



Original Article

Enhancing Health and Well-Being Awareness Among Students of Rajshahi College, Rajshahi

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ABSTRACT: The study aims to evaluate Rajshahi College students' current awareness of health and well-being and compare their awareness levels before and after treatments. A quasi-experimental design with a quantitative method was employed, involving 870 participants selected from a population of 28,000 students in the study. Researchers applied a systematic sampling method for primary data collection. Survey questionnaires with a seven-point Likert scale were used for the pre-test and post-test in this research. Secondary sources were also used. This study ensured both internal and external validity. Cronbach's alpha score (0.70) was used for the reliability of data in this study. Descriptive statistics were applied for data analysis. Workshops and instructional sessions on oral hygiene, diet, exercise, and proper technology use were among the interventions. Significant improvements were found in the following areas after the intervention: open communication with parents increased from 46.1 percent to 57.47 percent; excessive social media usage (more than five hours per day) decreased from 13.4 percent to 4.6 percent; and the percentage of students brushing their teeth twice a day increased from 70.3 percent to 94.25 percent. Significant improvements were also observed in motivation for general health, nutrition awareness, and personal fitness levels. These results imply that organized health education initiatives can successfully encourage students to lead healthier lives. Future studies should evaluate the scalability of such interventions across various educational contexts and investigate the long-term sustainability of these behavioral changes.

Keywords: Personal fitness, Nutritionally Balanced Diet, Healthy Eating Habits, Self-Health Awareness, Health Motivation, Behavioral Change

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1. Introduction

Health and well-being are crucial aspects of students' academic success and overall quality of life. A well-balanced lifestyle that includes proper nutrition, physical activity, and mental health awareness contributes significantly to cognitive function and overall productivity (World Health Organization [WHO], 2021). Research suggests that adopting a healthy lifestyle, including regular physical activity, balanced nutrition, and self-health awareness, can significantly enhance cognitive function, emotional stability, and academic performance (Donnelly et al., 2016). However, students often struggle with maintaining good health due to academic pressure, stress, and a lack of awareness regarding well-being practices (Diener et al., 2018; Ng et al., 2012). Additionally, lifestyle-related diseases such as obesity, anxiety, and depression are increasing among students worldwide due to poor dietary habits and sedentary behavior (Patton et al., 2016). Despite the growing recognition of these issues, there is limited research specifically addressing the health and well-being of students at Rajshahi College. This study aims to bridge that gap by evaluating current awareness levels and proposing interventions to promote a healthier student community.

Rajshahi College is one of the most esteemed institutions in Bangladesh. It was founded in Rajshahi city in 1873 with the financial support of Dubalhati's Raja Haralal Roy Bahadur. Land granted by Raja Haranath Roy allowed the institution to be established, and it brought in 5,000 rupees a year. This college also received assistance from notable locals, including landlords. It runs higher education programs affiliated with National University (NU). At the moment, Rajshahi College offers four academic programs: degree-passing bachelor's, certificate courses in various areas, bachelor's honours, master's, and Higher Secondary Certificate (HSC). There are 25 departments, with 23 offering undergraduate programs and 22 postgraduate programs and 3 HSC (Science, Arts and Commerce) programs under the Rajshahi Education Board. The college aims to provide quality education to students that helps achieve Bangladesh's sustainable development goals. It has over twenty-eight thousand students and 250 teachers (Karim and Chowdhary, 2023).

In the context of Rajshahi College, after COVID-19, students face multiple health challenges, including sedentary lifestyles, unhealthy eating patterns, and limited awareness of personal health responsibilities. Although health and well-being

are integral to students' academic performance and personal development, several challenges hinder their ability to maintain a healthy lifestyle at Rajshahi College. Many students have limited knowledge about proper nutrition, exercise, and mental health management (WHO, 2021). Excessive workload and examination stress contribute to anxiety, depression, and other mental health issues (Regehr et al., 2013). Poor dietary habits, lack of physical activity, and inadequate sleep patterns negatively impact students' health (Ng et al., 2019). A significant number of students consume unhealthy diets, high in processed foods and low in essential nutrients, negatively impacting their energy levels and cognitive abilities (Adolphus et al., 2013). Skipping meals, consuming excessive fast food, and irregular eating patterns contribute to obesity and metabolic disorders (Alkhulaifi & Darkoh, 2022). There is a lack of structured health awareness programs and student support systems within the college environment.

Improving student health and well-being is essential for academic success, long-term quality of life, and national development. Healthy students perform better academically, as proper nutrition and fitness enhance memory, focus, and stress management (Patton et al., 2016). The study supports the United Nations Sustainable Development Goals (SDG 3: Good Health and Well-being) by promoting health awareness in educational institutions (United Nations, 2015). It highlights the growing health concerns among students at Rajshahi College and the need for immediate interventions. The findings will help policymakers, educators, and students develop effective health awareness programs.

Existing research on student health has primarily focused on individual aspects such as nutrition, physical activity, or mental well-being in isolation. However, there is limited comprehensive research that integrates multiple health factors—including personal fitness, nutrition, eating habits, weight awareness, self-health consciousness, personal responsibility, and motivation—into a holistic model of student well-being. By addressing these gaps, this study aims to assess the existing level of health and well-being awareness among students at Rajshahi College and compare the awareness position after interventions.

2. Review of Literature

2.1. Personal Fitness

One of the most important aspects of students' health awareness is personal fitness. Because it

improves cognitive function, lowers stress, and boosts overall academic achievement; physical fitness is crucial for students (Donnelly et al., 2016). Studies have shown that regular exercise improves concentration and memory recall, two skills that are essential for academic achievement (Lubans et al., 2016). Nonetheless, sedentary lives and academic pressure cause many students to not participate in enough physical activity (WHO, 2021). It is necessary to establish health promotion programs to encourage more active lifestyles because university students frequently demonstrate low levels of physical activity (Almutairi et al., 2018). Multidisciplinary educational approaches are successful in raising students' awareness and encouraging better physical activity-related behaviours (Navidad et al., 2021). However, physical activity is crucial for preserving and enhancing health and is a significant driver of health status.

2.2. Nutritionally Balanced Diet

Students' health and wellbeing depend on eating a diet that is nutritionally balanced. Students' energy and cognitive capacities are greatly enhanced by eating a well-balanced diet. Students who eat a diet high in vital nutrients, such as proteins, vitamins, and minerals, do better academically, according to studies (Adolphus et al., 2013). Fatigue, a lack of focus, and an increased risk of sickness can result from poor nutrition, including consuming too much junk food (Stea & Torstveit, 2018). While balanced eating is not directly related to mental health, research suggests that understanding it is important. But mental health is positively impacted by physical exercise awareness (Shariff et al., 2021). Students' eating habits have been demonstrated to improve with nutrition-focused educational interventions that highlight the value of fruits, vegetables, and whole grains (Dalrymple and Pollard, 2020; Mancone et al., 2024). The necessity for ongoing education and intervention is shown by the fact that many students do not follow good eating habits despite awareness (Puente-Hidalgo et al., 2024).

2.3. Healthy Eating Habits

Long-term advantages result from forming healthy eating habits early in life. Numerous elements, such as community, school, and family, impact healthy eating practices. Studies indicate that students who follow a regular breakfast, lunch, and supper schedule have improved mental clarity and metabolic performance (Adolphus et al., 2013). Unhealthy eating habits have been connected to obesity and subpar academic performance. These

include skipping meals and consuming processed foods high in calories (Llauradó et al., 2020). According to studies, students frequently get knowledge about healthy nutrition from various sources, but many of them do not always adhere to the recommended dietary guidelines (Andonova, 2020). Although there are conflicting results about long-term behaviour change, school-based health education can greatly enhance students' nutrition-related knowledge, attitudes, and behaviours (Lee et al., 2023).

2.4 Weight Awareness

An essential component of student health management is weight awareness. Being conscious of one's weight is essential for both physical and mental well-being. Due to social pressures, many students struggle with their body image, which can result in poor dieting habits (Neumark-Sztainer et al., 2018). Although it's crucial to maintain a healthy weight, extreme weight-control practices like binge eating or excessive dieting might have a detrimental effect on students' wellbeing (Griffiths et al., 2018). According to Mancone et al. (2024), interventions that incorporate digital tools and self-regulation techniques have demonstrated potential in raising students' body mass index (BMI) and encouraging better eating habits. Nevertheless, these programs' limited ability to reduce obesity suggests the need for more all-encompassing strategies (Navidad et al., 2021). Healthy habits can be encouraged by educational initiatives that emphasize a balanced approach to weight management.

2.5 Self-Health Awareness

Self-health awareness is the capacity to identify and avoid health problems. Health problems are less common among students who actively manage their health, such as by keeping up with good cleanliness or identifying early signs of disease (Bennett et al., 2018). By raising awareness through wellness and education initiatives, students can be empowered to take control of their health and seek medical help when needed (Sosu & Pheunpha, 2019). Self-health awareness entails being conscious of one's own health demands and acting proactively to meet them. Curricular interventions have been demonstrated to improve students' self-reported health behaviors and raise health awareness, leading to healthier outcomes (Dalrymple & Pollard, 2020). Students must be aware of this in order to make wise choices regarding their health and welfare.

2.6. Personal Responsibility in Health Management

Long-term healthy behaviors must be fostered by promoting personal accountability in health management. Making wise decisions about stress management, exercise, and nutrition is a part of taking personal responsibility for one's health. Research shows that when students take ownership of their health, they participate in healthier habits (Arlinghaus & Johnston, 2018). It is crucial to encourage students to take responsibility for their health because research indicates that they frequently do not follow health advice (Almutairi et al., 2018). Personal responsibility-focused educational initiatives can improve health outcomes and encourage more people to adopt healthy habits (Puente-Hidalgo et al., 2024). Promoting self-management among students lowers the risk of lifestyle-related illnesses and creates enduring healthy behaviors.

2.7. Health Motivation and Behavioral Change

An important component of preserving long-term wellbeing is health motivation. Self-Determination Theory states that more sustainable health behaviors result from intrinsic motivation, such as appreciating health for its own sake rather than for incentives from outside sources (Deci & Ryan, 2017). Self-motivation-boosting interventions, like goal-setting and positive reinforcement, have been shown to be successful in motivating students to lead healthier lives (Ng et al., 2012).

Students' motivation to improve their behavior is largely influenced by their health. Motivational interventions, such as the use of modern technologies, have proven successful in achieving and sustaining health goals (Navidad et al., 2021). The success of health promotion initiatives and the formation of enduring healthy habits depend heavily on encouraging students to adopt healthy behaviors.

In conclusion, raising students' understanding of their health and well-being requires a multipronged strategy that includes encouraging personal fitness, a balanced diet, healthy eating practices, weight awareness, self-health awareness, personal accountability, and health motivation. Fostering these elements and enhancing their general health outcomes requires educational initiatives as well as the assistance of the community, school, and family.

3. Materials and Methods

3.1. Research design and Methods

Quasi experimental research design is used in this study for understanding its objectives. The quasi-

experimental design is suitable for this study as it enables the evaluation of interventions or relationships in natural settings where randomization is impractical or unethical. This design is particularly useful in real-world settings where variables cannot be fully controlled, but it still enables comparison between groups or conditions to understand the impact of interventions (Shadish & Campbell, 2002).

A quantitative method is applied in this research. Quantitative research typically involves larger sample sizes and structured data collection methods, making it possible to generalize findings to a broader population. This aligns with studies that aim to identify patterns or relationships applicable beyond the sample. (Creswell & Creswell, 2018). Quantitative research provides an objective way to measure variables, ensuring that the findings are unbiased and based on empirical data rather than subjective interpretations. This method enhances the reliability and validity of the results. (Muijs, 2010).

3.2. Target population and Sample size

The target population for this study comprises 28,000 individuals, students of Rajshahi College. Researchers collected the list of students (HSC-XI and XII, degree pass course, Hon's 1st to 4th years, Masters-preliminary, Masters final) from the office. A sample size of 870 was chosen to make sure there was enough statistical power to find meaningful differences while also taking into account practical issues like time and resource constraints. Researchers collected primary data from 25 October to 15 November, 2021 for the pre-test, and from 22 December, 2021 to 15 January, 2022 for the post-test.

3.3. Sampling procedures

In this study, a systematic sampling method was employed to select 870 participants from a total population of 28,000. This method was chosen due to its efficiency, simplicity, and ability to provide an evenly distributed sample across the population. By calculating a sampling interval of 32 and selecting a random starting point, every 32nd individual was included in the sample. This approach ensures representativeness and reduces selection bias while maintaining feasibility within the constraints of time and resources. Systematic sampling is particularly appropriate given the homogeneity of the population and the study's quasi-experimental design, where structured

sampling is essential for internal validity (Cochran, 1977; Levy & Lemeshow, 2013).

3.4. Data collection

Primary and secondary sources are used in this study. The primary data were collected from students and secondary data were accumulated from several relevant journals, books, conference papers and reports.

3.5. Intervention procedure

The total sample size (870) was divided into six groups for intervention. Three groups were for males and three were for females. One workshop for physical health, one session for mental health, and one workshop for meditation and self-realization were provided to each group. To enhance awareness of health and well-being, a professional doctor conducted workshops on physical health, and a psychologist conducted sessions on mental health for each group. Female doctors and psychologists directed workshops and sessions for female groups. On the other hand, one expert conducted all mediation and self-realization workshops.

3.6. Data collection procedure

The researchers had developed the survey questionnaires on the basis of a literature review for data collection. The data were collected by using structured questionnaires through Google Forms and a hard copy of the survey questionnaires with the help of twelve assistants. For the pre-test, data were collected before interventions. For the post-test, data were collected after three weeks of the given interventions.

3.7. Instruments of data collection

The researchers developed a survey questionnaire with the help of a review of the literature. A seven-point Likert scale was applied to indicate the level to which the respondents strongly disagree to strongly agree with the statements applied to measure the constructs. The questionnaire had two parts. Part A was used for general information, and Part B was applied for specific information. For specific and general data, the assessment of personal items of fitness and balanced nutrition, healthy eating habits, weight awareness, self-health awareness, personal responsibility, and health motivation were adopted from Kraft

Goodell (1993), Dutta-Bergman (2004a), Tai & Tam (1997), Gould (1988), Hong (2009), and a review of the literature.

3.8. Data analysis techniques and presentation

After survey questionnaires were used to gather data and information from the research region, the data were meticulously examined, collated, and evaluated. SPSS Version 20 was utilized by the researchers to analyze the data in this study. Descriptive statistics, such as frequency distribution, mean, percentages, and standard deviation, were also employed by the examiner to explain the score distribution. Presentation tables were utilized to present the results.

3.9. Validity and Reliability of Data

In this study, researchers ensured validity and reliability by employing several strategies. Internal validity was enhanced through the use of pretests and posttests, as well as statistical control of confounding variables. Systematic sampling ensured external validity by providing a representative sample of the population. Measurement tools were selected based on prior validation studies and were tested for reliability using Cronbach's alpha, which demonstrated the values of all variables were above 0.70, indicating high internal consistency (Nunnally & Bernstein, 1994). Ethical issue strictly considered in this study.

4. Results

From Table 1, it was found that 41.6 percent of HSC (XI) and 37.2 percent of Hon's 1st-year students participated in the survey. 53.2 percent of male and 46.8 percent of female students provided data. Only 17.2 percent of students' family members are addicted to smoking. But 30.3 percent of students are addicted to smoking. Family members of students are suffering from 7.24 percent heart disease, 25.98 percent diabetes, 24 percent hypertension, and 10.46 percent heart disease, diabetes, and hypertension.

From Table 2, it is found that before workshops, 70.3 percent of participants used to brush their teeth two times, but after workshops, 94.25 percent of participants used to brush two times. It is shown that 34.06 percent of students' awareness has been developed.

Table 1: General Information

Sl. No.	Particular	No. of Respondents (Total=870)	Percentage (%)
1.	Class	Hon's -1st Year	324
		Hon's- 2nd year	17
		Hon's-3rd	80
		Hon's-4th	42
		HSC (Xi)	362
		Mastars-P1	39
		Mastars-P2	6
2.	Gender	Male	463
		Female	407
3.	Is any one of your family members addicted to smoking?	No	720
		Yes	150
4.	Are you addicted to smoking?	No	606
		Yes	264
5.	Family history of chronic disease	Heat Disease	7.24
		Diabetes	25.98
		Hypertension	24.25
		Cancer	0.92
		Heart Disease, Diabetes, H	10.46
		All	0.11
		No	31.03

Source: Field Survey, 2022

Table 2: Do you brush your teeth twice a day?

	Pre-test		Post-test	
	Frequency	Percent	Frequency	Percent
No	258	29.7	50	5.75
Yes	612	70.3	820	94.25
Total	870	100.00	870	100.00
Family history of chronic disease	Heat Disease		7.24	
	Diabetes		25.98	
	Hypertension		24.25	
	Cancer		0.92	
	Heart Disease, Diabetes & Hypertension		10.46	
	All		0.11	
	No		31.03	

Source: Field Survey, 2022

Table 3: How much time (hours) do you spend using social media and on phone calls?

	Pre-test		Post-test	
	Frequency	Percent	Frequency	Percent
1-2 hours	287	33.0	440	50.6
3-4 hours	335	38.5	185	21.3
Less 1 hours	131	15.1	205	23.6
More 5 hours	117	13.4	40	4.6
Total	870	100.0	870	100

Source: Field Survey, 2022

From Table 3, it is shown that before programs, 13.4 percent used social media, and after programs, 4.6 percent of students used social media and cell phones for more than 5 hours. On the other hand, before workshops, 38.4 percent and after workshops, 21.3 percent used social media

percent of students applied social media and cell phones for 3 to 4 hours. It is found that a significant number of students have reduced their use of social media and cell phones after the program.

Table 4: With whom do you feel free to discuss your problems?

	Pre-test		Post-test	
	Frequency	Percent	Frequency	Percent
Friends	266	30.6	300	34.48
Not with anyone	184	21.1	50	5.75
Parents	401	46.1	500	57.47
Relatives	19	2.2	20	2.30
Total	870	100.0	870	100

Source: Field Survey, 2022

Table 5: Personal Fitness (N=870)

	Mean	Std. Deviation	Mean	Std. Deviation
I try to exercise at least 30 minutes a day, 3 days each week.	4.53	1.908	5.07	1.650
Exercise helps me succeed in all facets of my life.	5.21	1.672	5.53	1.429
Good health takes active participation on my part.	5.66	1.512	5.85	1.313
I spend time each day trying to reduce accumulated stress.	4.65	1.773	5.35	1.459
Average	5.01	1.716	5.45	1.46

Note: 7= Strongly Agree; 6= Agree;5= Somewhat Agree; 4= Neither Agree or Disagree 3= Somewhat Disagree; 2= Disagree; 1= Strongly Disagree

Source: Survey, 2022

From Table 4, it is revealed that 21 percent of students could not freely share their problems before the program, but after the program, 5.75 percent of students could not share. On the other hand, before the program, 46.1 percent shared

with parents, and after, 57.47 percent. This was a good symptom. From Table 5, it is found that before workshops the mean score of personal fitness was 5.01 and after 5.45. It is a positive change.

Table 6: My daily meals are nutritionally balanced

	Pre-test		Post-test	
	Frequency	Percent	Frequency	Percent
Strongly Disagree	34	3.9	10	1.15
Disagree	42	4.8	10	1.15
Somewhat Disagree	67	7.7	23	2.64
Neither Agree or Disagree	74	8.5	30	3.45
Somewhat Agree	214	24.6	280	32.19
Agree	287	33.0	330	37.93
Strongly Agree	152	17.5	187	21.49
Total	870	100.0	870	100

Source: Field Survey, 2022

From Table 6, the result revealed that before intervention, the awareness of balanced nutrition was 75.1 percent and after, 91.61 percent. The result represented a satisfactory change. From table

7, before workshops, the mean score of healthy eating habits was 4.84 and after, 5.09. It was found that eating habits positively changed after these programs.

Table 7: Healthy Eating habit (N=870)

<i>Statements</i>	Pre- test		Post- test	
	<i>Mean</i>	<i>Std. Deviation</i>	<i>Mean</i>	<i>Std. Deviation</i>
Try to avoid fast foods and rich foods	4.68	1.92	5.23	1.63
Am concerned about how much sugar I eat	4.39	1.85	4.72	1.79
Try to avoid foods with a high salt content	5.23	1.77	5.44	1.62
Try to select food fortified with vitamins	5.57	1.49	5.55	1.51
Use a lot of low-calorie products	4.34	1.71	4.53	1.70
Careful what I eat to keep weight in control	4.84	1.85	5.06	1.75
Average	4.84	1.765	5.09	1.67

Note: 7= Strongly Agree; 6= Agree; 5= Somewhat Agree; 4= Neither Agree or Disagree 3= Somewhat Disagree; 2= Disagree; 1= Strongly Disagree

Source: Survey, 2022

Table 8: Weight Awareness (N=870)

<i>Statements</i>	Pre- test		Post- test	
	<i>Mean</i>	<i>Std. Deviation</i>	<i>Mean</i>	<i>Std. Deviation</i>
No matter how busy I am, I always find time each week to do a few hours of exercises	3.99	1.976	4.77	1.77
I'm careful in what I eat to keep my weight under control	4.63	1.901	5.22	1.59
To maintain a nice figure, exercise is very important.	5.84	1.504	6.01	1.20
Average	4.82	1.79	5.33	1.52

Note: 7= Strongly Agree; 6= Agree; 5= Somewhat Agree; 4= Neither Agree or Disagree 3= Somewhat Disagree; 2= Disagree; 1= Strongly Disagree

Source: Survey, 2022

From pre-test and post-test surveys, it was found that the mean score of weight awareness of students was 4.82 before and 5.33 after. Weight awareness has been developed.

Before the program, the mean score of self-health awareness of participants was 4.87, and after it was 5.4 (Table 9). It was found that self-health awareness had been positively increased.

Table 9: Self-Health Awareness (N=870)

<i>Statements</i>	Pre- test		Post- test	
	<i>Mean</i>	<i>Std. Deviation</i>	<i>Mean</i>	<i>Std. Deviation</i>
I'm very self-conscious about my health.	4.95	1.687	5.47	1.41
I'm generally attentive to my inner feelings about my health.	5.14	1.573	5.56	1.29
I reflect on my health a lot.	4.82	1.640	5.40	1.37
I'm concerned about my health all the time.	4.57	1.855	5.15	1.54
Average	4.87	1.69	5.40	1.40

Note: 7= Strongly Agree; 6= Agree; 5= Somewhat Agree; 4= Neither Agree or Disagree 3= Somewhat Disagree; 2= Disagree; 1= Strongly Disagree

Source: Survey, 2022

Table 10: Personal Responsibility (N=870)

<i>Statements</i>	Pre- test		Post- test	
	<i>Mean</i>	<i>Std. Deviation</i>	<i>Mean</i>	<i>Std. Deviation</i>
I notice how I feel physically as I go through the day.	4.53	1.84	5.38	1.43
I take responsibility for the state of my health.	4.92	1.81	5.47	1.42
Good health takes active participation on my part.	4.98	1.66	5.63	1.26
I only worry about my health when I get sick. (R)	5.03	1.71	5.32	1.54
Average	4.86	1.755	5.45	1.41

Note: 7= Strongly Agree; 6= Agree; 5= Somewhat Agree; 4= Neither Agree or Disagree 3= Somewhat Disagree; 2= Disagree; 1= Strongly Disagree

Source: Survey, 2022

Table 11: Health Motivation (N=870)

<i>Statements</i>	Pre- test		Post- test	
	<i>Mean</i>	<i>Std. Deviation</i>	<i>Mean</i>	<i>Std. Deviation</i>
Living life without disease and illness is very important to me.	5.72	1.521	6.03	1.14
My health depends on how well I take care of myself.	5.67	1.417	5.95	1.12
Living life in the best possible health is very important to me.	5.89	1.334	5.99	1.14
Average	5.76	1.4	5.99	1.13

Note: 7= Strongly Agree; 6= Agree; 5= Somewhat Agree; 4= Neither Agree or Disagree 3= Somewhat Disagree; 2= Disagree; 1= Strongly Disagree

Source: Survey, 2022

The mean score of personal responsibility was 4.86 before and 5.45 after (Table 10). The awareness of personal responsibility had also been developed. It was a good sign.

The mean score of health motivation of students was 5.76 before and 5.99 after (Table 11). The awareness of health motivation was also raised.

5. Discussion

The findings of this study demonstrate the significant positive impacts of health awareness workshops and programs on students' lifestyles, attitudes, and behaviors. These results align with prior research emphasizing the effectiveness of structured interventions in promoting health awareness, behavioral change, and overall well-being among youth.

It was shown that just 17.2 percent of students' family members smoke, compared to 30.3 percent of students who are hooked on smoking. This points to a worrying trend of smoking addiction among students that is not directly related to family. Even when family smoking rates are lower, prior research has shown that social circumstances and peer pressure play a major role in influencing teenage smoking behavior (World Health Organization, 2019).

The study revealed a considerable improvement in participants' dental hygiene practices after the workshops, with the percentage of students brushing their teeth twice daily increasing from 70.3 percent to 94.25 percent. This change aligns with findings from similar health intervention programs that emphasize structured health education sessions, which have been shown

to improve hygiene-related behavior (Liu et al., 2017).

The programs successfully decreased students' excessive usage of cell phones and social media. Following the training, just 4.6 percent of students used their gadgets for more than five hours each day, down from 13.4 percent before the intervention. Furthermore, the percentage of students who spent three to four hours on social media dropped from 38.4 percent to 21.3 percent. These results align with a study by Twenge et al. (2018) that demonstrated how instructional programs can effectively reduce screen time and promote healthy technological behaviors.

Before the program, 21 percent of students were unable to share their problems openly, but this number reduced significantly to 5.75 percent after the intervention. Moreover, students who shared problems with their parents increased from 46.1 percent to 57.47 percent. This change indicates a positive shift in communication patterns and aligns with studies suggesting that workshops aimed at improving emotional intelligence and interpersonal communication skills enhance family relationships (Durlak et al., 2011).

After the training, the average personal fitness score increased from 5.01 to 5.45. An encouraging sign of the effectiveness of fitness-related workshops is this improvement. Previous studies have demonstrated that physical fitness programs enhance students' academic achievement, emotional wellness, and physical health (Ortega et al., 2008).

Before the seminars, 75.1 percent of people were aware of a balanced diet; following the workshops, that number rose to 91.61 percent, which is a satisfactory change. This result confirms previous research showing that nutritional education programs are beneficial in encouraging healthy eating habits (Story et al., 2009). Likewise, students' dietary habits improved, as seen by the mean score for healthy eating habits rising from 4.84 to 5.09.

Additionally, the study found gains in self-health awareness (4.87 to 5.4), personal responsibility (4.86 to 5.45), and weight awareness (mean score: 4.82 to 5.33). These enhancements are consistent with earlier studies that show structured health interventions raise students' personal health awareness and cultivate a sense of responsibility for their health (Lippke & Ziegelmann, 2008).

Students' mean health motivation score increased from 5.76 to 5.99. The programs'

effectiveness in motivating children to choose healthier lives is demonstrated by this growth. Research indicates that workshops and motivational interventions are essential for maintaining long-term behavioral changes (Ryan & Deci, 2000).

6. Conclusion and Recommendation

The study demonstrates how well health awareness initiatives work to improve students' habits in areas including social media responsibility, dental hygiene, nutrition knowledge, fitness, and smoking cessation. The effectiveness of focused interventions was demonstrated by the positive improvements in communication patterns, personal responsibility, and self-health awareness. Future studies should examine whether these behavioral modifications are sustainable over the long run, evaluate how socioeconomic and cultural factors affect health treatments, and create scalable models for putting these programs into place in a variety of educational contexts.

Implement regular health and fitness workshops in colleges, with follow-up evaluations to ensure lasting impact. Engage parents in health initiatives to strengthen student outcomes. Advocate balanced technology use and promote programs for nutrition, fitness, and mental health as key educational priorities.

The study's findings underscore the critical role of health education programs in schools to enhance students' well-being. Implementing structured workshops focusing on dental hygiene, nutrition, physical fitness, and responsible technology use can lead to significant improvements in students' health behaviors and communication skills. Educational institutions can be encouraged to integrate these programs into their curricula to foster healthier lifestyles and promote open dialogue between students and parents. Policymakers should support these initiatives by allocating resources and developing policies that prioritize comprehensive health education in schools.

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Declaration of competing interests

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

Data will be made available on request.

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