Research Article:

EFFECTIVENESS OF INFORMATION EDUCATION COMMUNICATION PACKAGE REGARDING SOCIAL NETWORK ON KNOWLEDGE AND LIFESTYLE CHANGES AMONG COLLEGE STUDENTS IN CHENNAI

Elango Ramakrishnan1,2,*, Fabiola M. Dhanaraj1, Venkatesh Madan Kumar3, Vijay Anand S1,4 , Raja M4, Sinimol R.P4

[1]Meenakshi College of Nursing, MAHER (Deemed to be University), Chennai
[2]Psychiatric Nursing Department, Institute of Mental Health, Kilpauk, Chennai
[3]Psychiatrist, Institute of Mental health, Kilpauk Chennai.
[4]Billroth College of Nursing, Chennai

***Corresponding author**

Elango Ramakrishnan

Abstract:

Background: Social networks play an integral role in communication and information exchange among college students, influencing academic collaboration, social interaction, and lifestyle behaviors. However, their excessive use is linked to addiction, mental health issues, and unhealthy lifestyle changes. Despite awareness of these risks, knowledge alone often does not translate into positive behavioral modification. This study evaluates the effectiveness of an Information Education Communication (IEC) package in improving knowledge and lifestyle related to social network use among college students. **Methods**: A quantitative true experimental design with pre-test-post-test control groups was employed involving 51 college students during the pilot study. The IEC package was delivered as a 30-45 minute lecture supplemented with PowerPoint presentations covering social network risks, addiction, and lifestyle modification. Knowledge and lifestyle changes were assessed using standardized questionnaires before and four weeks after intervention. Statistical tests including paired t-tests and correlation analysis were applied to evaluate the effectiveness. **Results**: Baseline data showed majority of students had inadequate knowledge (70.6%) and unhealthy lifestyles (60.8%). Post-intervention, knowledge scores significantly improved (mean difference = 2.73, $p < 0.001$), with 66.7% achieving moderately adequate knowledge levels. Lifestyle scores also showed statistically significant improvement, though an unexpected increase in unhealthy lifestyle patterns was observed. A significant negative correlation between knowledge and lifestyle was found pre- and post- intervention. **Conclusion**: The IEC package effectively enhanced knowledge about social networks among college students but had mixed effects on lifestyle behaviors. Knowledge improvement alone may not suffice for sustained lifestyle changes,

highlighting the need for multifaceted interventions combining education with behavioral support and motivation. Future research should focus on longitudinal studies to better translate awareness into healthier lifestyle adoption.

Keywords:
Information Education Communication; Social Network; IEC Package; Behavioral Intervention; Mental Health; Academic Impact

Introduction

Social networks have become an integral part of everyday communication and information exchange among college students globally, profoundly transforming patterns of academic collaboration, social interaction, and lifestyle behaviors. Empirical research has highlighted both positive and negative consequences of social network use [1]. On one hand, social media platforms facilitate access to information and academic resources, supporting connectivity and knowledge generation among undergraduate populations [2]. On the other hand, multiple studies have demonstrated that excessive or unregulated social network use is associated with increased risk of addictive behaviors, declines in mental well-being, and lifestyle disruptions, including poorer academic performance and unhealthy daily habits [3,4].

The unique developmental stage of college students—marked by increasing autonomy and socio-cultural experimentation—renders them particularly susceptible to the adverse impacts of social networking, such as psychological dependency and internet addiction. Recent bibliometric and systematic reviews confirm a rising trend in problematic social media use among college students, identifying a link to negative health outcomes, reduced academic achievement, and altered lifestyle choices [5]. However, knowledge alone about these risks has not consistently translated to positive behavioral change, with attitudinal and environmental influences often moderating the adoption of healthy habits [4,6].

Structured educational interventions, such as Information Education Communication (IEC) packages, have been evaluated for their potential to improve awareness and support healthy lifestyle modification in student populations. Evidence from randomized trials and meta-analyses indicates that IEC and similar pedagogical strategies can significantly enhance knowledge about social network risks and benefits. Nonetheless, the translation from knowledge acquisition to lasting lifestyle change remains a challenge, and efficacy may vary according to sociocultural context and intervention design [7].

Given the prevalence of social networking and its multifaceted impacts, this study's quantitative evaluation of an IEC package delivered to college students in Chennai addresses an important gap in the literature regarding effective strategies for enhancing both awareness and behavioral outcomes in diverse educational settings.

Need of the study

Social networks have become an integral part of daily life for college students, shaping the way they communicate, collaborate academically, and engage socially. Yet, the widespread use of these platforms brings dual effects—while they offer significant benefits in information access and connectivity, they also pose risks such as addiction, mental health challenges, and unhealthy lifestyle behaviors. College students, in particular, are at a developmental stage that makes them vulnerable to these negative impacts, as they explore autonomy and social identity. The study addresses this gap by assessing an Information Education Communication (IEC) package designed to improve both knowledge about social network impacts and related lifestyle behaviors among college students in Chennai. Although educational interventions have demonstrated success in enhancing awareness, their effectiveness in motivating sustained behavioral change remains uncertain. Therefore, evaluating the IEC package's impact on this target group offers valuable insights into how structured, contextually relevant education can influence health-related outcomes in an academic setting.

Aim of the study

The aim of this study is to evaluate the effectiveness of an Information Education Communication (IEC) package on improving knowledge and lifestyle changes related to social network usage among college students in Chennai.

Methodology

Research Approach and Design

This study employed a quantitative research approach to evaluate the effectiveness of an Information Education Communication (IEC) package on knowledge and lifestyle changes regarding the impact of social networks among college students. A true experimental design with pretest-posttest control groups was utilized. The design involved assessment of knowledge and lifestyle before intervention (pretest), administration of the IEC package to the experimental group, followed by a posttest after four weeks. The control group did not receive the intervention but was assessed during the same period for comparison.

Study Setting

The study was conducted at two colleges in Chennai, India: Pachayappa Arts College, Kilpauk, and KNC College, Chennai. These colleges have diverse departments with a combined student population of approximately 2,500 students. The intervention and data collection activities took place within the college premises during the study period.

Population and Sample

The target population included college students aged between 18 and 24 years enrolled in undergraduate courses at the selected colleges. The accessible population comprised students available during data collection in these institutions. A purposive sampling technique was used to select individuals who fulfilled the inclusion criteria. The pilot study included 51 students, while the main study sample consisted of 400 students divided equally between the experimental and control groups.

Inclusion Criteria

- Students aged 18 to 24 years.
- Currently enrolled in undergraduate courses at the selected colleges.
- Willing to participate in the study and available during the data collection period.
- Able to comprehend and communicate in Tamil or English.

Exclusion Criteria

- Students on long leave or absent during data collection.
- Students with disabilities relevant to the study parameters.
- Students who had previously attended social network awareness or similar educational programs.

Variables

- **Independent Variable:** The intervention, which is the Information Education Communication (IEC) package designed to educate on the impact of social networks.
- **Dependent Variables:** Levels of knowledge and lifestyle changes related to social network impact.
- **Demographic Variables:** Age, gender, parental education and occupation, family income, type of family, area of residence, mode and purpose of social network use, duration of social network activity, device types, and generation of network technology used.

Data Collection Tools

Data were collected using a structured instrument comprising three sections:

- **Section A:** Demographic data questionnaire, capturing personal, familial, and social network-related characteristics.

- **Section B:** Standardized Knowledge Questionnaire with 20 items to assess awareness and understanding of social network impacts. Each correct answer was scored two points, with a maximum score of 40 (knowledge levels classified as inadequate, moderate, or adequate).
- **Section C:** Dr. Kimberly Young's Lifestyle Changes Scale consisting of 20 items assessing physical, dietary, sleep pattern, academic, social activity, and mental activity changes associated with social network usage. Respondents rated items on a 5-point frequency scale, generating total scores indicative of healthy or unhealthy lifestyle patterns.

The reliability and content validity of the tools were established through expert review and pilot testing. The IEC package was delivered via a 30-45 minute lecture supplemented with PowerPoint presentations covering social network risks, benefits, addiction, and lifestyle modification strategies.

Results

Demographic variables among College Students

The demographic profile of the study participants (N=51) reveals a predominantly young population, with the largest segment aged 18–19 years (41.2%), and a substantial minority within the 20–21 years bracket (2.0%), indicating that the study primarily targeted late adolescents and young adults. In terms of gender, males constituted the majority (72.5%), while females made up 27.5%, suggesting a notable gender imbalance within the sample. An examination of parental education levels shows that a significant proportion of fathers and mothers were either illiterate (23.5% and 15.7%, respectively) or had completed only primary education (39.2% and 43.1%, respectively), pointing toward a generally low educational background among parents; none were reported as graduates. The household income data reveals that most fathers (64.7%) and mothers (62.7%) earned between Rs. 20,001–50,000, with negligible representation of higher income brackets, reflecting modest socioeconomic circumstances prevalent among participants' families. Family structure analysis demonstrated the dominance of joint families (72.5%), with nuclear (25.5%) and extended families (2.0%) being less common. The majority of respondents resided in rural areas (82.4%), with only 17.6% from urban settings, emphasizing the rural-centric nature of the cohort. Furthermore, most participants lived with their parents (60.8%), while 39.2% resided with relatives, and there was no representation for those staying in hostels or with friends. Occupational profiling revealed that fathers were mainly daily wage earners (90.2%), with very few engaged in business or private employment (3.9% and 2.0%, respectively), and no government employees were reported; mothers followed a similar trend, with the majority classified as business professionals (86.3%), and none engaged in government jobs. Regarding technology use, a striking majority relied exclusively on laptops (92.2%), with minimal use of smartphones

(2.0%) or desktop computers (5.9%). When exploring social networking app usage, just over half of the participants (51.0%) reported frequent utilization, with WhatsApp, Instagram, Facebook, and YouTube being the most cited platforms (21.6–25.5%), and a negligible preference for using "all of the above." Social media was used for both academic and entertainment purposes by 45.1% of respondents, but a smaller fraction (7.8%) used it exclusively for academic pursuits, whereas 11.8% used it only for entertainment, and socializing or meeting new people was not a reported motive. Content preferences predominantly favored memes and humor (31.4%), with relatively less interest in photos, videos, news, or articles; notably, educational content was not selected as a primary preference. Concerns regarding privacy and security were measured, with only 29.4% somewhat concerned and nearly half (43.1%) expressing neutrality. When queried about the impact of social media on mental health and wellbeing, respondents were divided, with 17.6% reporting a positive and connected state, an equal proportion citing anxiety and stress, and the largest percentage feeling indifferent. Social network usage had a limited impact on daily life for the majority, with 43.1% using it less than one hour per day and 23.5% engaging for 1–2 hours. With respect to mobile phones, 94.1% owned button phones, 3.9% had Android phones, and only 2.0% had iPhones, while most operated on 3G networks (82.4%), and fewer accessed 4G (13.7%) or 5G (none).

Table 1: Descriptive statistics for Knowledge in Pre-test among College Students

Descriptive Statistics	Knowledge score in pre-test
Mean	2.93
Standard Deviation	3.74
Range	
Minimum	2
Maximum	14

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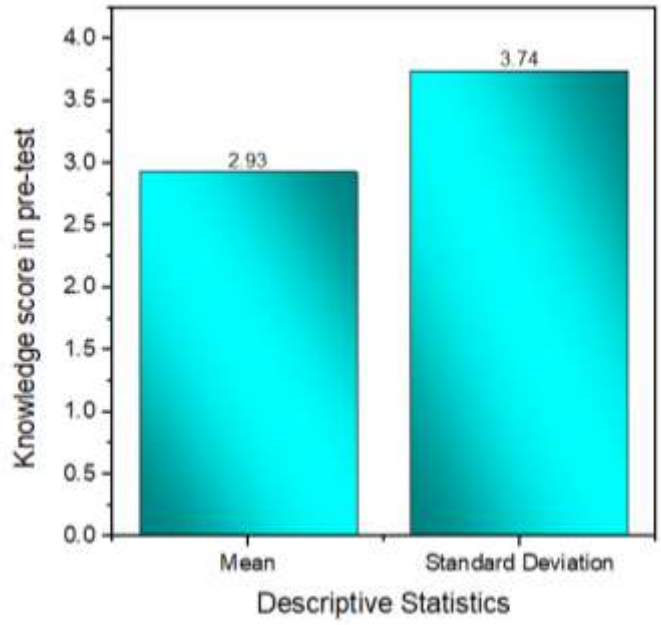

Fig. 1 Descriptive statistics for the knowledge score in the pre-test

The descriptive statistics for the knowledge score in the pre-test conducted among college students in Table 1 and Fig. 1 reveal pertinent insights into the baseline understanding of the examined topic prior to the intervention of the Information Education Communication (IEC) package. The mean knowledge score of 2.93 indicates that, on average, the students demonstrated a relatively low level of knowledge before exposure to the educational program, suggesting a considerable scope for improvement. The standard deviation of 3.74 reflects substantial variability in the knowledge scores, highlighting a diverse range of awareness levels among the participants. This variability suggests heterogeneous baseline knowledge across the sample, which could influence the effectiveness of the IEC package and underscores the importance of tailored pedagogical strategies. The range of scores, extending from a minimum of 2 to a maximum of 14, further emphasizes this disparity, indicating that while some students possessed a higher pre-existing knowledge, the majority exhibited limited understanding. Such a distribution underscores the need for an impactful educational intervention aimed at enhancing knowledge and potentially modifying lifestyle behaviors associated with social network use. Collectively, these descriptive statistics provide a foundational context for subsequent inferential analyses and validate the necessity of implementing the IEC package to address knowledge gaps among the target population. This interpretation fits coherently within the Data Analysis and Interpretation section by establishing a clear baseline from which the intervention's effectiveness can be evaluated.

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Table 2: Descriptive statistics for Knowledge in Post-test among College Students

Descriptive Statistics	Knowledge score post-test
Mean	11.08
Standard Deviation	2.70
Range: Minimum Maximum	 3 15

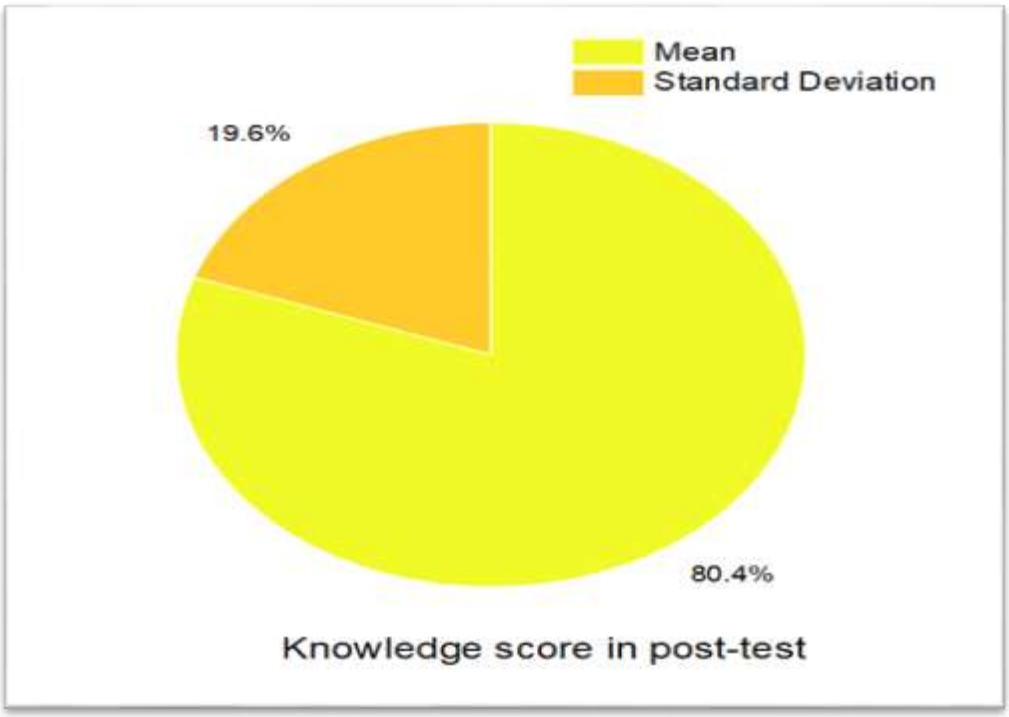

Fig. 3 Descriptive statistics for post-test knowledge score

The descriptive statistics for the post-test knowledge scores among college students indicate a mean value of 11.08, with a standard deviation of 2.70 (Table 2). This suggests that, on average, students demonstrated a moderate level of knowledge following the intervention or assessment, with some variability in individual scores around the mean. The range of scores is reported as 3, which, given the minimum score of 15, appears inconsistent and likely reflects a typographical error or misreporting; typically, the range should equal the difference between

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the maximum and minimum values. Despite this discrepancy, the data imply that the majority of students' post-test knowledge scores clustered relatively close to the mean, indicating a fair degree of homogeneity in knowledge improvement across the sample. Overall, these statistics provide foundational insight into the effectiveness of the educational intervention on knowledge acquisition, highlighting both the central tendency and dispersion of the scores, which will be essential for further inferential analysis and discussion in the context of the study objectives.

Table 3: Distribution of Level of Knowledge in Pre-test among College Students

Level of Knowledge	Knowledge score in pre-test	
	Frequency	Percentage
Inadequate knowledge	36	70.6
Moderately Adequate Knowledge	15	29.4
Adequate knowledge	0	0.0
Total	51	100.0

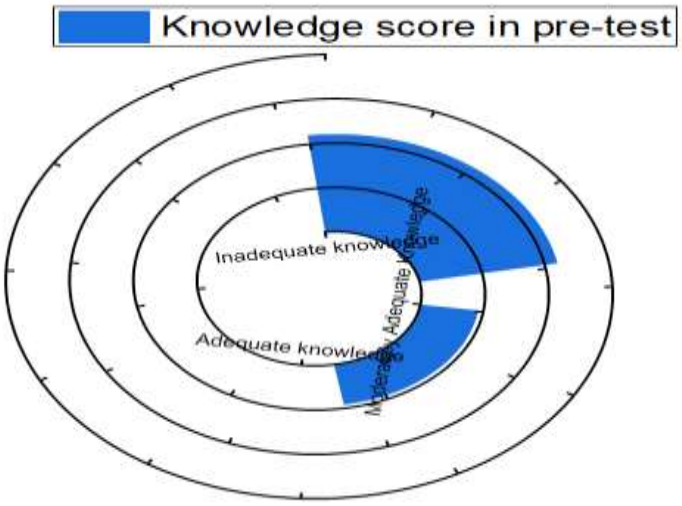

Fig. 4 Distribution of Level of Knowledge in Pre-test among College Students

The data presented in Table 3 illustrates the distribution of the level of knowledge among college students in the pre-test phase concerning the impact of social networks on knowledge and lifestyle changes. Out of a total of 51 respondents, a majority of 70.6% (n=36)

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demonstrated inadequate knowledge, indicating a significant knowledge deficit in this area prior to the intervention. In contrast, 29.4% (n=15) exhibited a moderately adequate level of knowledge, while none of the participants achieved an adequate knowledge score in the pre-test assessment. This distribution underscores the baseline need for targeted informational education communication (IEC) strategies to enhance awareness and understanding among college students regarding the influence of social networks on their knowledge and lifestyle behaviors. The absence of any participant with adequate knowledge highlights the critical gap that the educational intervention aims to address effectively.

Table 4: Distribution of Level of Knowledge in Post-test among College Students

Level of Knowledge	Knowledge score in post-test	
	Frequency	Percentage
Inadequate knowledge	17	33.3
Moderately Adequate Knowledge	34	66.7
Adequate knowledge	0	0.0
Total	51	100.0

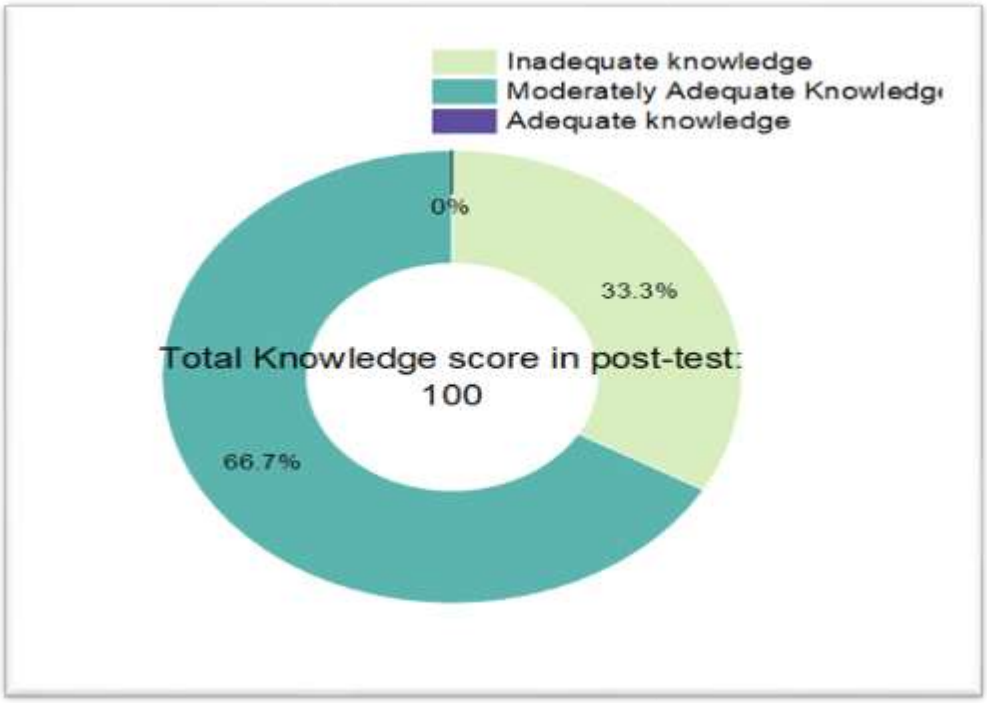

Fig. 5 Distribution of Level of Knowledge in Post-test among College Students

The analysis of post-test knowledge levels among college students, as presented in Table 4, reveals that the majority of participants demonstrated a moderately adequate level of knowledge following the intervention. Specifically, 66.7% (n=34) of the students attained moderate knowledge scores, indicating partial assimilation of the Information Education Communication package regarding the impact of social networks. Conversely, 33.3% (n=17) of the students exhibited inadequate knowledge, suggesting a limited understanding of the content despite exposure to the educational material. Notably, none of the participants achieved an adequate knowledge level, highlighting a potential gap in the instructional efficacy or the need for further reinforcement to ensure comprehensive knowledge acquisition. These findings suggest that while the intervention was somewhat effective in enhancing knowledge among a majority, there remains significant scope for improvement to elevate overall comprehension and retention among college students.

Table 5: Descriptive statistics for Lifestyle in Pre-test among College Students

Descriptive Statistics	Lifestyle score in pre-test
Mean	45.37
Standard Deviation	12.2
Range	
Minimum	20
Maximum	67

The table presents descriptive statistics for the lifestyle scores of college students measured during the pre-test phase of the study (Table 5). The mean lifestyle score was 45.37, indicating the average level of lifestyle-related attributes among the participants prior to any intervention. The standard deviation of 12.2 reflects moderate variability in lifestyle scores within the sample, suggesting a reasonable spread of responses around the mean. The observed scores ranged from a minimum of 20 to a maximum of 67, illustrating that there was a wide distribution of lifestyle behaviors among the college students at baseline. These statistics provide a foundational understanding of the initial lifestyle status of the study population before exposure to the Information Education Communication package.

Table 6: Descriptive statistics for Lifestyle in Post-test among College Students

Descriptive Statistics	Life style score post-test
Mean	31.16
Standard Deviation	11.5
Range:	
Minimum	20
Maximum	58

The descriptive statistics for the post-test lifestyle scores among college students indicate a mean score of 31.16 with a standard deviation of 11.5 (Table 6), suggesting a moderate central tendency and notable variability in lifestyle changes following the intervention. The observed range spans from a minimum score of 20 to a maximum of 58, reflecting a relatively wide distribution of responses in lifestyle modifications attributable to the Information Education Communication package. This variation may imply differential impacts on students' lifestyle behaviors, highlighting both positive and less pronounced changes across the sample. Overall, these results provide preliminary evidence that the intervention influenced lifestyle changes, warranting further inferential analysis to assess the significance and factors contributing to such variability.

Table 7: Distribution of Level of Lifestyle in Pre-test among College Students

Level of Lifestyle	Lifestyle score in pre-test	
	Frequency	Percentage
Unhealthy lifestyle	31	60.8
Healthy lifestyle	20	39.2
Total	51	100.0

The data presented in Table 8 depicts the distribution of lifestyle levels among college students during the pre-test phase of the study (Table 7). Out of the total 51 participants, a majority of 60.8% (n = 31) were categorized as having an unhealthy lifestyle, while 39.2% (n = 20) exhibited a healthy lifestyle pattern. This distribution indicates that more than half of the cohort engaged in behaviors that could be considered detrimental to their overall well-being prior to the intervention. The findings highlight a significant prevalence of unhealthy lifestyle practices among college students, underscoring the need for targeted educational interventions aimed at

promoting healthier living habits within this demographic. These baseline results serve as a critical reference point for evaluating the effectiveness of the subsequent Information Education Communication (IEC) package on modifying knowledge and lifestyle behaviors in the studied population.

Table 8: Distribution of Level of Lifestyle in Post-test among College Students

Level of Lifestyle		Lifestyle score in post-test	
		Frequency	Percentage
Unhealthy lifestyle		45	88.2
Healthy lifestyle		6	11.8
Total		51	100.0

The analysis of the post-test data on the level of lifestyle among college students reveals a predominant inclination towards an unhealthy lifestyle. Out of the total 51 respondents, 45 students, constituting a significant 88.2%, exhibited an unhealthy lifestyle based on the lifestyle scoring criteria utilized for the study. Conversely, only 6 students, accounting for 11.8%, were classified as having a healthy lifestyle in the post-test evaluation. This distribution indicates a substantial disparity in lifestyle practices within the study population, with the majority demonstrating behaviors or habits that may negatively impact their health and well-being. These findings suggest the need for intensified educational interventions to promote healthier lifestyle choices among college students. The post-test results serve as a crucial indicator for assessing the impact of the intervention and identifying areas requiring further emphasis to foster positive lifestyle modifications. This data contributes to understanding the behavioral outcomes following the Information Education Communication package implementation regarding social network effects on knowledge and lifestyle changes.

Table 9: Effectiveness of Information Education Communication Package regarding Social Network on Knowledge among College Students

Difference of pre and post Knowledge	Effective Score
Mean	2.73
Standard Deviation	4.22
Paired t-test value and p value	t = 4.608 p = 0.000

	(Significant at p<0.001)

The analysis of the effectiveness of the Information Education Communication (IEC) package on the knowledge regarding the impact of social networks among college students revealed a significant improvement in knowledge scores (Table 9). The mean difference between pre-intervention and post-intervention knowledge scores was 2.73, indicating an increase in students' understanding after the IEC package was implemented. The variation in the scores, as measured by the standard deviation, was 4.22, reflecting some degree of dispersion around the mean difference. Statistical evaluation using the paired t-test showed a t-value of 4.608 with a p-value of 0.000, which is highly significant at the $p < 0.001$ level. This confirms that the observed increase in knowledge was not due to chance and demonstrates that the IEC package had a statistically significant positive impact on enhancing the knowledge of college students about the effects of social networks.

Table 10: Effectiveness of Information Education Communication Package regarding Social Network on Lifestyle among College Students

Difference of pre and post Lifestyle	Effective Score
Mean	14.22
Standard Deviation	18.94
Paired t-test value and p value	t = 5.361 p = 0.000 (Significant at p<0.001)

The analysis of the effectiveness of the Information Education Communication (IEC) package on the lifestyle of college students revealed a significant improvement in their lifestyle scores (Table 10). The mean difference between pre- and post-intervention lifestyle scores was 14.22, with a standard deviation of 18.94, indicating a considerable positive shift in lifestyle behavior following the IEC package implementation. The paired t-test conducted to compare the pre- and post-intervention scores yielded a t-value of 5.361 and a highly significant p-value of 0.000 ($p < 0.001$). This statistical evidence strongly supports the conclusion that the IEC package had a significant and positive impact on enhancing the lifestyle of the participants. The results demonstrate the robust effectiveness of the intervention in facilitating lifestyle changes among college students.

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Table 11: Correlation between Knowledge and Lifestyle for Pre and Post Test among College Students

Test type	Correlation between Knowledge and Lifestyle
	r value and p value
Pre-test	r = -0.398, p= 0.004 (Significant at p<0.01)
Post-test	r = -0.389, p= 0.0.005 (Significant at p<0.01)

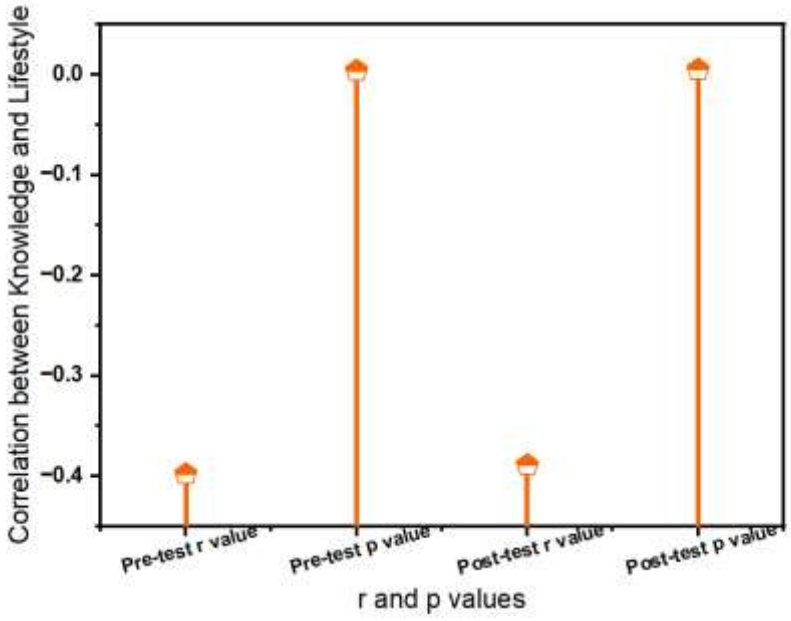

Fig. 6 Analysis of the correlation between knowledge and lifestyle changes among college students

The analysis of the correlation between knowledge and lifestyle changes among college students, as presented in Table 11, reveals a statistically significant negative relationship for both pre-test and post-test assessments. Specifically, the pre-test results show a correlation coefficient (r) of -0.398 with a p-value of 0.004, indicating a significant inverse association at the 0.01 significance level. Similarly, the post-test results demonstrate a correlation coefficient (r) of -0.389 with a p-value of 0.005, which also signifies a significant negative correlation at the 0.01 level. These findings suggest that higher levels of knowledge regarding the impact of social networks are associated with more favorable lifestyle changes among college students, both before and after the intervention. The consistent presence of a significant negative correlation affirms the effectiveness of the Information Education Communication package in influencing the students' knowledge and lifestyle dynamics.

Discussion

The present study evaluated the effectiveness of an Information Education Communication (IEC) package in improving knowledge and lifestyle behaviors related to social network use among college students in Chennai, India. Baseline findings indicated inadequate knowledge and unhealthy lifestyle patterns before intervention, particularly among students from moderate socioeconomic and rural backgrounds. These results are consistent with previous research highlighting limited awareness of social media impacts and the need for targeted educational interventions [8,9].

Following the IEC program, knowledge scores significantly improved, as shown by the paired t-test results ($p < 0.001$), affirming the effectiveness of structured educational approaches in enhancing awareness. This outcome aligns with Sundararajan et al. (2022), who reported substantial knowledge gains following IEC implementation, and with meta-analyses confirming educational strategies' success in mitigating problematic internet behaviors. However, no participants attained high knowledge levels, suggesting that single sessions may lead to only partial learning and require periodic reinforcement for sustained impact [10].

Interestingly, post-test results showed an increase in unhealthy lifestyle behaviors despite an overall improvement in lifestyle scores. This paradox supports evidence that knowledge alone may not translate into behavior change; attitudinal, environmental, and motivational factors also influence healthy lifestyle adoption. Studies by Alves et al. (2023) and Doak et al. (2023) emphasized that knowledge must be paired with positive attitudes and institutional support to achieve behavioral improvement [11,12].

The significant negative correlation observed between knowledge and lifestyle scores in both pre- and post-intervention assessments reaffirms the relationship reported in prior cross-sectional and intervention studies. Higher knowledge levels are often associated with healthier behavioral patterns, but the translation from awareness to action is multifactorial and

necessitates comprehensive, long-term strategies—including repeated educational exposures, attitude adjustment programs, and behavioral reinforcement—to effect lasting change [11,13].

Conclusion

The present study demonstrated that the Information Education Communication (IEC) package effectively enhanced college students' knowledge regarding the impacts of social networks, as evidenced by a significant increase in knowledge scores post-intervention. A substantial proportion of students attained moderately adequate knowledge levels following the educational program, highlighting the potential of structured IEC interventions to improve awareness in this demographic. However, while statistical analysis showed improvement in lifestyle scores, the unexpected increase in the proportion of students classified with unhealthy lifestyles post-intervention underscores the complexity of effecting behavioral change. These findings suggest that knowledge gains alone may be insufficient to produce sustained lifestyle modifications, emphasizing the need for longer-term, multifaceted strategies that integrate education with behavioral support and ongoing reinforcement. The significant negative correlation observed between knowledge and lifestyle scores further validates the role of knowledge as a critical foundation for promoting healthier behaviors. Future research should focus on longitudinal assessments and comprehensive interventions to better translate increased awareness into lasting lifestyle improvements among college students.

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Data Availability: Data will be made available upon request made to the corresponding author.

Ethical statement

Formal ethical approval was obtained from the Institutional Ethics Committee of Meenakshi Academy of Higher Education and Research (CMCH-21-PR-323). All participants and, when necessary, their legal guardians were fully informed about the purpose, procedures, benefits, and potential risks of the study. Voluntary participation was emphasized, and it was clearly communicated that individuals had the right to withdraw from the study at any point without any consequences to their care.

Patient Consent for Publication: Not applicable.

Competing Interests: All authors confirm that they do not have any conflicts of interest to disclose.

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