



Original Research Article

EHEALTH LITERACY AND INTERNET USAGE AMONG COLLEGE STUDENTS IN CHENNAI, TAMIL NADU: A CROSS-SECTIONAL STUDY

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ABSTRACT

Background: The increasing availability of the internet has transformed the way young adults access health information. College students are an important population because they are highly connected to the Internet and commonly use it to access health information. However, the ability to locate, evaluate, and appropriately use online health information, referred to as eHealth literacy, is essential for informed health decision-making. This study assessed internet usage patterns, online health-information seeking, and eHealth literacy among college students in Chennai, Tamil Nadu.

Materials and Methods: After obtaining clearance from the Scientific Committee and Institutional Ethics Committee of Madras Medical College, Chennai, and permission from the principal of the selected Arts and Science College, an institution-based cross-sectional study was conducted among 239 college students recruited consecutively during the study period. Data were collected using a semi-structured, pretested, validated, self-administered online questionnaire comprising questions on demographic characteristics, internet usage and online health-information seeking patterns, and the eight-item eHealth Literacy Scale (eHEALS). Data were analysed using descriptive statistics, the Mann–Whitney U test, Spearman's correlation, and multiple linear regression. For analytical purposes, an eHEALS score of ≥ 30 was considered indicative of good eHealth literacy, while a score < 30 was considered poor eHealth literacy.

Results: Among the participants, 189 (79.1%) reported using the internet to obtain health information. Smartphones (97.4%) and search engines (95.8%) were the predominant means of accessing online health information. The mean eHEALS score was 29.70 ± 5.05 . Overall, 111 (58.7%; 95% CI: 51.4%–65.8%) participants had good eHealth literacy while 78 (41.3%; 95% CI: 34.2% – 48.6 %) had poor eHealth literacy (< 30). Participants demonstrated greater confidence in using the internet to answer health-related questions, while comparatively lower scores were observed for evaluating the quality of online health resources and using information for health decisions. Daily duration of internet use was independently associated with higher eHEALS scores, whereas monthly family income showed an inverse association.

Conclusion: Online health-information seeking was common among college students, with smartphones and search engines being the predominant sources. Despite widespread internet use, a substantial proportion of students had poor eHealth literacy, particularly in evaluating the credibility and quality of online health information. College-based interventions to strengthen critical appraisal and digital health-information skills are warranted.

Keywords: eHealth literacy; internet usage; online health information; college students; eHEALS; Chennai.

INTRODUCTION

The Internet is one of the main sources of multidisciplinary information that enables users to have access to a larger volume of information in different sectors. Studies show that majority of Internet users have utilized it to search for health information.^[1] “The ability to seek, find, understand, and appraise health information from electronic sources and apply the knowledge gained to addressing or solving a health problem” is defined as E-Health literacy.^[1,2] Collecting the proper information from credible sources is critical for disease self-management, highlighting the necessity of public e-health literacy. As a result, e-health literacy is critical for improving an individual's health care quality and outcome.^[3] College students are an important population for assessing eHealth literacy because they are highly connected to the Internet and commonly use it to access health information. However, Internet access alone does not ensure adequate skills to search for, locate, interpret, and evaluate online health information. Therefore, adequate eHealth literacy is essential for enabling college students to critically appraise and appropriately use health information obtained from electronic sources.^[4-6] Various empirical studies in developed countries revealed a number of major barriers to e-health literacy adoption, including limited access to the internet and supporting devices, a lack of understanding of how to use Android devices, a lack of training in how to use modern devices, and a lack of education and digital skills.^[7,8] Therefore, assessing eHealth literacy among college students can help identify gaps in their ability to critically evaluate and use online health information. Keeping in view the above scenario, we conducted this study to assess eHealth literacy and internet usage among college students in Chennai, Tamil Nadu, and to determine the association of selected sociodemographic characteristics and internet-use patterns with eHealth literacy.

Objectives

Primary objective

1. To assess the level of eHealth literacy among college students in Chennai, Tamil Nadu.

Secondary Objectives

1. To assess the pattern and extent of internet usage among college students.
2. To describe online health-information seeking practices, including sources of health information and methods used to verify its credibility.
3. To determine the association between sociodemographic and internet-use characteristics and eHealth literacy among college students.

MATERIALS AND METHODS

The present institution-based cross-sectional study was conducted after obtaining clearance from the Scientific Committee and Institutional Ethics Committee of Madras Medical College, Chennai, and permission from the principal of the selected Arts and Science College. The study was conducted from June 2025 to August 2025 to assess the level of eHealth literacy among college students in Chennai, Tamil Nadu who had access to the internet, and provided informed consent electronically through Google Forms. Based on the findings of Masilamani et al,^[9] which reported that 84.1% of the participants utilized Mobile phones for searching health information, the sample size was calculated at a 95% confidence level with 5% absolute precision and a 10% allowance for non-response, resulting in a minimum required sample size of 226 participants. After obtaining clearance from the Scientific Committee and Institutional Ethics Committee of Madras Medical College, Chennai, and permission from the principal of the selected arts and science college, eligible college students were recruited consecutively during the study period until the required sample size of 239 was attained. Data were collected using a semi-structured, pretested, and validated, self-administered online questionnaire administered through Google Forms after obtaining electronic informed consent. The questionnaire comprised three sections: Section 1: electronic informed consent; Section 2: demographic characteristics and patterns of internet usage, including online health-information seeking; and Section 3: the eHealth Literacy Scale (eHEALS) questionnaire. Data were entered in Microsoft Excel and analyzed using IBM SPSS Statistics version 21. Descriptive statistics were presented as frequencies and percentages for categorical variables and as mean with standard deviation or median, as appropriate, for continuous variables. The total eHEALS score was calculated by summing the scores of the eight items. For analytical purposes, an eHEALS score of ≥ 30 was considered good eHealth literacy, while a score < 30 was considered poor eHealth literacy. The normality of the eHEALS score was assessed using the Shapiro–Wilk test, which indicated a statistically significant departure from normality ($p < 0.001$). Therefore, associations between total eHEALS score and categorical variables were assessed using the Mann–Whitney U test. Correlations between total eHEALS score and selected continuous variables were assessed using Spearman's rank correlation coefficient. Multiple linear regression analysis was performed to identify factors independently associated with total eHEALS score. Statistical significance was set at $p < 0.05$.

RESULTS

Table 1: Sociodemographic characteristics of the study participants (N = 239)

Variable	Category	n	%
Age (years)	17–19	115	48.1
	20–22	102	42.7
	23–25	22	9.2
Sex	Male	122	51
	Female	117	49
Religion	Hindu	204	85.4
	Christian	21	8.8
	Muslim	14	5.9
Educational status	Undergraduate	212	88.7
	Postgraduate	27	11.3
Year of study	First year	70	29.3
	Second year	67	28
	Final year	102	42.7
Socioeconomic status (Modified BG Prasad scale 2025)	Upper class	49	20.5
	Upper middle class	96	40.2
	Middle class	39	16.3
	Lower middle class	35	14.6
	Lower class	20	8.4
Monthly family income (₹)	≤25,000	138	57.7
	25,001–50,000	92	38.5
	50,001–100,000	8	3.3
	>100,000	1	0.4
Family size (members)	2–3	36	15.1
	4–5	192	80.3
	6–7	11	4.6

A total of 289 participants were included in the study. Nearly half of the participants were aged 17–19 years (48.1%), followed by those aged 20–22 years (42.7%) and 23–25 years (9.2%). The distribution by sex was almost equal, with 51.0% males and 49.0% females. The majority were undergraduates (88.7%), while 11.3% were postgraduates. Among the participants, 42.7% were

in the final year, 29.3% in the first year and 28.0% in the second year. Most participants belonged to the upper-middle socioeconomic class according to the BG Prasad classification (40.2%). More than half reported a monthly family income of ≤₹25,000 (57.7%), while 38.5% reported an income of ₹25,001–50,000. Most participants belonged to families with 4–5 members (80.3%). [Table 1]

Table 2: Internet usage characteristics and purpose of internet use among the study participants (N = 239)

Variable	Category	n	%
Internet access	Yes	239	100
Daily internet usage (hours/day)	1–3 hours	97	40.6
	4–6 hours	104	43.5
	7–9 hours	22	9.2
	≥10 hours	16	6.7
	Daily	234	97.9
Frequency of internet use	Several days a week	4	1.7
	One day a week	1	0.4
	Daily	234	97.9
Purpose of internet use*	Educational	160	66.9
	Email	85	35.6
	Health information	189	79.1
	Entertainment	143	59.8
	Social media	180	75.3

All 239 participants reported having access to the internet. Regarding daily duration of internet use, 43.5% reported 4–6 hours/day, followed by 40.6% reporting 1–3 hours/day. Internet use of 7–9 hours/day and ≥10 hours/day were reported by 9.2% and 6.7% of participants, respectively. Almost all participants (97.9%) reported using the internet daily, while 1.7% used it on several days a week and

0.4% on one day a week. The most commonly reported purpose of internet use was Health information (79.1%), followed by social media (75.3%), educational purposes (66.9%) and entertainment (59.8%). Email was reported as a purpose by 35.6% of participants. Internet use for obtaining health information was reported by 79.1% of participants. [Table 2]

Table 3: Pattern of internet use for obtaining health information among the study participants (n = 239)

Variable	Category	n	%
Frequency of obtaining health information	Every day	36	19.0
	Multiple times a week	32	16.9
	Once a week	40	21.2
	A few times a month	40	21.2
	Rarely	41	21.7
Device used*	Smartphone	184	97.4
	Laptop	52	27.5
	Desktop	14	7.4
Health information sought for*	Self	142	75.1
	Family members	128	67.7
	Friends	55	29.1
Type of health information sought*	Symptoms and causes of health conditions	123	65.08
	Preventive measures for good health	105	55.56
	Specific medical conditions and treatment	88	46.56
	Reputable healthcare providers	44	23.28
Sources of online health information*	Health apps	12	6.3
	Search engines	181	95.8
	Health websites	22	11.6
	Online health forums	22	11.6
	Social media health influencers	1	0.5
Methods used to verify credibility of online health information*	Compared information from more than one reliable source	80	42.3
	Checked whether the author had relevant qualifications	45	23.8
	Verified information using trusted websites	113	59.8
	Looked for recent scientific research or evidence	64	33.9

*Multiple responses were permitted; therefore, percentages may not add up to 100%.

Overall, 189 (79.1%; 95% CI: 73.4 % – 84.1 %) participants reported using the internet to obtain health information, while 50 (20.9%) did not. Among those who sought health information online (n=189), 19.0% did so every day, 16.9% multiple times a week, 21.2% once a week, 21.2% a few times a month, and 21.7% rarely. The smartphone was the predominant device used for obtaining health information, reported by 184 (97.4%) participants, followed by laptops (27.5%) and desktop computers (7.4%). Health information was most commonly sought for oneself (75.1%), followed by family members (67.7%) and friends (29.1%). Regarding the type of health information sought, information on symptoms and causes of health conditions was most common (65.1%), followed by preventive measures for good health

(55.6%), specific medical conditions and treatment (46.6%), and reputable healthcare providers (23.3%). Search engines were the most frequently reported source of health information (95.8%), followed by health websites (11.6%) and online health forums (11.6%). Health apps were reported by 6.3% of participants, whereas social media health influencers were reported by only 0.5%. Regarding verification of online health information, 59.8% of participants reported verifying information using trusted websites. A further 42.3% compared information from more than one reliable source, while 33.9% looked for recent scientific research or evidence. Only 23.8% reported checking whether the author had relevant qualifications. As these were multiple-response variables, the categories were not mutually exclusive. [Table 3]

Table 4: Item-wise distribution of eHealth literacy scores among the study participants (n = 189)

eHEALS item	eHealth literacy statement	Mean	SD
EH1	I know what health resources are available on the Internet	3.77	0.86
EH2	I know where to find helpful health resources on the Internet	3.70	0.81
EH3	I know how to find helpful health resources on the Internet	3.82	0.75
EH4	I know how to use the Internet to answer my questions about health	3.88	0.69
EH5	I know how to use the health information I find on the Internet to help me	3.85	0.74
EH6	I have the skills I need to evaluate the health resources I find on the Internet	3.69	0.87
EH7	I can tell high-quality health resources from low-quality health resources on the Internet	3.50	0.92
EH8	I feel confident in using information from the Internet to make health decisions	3.48	0.98

The overall mean eHEALS score among the participants was 29.70 ± 5.05 .

The mean scores for the eight eHEALS items ranged from 3.48 ± 0.98 to 3.88 ± 0.69 on the 5-point scale. The highest mean score was observed for the ability to use the internet to answer health-related questions (3.88 ± 0.69), followed by the ability to use health information obtained from the internet (3.85 ± 0.74) and the ability to find helpful health resources online (3.82 ± 0.75). The lowest

mean score was observed for confidence in using information from the internet to make health decisions (3.48 ± 0.98), followed by the ability to distinguish high-quality from low-quality online health resources (3.50 ± 0.92). The overall mean eHEALS score was 29.70 ± 5.05 , with a score range of 8–40. [Table 4]

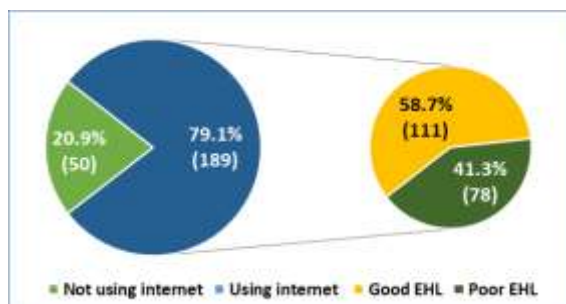


Figure 1: eHealth literacy among Internet users for health information (n=239)

The overall mean eHEALS score among the participants was 29.70 ± 5.05 (possible score range: 8–40). For analytical purposes, an eHEALS score of ≥ 30 was considered good eHealth literacy, while a score < 30 was considered poor eHealth literacy. Based on the predefined cutoff, 111 (58.7%; 95% CI: 51.4%–65.8%) participants had good eHealth literacy (≥ 30), while 78 (41.3%; 95% CI: 34.2 % – 48.6 %) had poor eHealth literacy (< 30). [Figure 1]

Table 5: Bivariate analysis of factors associated with total eHealth literacy score among participants seeking health information online (n = 189)

Variable	Group / Analysis	n	Median eHEALS score	Test statistic	p-value
Sex	Female	98	31.0	Mann–Whitney U = 4363	0.798
	Male	91	30.0		
Age group	≤ 20 years	118	31.0	Mann–Whitney U = 3935	0.482
	> 20 years	71	31.0		
Daily internet use	≤ 4 hours/day	107	30.0	Mann–Whitney U = 3982	0.273
	> 4 hours/day	82	31.0		
Socioeconomic status	Above middle class	114	30.0	Mann–Whitney U = 3345	0.011
	Middle class and below	75	32.0		
Importance of accessing online health resources	Important	155	31.0	Mann–Whitney U = 1709	0.001
	Not important	34	28.5		
Educational status	Postgraduate	21	28.0	Mann–Whitney U = 1415	0.137
	Undergraduate	168	31.0		
Perceived usefulness of internet for health decisions	Useful	153	31.0	Mann–Whitney U = 1015	<0.001
	Not useful	36	25.0		
Age	Spearman's correlation	189	—	$\rho = -0.003$	0.517
Total family members	Spearman's correlation	189	—	$\rho = 0.047$	0.519
Total monthly family income	Spearman's correlation	189	—	$\rho = -0.203$	0.005
Daily internet usage (hours)	Spearman's correlation	189	—	$\rho = 0.036$	0.619

The median eHEALS score was compared across selected categorical variables using the Mann–Whitney U test. There was no statistically significant difference in eHEALS scores according to sex ($U = 4363$, $p = 0.798$), age group ($U = 3935$, $p = 0.482$), daily internet usage ($U = 3982$, $p = 0.273$), or educational status ($U = 1415$, $p = 0.137$). A statistically significant difference in eHEALS scores was observed according to socioeconomic status ($U = 3345$, $p = 0.011$). Participants belonging to the middle class and below had a higher median eHEALS score (32.0) compared with those above the middle class (30.0). Participants who considered access to health resources on the internet important had a significantly higher median eHEALS score (31.0)

compared with those who considered it not important (28.5; $U = 1709$, $p = 0.001$). Similarly, participants who perceived the internet as useful for making health decisions had a significantly higher median eHEALS score (31.0) than those who considered it not useful (25.0; $U = 1015$, $p < 0.001$). Spearman's rank correlation analysis showed that total eHealth literacy score was not significantly correlated with age ($\rho = -0.003$, $p = 0.517$), number of family members ($\rho = 0.047$, $p = 0.519$), or daily internet usage duration ($\rho = 0.036$, $p = 0.619$). However, a weak but statistically significant negative correlation was observed between total monthly family income and eHealth literacy score ($\rho = -0.203$, $p = 0.005$). [Table 5]

Table 6: Multiple linear regression analysis of factors associated with total eHealth literacy score (n = 189)

Predictor	B (95% CI)	p-value
Age	0.116 (–0.326 to 0.559)	0.605
Daily internet usage (hours/day)	0.330 (0.054 to 0.607)	0.019
Sex (Male vs Female)	–0.460 (–2.004 to 1.083)	0.557
Educational status (Undergraduate vs Postgraduate)	1.062 (–1.372 to 3.496)	0.390
Frequency of internet use for health information (Infrequent vs Frequent)	–1.222 (–2.702 to 0.259)	0.105
Monthly family income	–0.000063 (–0.000104 to –0.000021)	0.003
Number of family members	–0.123 (–0.959 to 0.712)	0.771

Model statistics: $R = 0.288$; $R^2 = 0.083$; adjusted $R^2 = 0.047$; $F(7,181) = 2.336$; $p = 0.026$.

Multiple linear regression analysis was performed to identify factors independently associated with total eHEALS score. The overall regression model was statistically significant ($R^2 = 0.083$, adjusted $R^2 = 0.047$; $F(7,181) = 2.336$, $p = 0.026$). Daily internet usage duration was positively associated with eHEALS score ($B = 0.330$, 95% CI: 0.054–0.607, $p = 0.019$), indicating that each additional hour of daily internet use was associated with a 0.33-point increase in eHEALS score, after adjustment for the other variables. Monthly family income was inversely associated with eHEALS score ($B = -0.000063$, 95% CI: -0.000104 to -0.000021 , $p = 0.003$). Age, sex, educational status, frequency of internet use for health information, and number of family members were not independently associated with eHEALS score. [Table 6]

DISCUSSION

The present study assessed internet usage patterns, online health-information seeking practices, and eHealth literacy among college students in Chennai, Tamil Nadu. A substantial proportion of participants (79.1%) reported using the internet to obtain health information. Among these participants, smartphones were the predominant device used (97.4%), and search engines were the most commonly used source (95.8%). The mean eHealth Literacy Scale (eHEALS) score was 29.70 ± 5.05 . Using the predefined cutoff of 30 for analytical purposes, 58.7% (95% CI: 51.4%–65.8%) of participants had good eHealth literacy, while 41.3% (95% CI: 34.2% – 48.6 %) had poor eHealth literacy. Furthermore, daily duration of internet use was independently associated with higher eHEALS scores, whereas monthly family income showed an inverse association.

The high prevalence of online health-information seeking observed in the present study reflects the increasing role of the internet as a readily accessible source of health information among young adults. Srivastava et al,^[10] in a recent study among young people in India, reported that 87.8% of participants used the internet to search for health-related information, which was higher than the 79.1% observed in the present study. Differences in the study population, geographical setting, age distribution, and the operational definition of online health-information seeking may account for this variation. Nevertheless, both studies demonstrate that the internet has become an important source of health information among young people in India. Smartphones were used by 97.4% of participants in the present study for accessing online health information, highlighting their central role in contemporary health-information seeking. This finding is higher than the 83.2% reported by Srivastava et al,^[10] among Indian youth. The greater prevalence observed in the present study may be related to the relatively homogeneous college-going

population, in whom smartphone ownership and internet accessibility are likely to be high. Similarly, Kumar et al,^[11] reported extensive use of smartphones (97.4%) for accessing health and medical information among postgraduate medical students in Central Karnataka. The widespread use of smartphones provides an opportunity for delivering health education and evidence-based information directly to young people through digital platforms. However, easy access alone may not ensure appropriate evaluation or use of the information obtained.

Symptoms and causes of health conditions were the most commonly sought type of online health information, accounting for 65.1%, followed by preventive measures for good health at 55.6% and specific medical conditions and treatment at 46.6%. This finding is comparable with an Indian study among dental students by Iyer and Sethuraman,^[12] which reported substantial use of online resources for healthy-lifestyle and health-related information. Internationally, a 2025 study among college students by Wang et al,^[13] identified healthy lifestyle and behaviour at 66.1% and disease symptoms, diagnosis and treatment at 64.8% as major areas of online health-information seeking.

Search engines were the predominant source of online health information in the present study, with 95.8% of participants reporting their use. In contrast, only 6.3% reported using dedicated health applications. A similar pattern was reported by Srivastava et al,^[10] where the use of specialized health applications was relatively limited compared with general internet-based searching. This suggests that young people may prefer easily accessible search-based platforms over dedicated health applications. Although search engines provide rapid access to a large volume of information, the quality and reliability of search results may vary considerably. Therefore, the ability to identify credible and evidence-based sources becomes an essential component of eHealth literacy.

The verification practices observed in the present study provide further insight into this issue. While 59.8% of participants reported referring to trusted websites, only 42.3% compared information from multiple reliable sources, 33.9% searched for recent scientific evidence, and 23.8% checked the qualifications of the author or information provider. These findings indicate that although some students attempt to verify online health information, systematic evaluation of credibility may not be routinely practiced. Srivastava et al,^[10] similarly highlighted that only 5.1% of Indian youths actively verified the credibility of online health information. The differences in the reported proportions may partly reflect variations in the questions used to assess verification practices. Nevertheless, both studies emphasize the importance of strengthening skills related to assessing the reliability and credibility of digital health information.

The mean eHEALS score in the present study was 29.70 ± 5.05 , indicating a moderate-to-good level of perceived eHealth literacy. This finding is remarkably similar to that reported by Kulothungan et al,^[14] among medical students in Tamil Nadu, where the mean eHEALS score was 29.01 ± 4.81 . The similarity is noteworthy despite differences in the study populations, as the present study included college students from an arts and science college, whereas Kulothungan et al,^[14] studied medical students. The comparable scores may suggest that access to digital technologies and familiarity with online health information are widespread among students in Tamil Nadu, irrespective of their academic discipline.

Comparable findings have also been reported internationally. Studies among university and health-science students in Ethiopia by Mengestie et al,^[15] and Turkey by Genç et al,^[16] reported mean eHEALS scores of approximately 28.7, which were slightly lower than that observed in the present study but within a similar range. A recent systematic review of eHealth literacy by Li et al,^[17] among postsecondary students also demonstrated substantial variation in mean eHEALS scores across countries and study populations, with reported values ranging from approximately 23.6 to 31.4. The mean score in the present study therefore lies within the higher range of values reported among university students internationally. Differences in educational background, access to digital technology, exposure to health information, and cultural factors may contribute to this variability.

Using the predefined cutoff of ≥ 30 , 58.7% of participants in the present study were categorized as having good eHealth literacy. This proportion was broadly comparable with the 52.4% reported by Kulothungan et al,^[14] among medical students in Tamil Nadu and with findings from studies among Ethiopian university students. However, direct comparison of these proportions should be made cautiously because eHEALS does not have a universally accepted cutoff for defining good or poor eHealth literacy. Consequently, the comparison of mean eHEALS scores may be more appropriate across different studies.

The item-wise findings provide an important perspective on the nature of eHealth literacy among the participants. The highest mean score in the present study was observed for the ability to use the internet to answer health-related questions (3.88 ± 0.69). A similar pattern was observed by Kulothungan et al,^[14] where participants demonstrated relatively greater confidence in using online resources to answer health-related questions. Similar mean eHEALS score (3.88 ± 0.74) has also been reported among nursing students by Balayodao et al,^[18] suggesting that students may be relatively comfortable accessing and retrieving health information from the internet.

In contrast, comparatively lower scores in the present study were observed for distinguishing high-

quality from low-quality health resources and for confidence in using online health information for making health decisions. This pattern is consistent with findings from previous studies suggesting that the ability to access information does not necessarily equate to the ability to critically evaluate and appropriately apply it. Kulothungan et al,^[14] similarly identified relatively lower confidence in evaluating the quality and application of online health information. Furthermore, a recent international study involving university students from India, Japan, and the United States by Ishikawa et al,^[19] highlighted deficiencies in evaluating the reliability and relevance of online health information despite adequate basic digital skills. These findings support the interpretation that critical evaluation may represent a more important gap than simple access to digital resources among university students.

In the present study, perceived importance of accessing online health resources and perceived usefulness of the internet for making health decisions were significantly associated with eHEALS scores in bivariate analysis. Similar findings have been reported internationally. Rueda-Medina et al,^[20] found that students who considered access to online health resources important had significantly higher eHealth literacy scores. Similarly, studies among university students by Mengestie et al,^[15] have demonstrated that a positive perception of the usefulness of online health resources is associated with higher levels of eHealth literacy. These findings may indicate that students who value online health information are more likely to actively engage with digital resources and develop greater confidence in locating and using such information. However, in the present study, these variables did not retain statistical significance after adjustment for other factors, suggesting that their independent contribution may be influenced by other characteristics.

Multiple linear regression analysis showed that daily internet-use duration was independently and positively associated with eHEALS score. Each additional hour of internet use per day was associated with an approximately 0.33-point increase in the eHEALS score after adjusting for other variables. This finding is consistent with the study by Kulothungan et al,^[14] in which greater internet use was also identified as a positive predictor of eHealth literacy among medical students. Greater exposure to digital environments may provide opportunities to develop familiarity with online searching, navigation, and health-information retrieval. However, evidence from other studies is not entirely consistent, suggesting that the quality and purpose of internet use may be as important as the duration of use. Therefore, the association observed in the present study should not be interpreted as evidence that spending more time online directly improves eHealth literacy.

An interesting finding of the present study was the significant inverse association between monthly family income and eHEALS score. This contrasts with findings from Kulothungan et al,^[14] and studies from Turkey by Genç et al,^[16] where higher or intermediate income levels were associated with better eHealth literacy. The discrepancy may be due to differences in study populations, socioeconomic characteristics, measurement of income, access to digital resources, and other unmeasured factors. In addition, the regression model in the present study explained only a modest proportion of the variance in eHEALS scores. Therefore, the inverse association with family income should be interpreted cautiously and warrants further investigation in larger and more diverse student populations.

No significant independent associations were observed between eHEALS score and age, sex, educational status, or family size. The lack of association with age may be partly explained by the relatively narrow age range of the study participants. Similarly, Kulothungan et al,^[14] reported no significant association between age or sex and eHealth literacy among medical students. However, international evidence regarding sex differences remains inconsistent, with some studies,^[15] reporting higher eHealth literacy among female students. These variations suggest that sociodemographic determinants of eHealth literacy may be context-specific.

Overall, the findings of the present study indicate that college students in Chennai are highly engaged with digital platforms and frequently seek health information online. Nevertheless, widespread internet access and smartphone use do not necessarily ensure adequate ability to critically evaluate or appropriately apply online health information. A substantial proportion of participants had poor eHealth literacy, and gaps were particularly evident in practices related to evaluating the quality and credibility of health information. These findings highlight the need for interventions that go beyond improving digital access and instead focus on developing critical appraisal skills, identifying credible sources, verifying authorship and scientific evidence, and appropriately applying online health information. Incorporating eHealth literacy into college-based health-promotion programmes may help students become more informed, critical, and responsible users of digital health information.

Strengths and limitations: This study provides insight into internet usage, online health-information seeking, and eHealth literacy among college students in Chennai using a validated eHEALS instrument. However, the cross-sectional design limits the ability to establish causal relationships. Consecutive sampling from a single college and self-reported online responses may limit generalizability and introduce selection and reporting bias.

CONCLUSION

Online health-information seeking was common among college students in Chennai, with smartphones and search engines being the predominant means of access. Although the overall mean eHEALS score indicated a moderate level of eHealth literacy, a substantial proportion of students had poor eHealth literacy, particularly in evaluating the quality and credibility of online health information. Greater daily internet use was independently associated with higher eHealth literacy, while family income showed an inverse association. These findings highlight the need for college-based interventions to strengthen critical appraisal skills and promote the safe and effective use of online health information.

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