binge-watching habits change over time or whether they have any lasting effects on academic achievement and general wellbeing in the absence of longitudinal follow-up.

CONCLUSION(S)

This study reveals a high prevalence (64%) of binge-watching among undergraduate medical students in Chengalpattu, Tamil Nadu, India. The study also indicated a moderate overall mean loneliness score, with students exhibiting problematic binge-watching scoring higher on loneliness compared to those with non problematic binge-watching habits. Univariate analysis identified significant associations between problematic binge-watching and factors such as being a hosteller, lacking recreational activities, having OTT platform subscriptions, and consuming snacks. Subsequent binary logistic regression demonstrated that the absence of recreational activities and snacking or consuming junk food during binge-watching was associated with increased odds of problematic binge-watching.

The study highlights the need for targeted interventions in educational institutions to address problematic binge-watching and its impact on students' wellbeing. Implementing counselling services, fostering social engagement through interactive events, and promoting physical activities can help mitigate loneliness and encourage healthier recreational habits. Further qualitative research is required to explore binge-watching behaviour in depth and examine its psychological impact, particularly in relation to feelings of isolation and the associated behavioural patterns.

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