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Association Between Awareness and Attitudes Toward Non-Communicable Diseases Among University Students in Dhaka

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ABSTRACT

Background: Non-communicable diseases (NCDs) are rising rapidly in Bangladesh, disproportionately affecting younger populations. University students, as future professionals and opinion leaders, represent a critical target for prevention initiatives. Objective: To assess awareness and attitudes toward NCDs among undergraduate students in Dhaka, and examine their relationship with sociodemographic factors and lifestyle behaviors. Methods: A descriptive cross-sectional study was conducted among 45 students from two public universities in Dhaka. Data were collected using a pre-tested, self-administered questionnaire via Google Forms. Awareness was measured on a 10-point scale, and attitudes on a 5-point Likert scale. Descriptive statistics, correlation analyses, and subgroup comparisons were performed using SPSS version 22. Results: The mean awareness score was 6.98 ± 1.22, with high recognition of secondhand smoke (93.3%) and air pollution (84.4%) as risk factors, but major gaps regarding communicability (4.4%) and vaccination (8.9%). The mean attitude score was 3.67 ± 0.48, reflecting positive views on healthy eating and check-ups, but concerning perceptions about exercise and prevention. Awareness and attitudes were strongly correlated ($r = 0.944$, $p < 0.001$). Risky behaviors such as fast-food consumption (82.2%) and inadequate physical activity (46.7%) were prevalent. Conclusion: University students in Dhaka show moderate awareness and mixed attitudes toward NCDs, with a strong awareness–attitude relationship but persistent risky behaviors. Tailored awareness campaigns and university-level health promotion are essential to bridge gaps and foster preventive practices.

Keyword: Non-communicable diseases, Awareness, Attitudes, University students, Bangladesh

Introduction

Non-communicable diseases (NCDs) such as cardiovascular diseases, cancers, chronic respiratory diseases, and diabetes have become the most pressing health challenge of the 21st century. Globally, NCDs are responsible for around 70% of all deaths, translating to more than 41 million lives lost annually (World Health Organization, 2024). It's a common misconception that non-communicable diseases (NCDs) only plague wealthy nations. The reality is far different; these illnesses have become a pervasive global issue, with low- and middle-income countries now bearing the brunt of the burden. Shockingly, these regions are responsible for over 75% of all deaths linked to NCDs worldwide (Salwa et al., 2019). This dramatic shift has been fueled by rapid urbanization, industrial growth, and global influences, which have collectively upended traditional ways of life. Where people once led active lives

within close-knit communities, many are now adopting far more sedentary and isolated routines (Amin et al., 2024).

Nowhere is this crisis more pressing than in South Asia, a region defined by its vast and predominantly young population. The early onset of chronic diseases like diabetes and heart problems doesn't just harm individual health it strikes at the heart of social and economic progress. When these conditions disable people in their prime working years, the consequences are severe: productivity plummets, healthcare expenses skyrocket, and hard-won strides toward the Sustainable Development Goals begin to unravel (World Health Organization, 2024). Making everything worse is a perfect storm of low health literacy, disjointed healthcare services, and deep-seated cultural norms that often stop people from seeking help until it's too late (Torabi et al., 2025).

Bangladesh can be taken as an example that perfectly illustrates these mounting pressures. According to the Ministry of Health and Family Welfare, a staggering 67% of all deaths each year are now caused by NCDs (Banu et al., 2022). The country's health landscape is dominated by cardiovascular disease, diabetes, chronic respiratory conditions, and cancer, with major cities like Dhaka sitting at the very center of this emergency (Mondal et al., 2018). So, what's driving this trend? A combination of modern urban living that discourages physical activity, a growing appetite for processed and fast food, dangerously high levels of air pollution from industry, and alarmingly widespread tobacco use (Riaz et al., 2020). Furthermore, Dhaka's role as the nation's educational hub, home to its largest student population, makes it a critical battleground for shaping the country's future health.

This brings us to a crucial group: university students. This isn't just about their age; it's about a pivotal moment in their lives. As young adults, they are forming the habits they'll carry for decades. They are also the future leaders, professionals, and parents whose attitudes will ultimately influence entire communities. Yet, there's a dangerous disconnect. Many students operate under the false belief that chronic diseases are only a concern for the elderly, a misconception that makes them downplay their own risks (Gamage and Jayawardana, 2017). This sense of invincibility, even among those who know the basics, leads to predictable yet preventable patterns: a diet heavy in fried street food, little to no exercise, and a steadfast avoidance of doctor's visits (Akter et al., 2023; Mohammad et al., 2021).

Despite the clear urgency, research in Bangladesh has largely overlooked this key demographic. Most studies have zeroed in on older adults, rural populations, or patients already diagnosed with a condition—like diabetics or factory workers (Islam et al., 2019; Kabir et al., 2022). While this work is valuable, it creates a blind spot. It fails to see the unique vulnerability of students who are both susceptible to poor health choices and essential for spreading awareness. While Hossain and colleagues (2018) pointed out that factors like family history and growing up in a city influence a student's risk, we still have a glaring lack of insight into what students truly know and how they feel about these lifelong threats.

When it comes to health, what you know and how you feel about it are powerful forces that fundamentally shape your choices. Awareness is about the cold, hard facts understanding what NCDs are, what causes them, and how to avoid them. Attitude, on the other hand, gets at the deeper beliefs and values that either push someone toward healthy habits or hold them back. It's this positive mindset that acts as the critical bridge, turning mere knowledge into real-world action. Without it, simply being aware of the risks often isn't enough to make

someone exercise regularly, choose a salad over fries, or book a preventative check-up (Islam et al., 2023).

We see this knowledge-action gap play out clearly in studies. For instance, research from Sri Lanka and Indonesia found that many students could easily list off the risk factors for chronic diseases. Yet, that textbook knowledge rarely translated into their daily routines. Why? The powerful pull of social circles, the overwhelming pressure of exams, and ingrained cultural traditions frequently derailed their best intentions (Gamage and Jayawardana, 2017; Nursiswati et al., 2025).

This is precisely why we need to take a close look at the awareness and attitudes of university students in Dhaka. Figuring this out isn't just an academic exercise; it's a urgent public health priority. The findings would immediately show us where to even begin with interventions. If students know the facts but just don't seem to care, then programs need to focus on motivation, building confidence, and reinforcing good choices. But if the basic awareness isn't even there, then the first step has to be a massive educational push, perhaps even weaving health topics directly into what they learn at university.

This study therefore investigates the association between awareness and attitudes toward NCDs among undergraduate students in Dhaka. Specifically, it seeks to:

- Assess the level of awareness of NCDs among students.
- Explore their attitudes toward prevention and management of NCDs.
- Examine associations between awareness, attitudes, and sociodemographic characteristics.
- Identify common lifestyle risk behaviors that persist despite awareness.

By addressing these objectives, the study aims to contribute to the evidence base on NCD prevention in Bangladesh, while also highlighting the critical role of young adults in shaping future health trajectories. The findings may inform health promotion strategies that are student-centered, culturally sensitive, and aligned with the broader goal of reducing the burden of NCDs in urban South Asia.

Literature Review

Non-communicable diseases (NCDs) are among the leading causes of morbidity and mortality worldwide, but the knowledge, attitudes, and behaviors associated with them vary significantly across populations. For university students in particular, the evidence is mixed, with some studies suggesting reasonable awareness of risk factors, while others highlight persistent misconceptions and risky lifestyle behaviors. This review summarizes global, regional, and national literature relevant to NCD awareness and attitudes, highlighting gaps that justify the present study.

Global perspectives on NCD awareness and attitudes

Globally, young adults are often perceived as a “low-risk” group for NCDs, but evidence shows that unhealthy behaviors frequently emerge in late adolescence and early adulthood. The World Health Organization (2024) emphasizes that premature onset of cardiovascular diseases, diabetes, and cancers is increasingly being observed in populations under 30 years old, primarily due to poor diet, tobacco use, alcohol consumption, and physical inactivity.

Studies in high-income countries often report relatively higher levels of awareness but not always corresponding positive attitudes. For example, Torabi et al. (2025), in a qualitative study in Iran, observed that even medical students demonstrated fragmented understanding of NCDs, and their attitudes toward prevention were shaped by cultural fatalism and systemic challenges in health service delivery. Similarly, in Indonesia, Nursiswati et al. (2025) found that while knowledge of NCD risk factors was widespread, preventive behaviors such as regular exercise and dietary moderation were inconsistent, often overshadowed by academic pressures and peer norms.

In Europe and North America, public health campaigns have improved awareness of risk factors like smoking, obesity, and excessive alcohol use (Kabir et al., 2022). Yet, awareness alone has not always translated into behavior change, highlighting the need for interventions that target not only knowledge but also motivation, attitudes, and environmental support.

Regional studies in South and Southeast Asia

Within South Asia, several studies have documented the rising burden of NCDs and the importance of early intervention. Gamage and Jayawardana (2017) conducted a school-based study in Sri Lanka, revealing that adolescent frequently conflated NCDs with communicable conditions, suggesting a lack of clarity about the chronic and non-infectious nature of these diseases. Their findings indicate that awareness campaigns must be carefully designed to address misconceptions and to ensure students understand the lifelong implications of NCDs.

In Bangladesh, Hossain et al. (2018) modelled NCD risk using sociodemographic and lifestyle factors among university students. What did they find? Family history of NCDs and unhealthy lifestyle behaviors strongly predicted future disease risk. Similarly, take medical and non-medical students in Dhaka as a case in point. Mondal, Sarker, and Banik (2018) compared these groups, finding significant differences in awareness and risk behaviors. Interestingly, medical students generally showed better knowledge but still reported poor dietary habits and inadequate physical activity.

Other regional studies have further reinforced these trends. Akter et al. (2023) examined secondary school students in Bangladesh and discovered something revealing: although awareness of diabetes and hypertension existed, students often underestimated their personal susceptibility. Take university students in northeast Bangladesh for instance. Mohammad et al. (2021) recorded that they demonstrated awareness of healthy diets but continued to consume fast food and sugary drinks regularly. Surprisingly scarce were actual healthy habits despite this knowledge. Islam et al. (2023) reported similar patterns in eating habits and physical inactivity among Bangladeshi students.

Evidence from India and Nepal echoes these findings. For instance, urban Indian students displayed awareness of the harmful effects of smoking and poor diets but were reluctant to prioritize preventive practices until later in life (Riaz et al., 2020). Such attitudes reflect a cultural norm of postponing health concerns until symptoms arise, which is particularly dangerous in the context of asymptomatic conditions like hypertension and diabetes.

Behavioral risk factors among youth

The prevalence of risky lifestyle behaviors among young people is well documented in both global and regional studies. The WHO STEPwise approach to risk factor surveillance highlights key modifiable risks tobacco use, harmful alcohol consumption, unhealthy diet, and physical inactivity as the primary drivers of NCDs (World Health Organization, 2024).

Among Bangladeshi students, fried and fast food consumption, sedentary habits, and tobacco use are especially prevalent (Mondal et al., 2018; Riaz et al., 2020).

Amin et al. (2024) investigated risk factors for NCDs among university students in Bangladesh following the COVID-19 pandemic. They reported increases in screen time, sedentary behaviors, and unhealthy snacking, suggesting that pandemic-related lifestyle changes may exacerbate NCD risks in this population. Similar post-pandemic shifts have been observed globally, where stress and disruption of routines have reduced physical activity among young adults (Torabi et al., 2025).

Stress and mental health issues also play a significant role in shaping attitudes toward NCD prevention. Students often experience unaddressed anxiety and depression, which can lead to unhealthy coping mechanisms such as overeating, substance use, or neglecting preventive health practices (Akter et al., 2023). This dimension is often overlooked in NCD research but is crucial for designing holistic interventions.

Attitudes and their relationship with awareness

Awareness alone does not guarantee preventive behavior. Positive attitudes such as valuing regular health check-ups, prioritizing exercise, and perceiving personal vulnerability are necessary for translating awareness into action. Research in Bangladesh has shown that even students with high awareness scores often hold negative or indifferent attitudes toward prevention (Mohammad et al., 2021; Islam et al., 2023). For example, many consider exercise a waste of time, or believe that preventive measures can be delayed until later in life.

The relationship between awareness and attitudes has been explored in several studies. Gamage and Jayawardana (2017) reported a moderate correlation among Sri Lankan adolescents, while studies in Indonesia and Iran found weaker associations (Torabi et al., 2025; Nursiswati et al., 2025). If this relationship is strong, as hypothesized in the current study, then awareness campaigns could significantly improve attitudes. However, if the link is weak, more complex interventions targeting attitudes directly would be necessary.

Gaps in existing literature

Despite the growing body of research, gaps remain, particularly in Bangladesh. Most studies have focused on rural populations (Islam et al., 2019), clinical patients (Kabir et al., 2022), or broad national surveys (Riaz et al., 2020). Few have specifically targeted university students in urban centers such as Dhaka, despite their high exposure to lifestyle risks and their influence as future professionals and community leaders.

Additionally, existing research has often measured either awareness or behaviors, without simultaneously assessing attitudes. Yet, attitudes are a crucial mediating factor that determine whether awareness translates into practice. This gap limits the ability of policymakers and educators to design targeted interventions.

Finally, limited attention has been given to the role of digital media in shaping health awareness among students. Given that the internet is a primary source of health information for young adults in Bangladesh (Hossain et al., 2018), further exploration is needed on how online campaigns can be leveraged effectively.

Summary

The literature indicates that while university students may have moderate levels of awareness regarding NCDs, significant misconceptions persist, and risky behaviors remain widespread.

Attitudes often lag behind awareness, creating a gap between knowledge and practice. In Bangladesh, very few studies have investigated the interplay between awareness and attitudes among urban university students, particularly in Dhaka. This study therefore addresses a critical research gap by examining both awareness and attitudes simultaneously, exploring their correlation, and situating findings within the broader public health context.

Methods

Study design and setting

This research adopted a descriptive cross-sectional design to assess the awareness and attitudes of undergraduate students toward non-communicable diseases (NCDs) in Dhaka, Bangladesh. Cross-sectional designs are widely used in public health to capture a snapshot of health-related knowledge, attitudes, and behaviors within a defined population at a given time (Riaz et al., 2020). The study was conducted at two public universities: Jagannath University, one of the country's oldest and most diverse higher education institutions, and Bangladesh Maritime University, a specialized and emerging public institution. These universities were deliberately selected to ensure representation of both general and specialized student populations.

Study population and sampling

The study population comprised undergraduate students aged 18 years and above who were enrolled in these two universities at the time of the survey. A total of 45 students participated. While modest, this sample size aligns with similar exploratory studies on student health in South Asia (Mondal et al., 2018; Gamage and Jayawardana, 2017).

A stratified sampling technique was employed to ensure proportional representation across gender and year of study. Within these strata, students were recruited through convenience sampling, based on accessibility and willingness to participate. Eligibility criteria included being an undergraduate student, being present during the data collection period, and providing informed consent. Exclusion criteria included students absent during the survey period, those unwilling to participate, and those unable to complete the questionnaire due to illness.

Data collection tool

Data were collected using a structured, self-administered questionnaire delivered electronically via Google Forms. Online tools were selected to maximize accessibility, reduce costs, and ensure anonymity an approach increasingly common in student health research (Akter et al., 2023; Amin et al., 2024).

The questionnaire consisted of four major sections:

- **Sociodemographic information** – age, gender, year of study, marital status, residence, family history of NCDs, and primary sources of health information.
- **Awareness of NCDs** – 10 factual items assessing knowledge of disease risk factors, symptoms, and prevention.
- **Attitudes toward NCDs** – 10 Likert-scale statements reflecting beliefs, perceptions, and predispositions toward preventive practices.
- **Lifestyle behaviors** – self-reported dietary patterns, physical activity, sleep, tobacco use, and participation in NCD awareness activities.

The questionnaire was adapted from validated tools used in prior South Asian studies (Islam et al., 2019; Mohammad et al., 2021) and refined through expert review for content validity.

A pilot test with 10 students (not included in the final sample) ensured clarity and reliability, with Cronbach's alpha values confirming internal consistency for the awareness and attitude sections.

Measurement of awareness

Awareness was measured using 10 factual statements such as *"High blood pressure can be present without symptoms"* and *"Physical inactivity is a risk factor for NCDs"*. Response options included "Correct," "Incorrect," and "Don't know." Responses were scored dichotomously, with 1 point for correct answers and 0 points for incorrect or don't know responses, yielding a possible score between 0 and 10. Higher scores indicated greater knowledge about NCDs.

This scoring method is consistent with previous studies on student health awareness (Hossain et al., 2018; Islam et al., 2019). For analysis, mean scores with standard deviations were reported, alongside item-specific response distributions.

Measurement of attitudes

Attitudes toward NCDs were measured through 10 Likert-scale statements (e.g., *"Regular exercise wastes time I could spend otherwise"*). Each statement was rated from 1 = Strongly Disagree to 5 = Strongly Agree. Negatively worded items were reverse-scored to ensure higher scores reflected more favorable attitudes.

The overall Attitude Score for each respondent was computed as the mean of all items, ranging from 1 to 5. Higher scores reflected more positive and proactive attitudes toward NCD prevention. Internal reliability testing yielded a satisfactory Cronbach's alpha, in line with previous studies of youth attitudes in South Asia (Akter et al., 2023).

Data management and analysis

Data were extracted from Google Forms into Microsoft Excel and analyzed using SPSS version 22.

- **Descriptive statistics** (frequencies, percentages, means, standard deviations) summarized demographic variables, awareness, attitudes, and lifestyle behaviors.
- **Independent t-tests and one-way ANOVA** compared mean awareness and attitude scores across subgroups such as gender, year of study, and family history of NCDs.
- **Pearson's correlation coefficient (r)** assessed the relationship between awareness and attitude scores, as both distributions met normality assumptions. For robustness, Spearman's rho (ρ**)** was also computed.
- A **p-value < 0.05** was considered statistically significant.

This analytical approach mirrors comparable student-focused NCD studies in Bangladesh and Sri Lanka (Mondal et al., 2018; Gamage and Jayawardana, 2017).

Results

A total of 45 undergraduate students from two public universities in Dhaka participated in the study. The findings are presented below under four major categories: (1) sociodemographic characteristics of participants, (2) awareness of NCDs, (3) attitudes toward NCDs, and (4) lifestyle risk behaviors. In addition, subgroup analyses and correlation between awareness and attitudes are reported.

Sociodemographic characteristics

The mean age of participants was 23.4 ± 1.8 years, with the majority (51.1%) aged 21–23 years, and 44.4% aged 24 years or older. Most participants were male (64.4%), while 35.6% were female. Nearly all were unmarried (97.8%). Students were predominantly in their third or fourth year of study (91.1%).Table 1 summarizes the sociodemographic profile.

Table 1. Sociodemographic characteristics of participants (n = 45)

Characteristic	n	%
Age group (years)		
≤20	2	4.4
21–23	23	51.1
≥24	20	44.4
Gender		
Male	29	64.4
Female	16	35.6
Year of study		
1–2	3	6.7
3–4	41	91.1
≥5	0	0.0
Marital status		
Unmarried	44	97.8
Married	1	2.2
Residence		
With family	22	48.9
Hostel	21	46.7
Mess/others	2	4.4
Family member with NCD		
Yes	24	53.3
No	16	35.6
Don’t know	3	6.7
Primary source of information		
Internet	30	66.7
Television	2	4.4
Friends	3	6.7
Healthcare workers	3	6.7
University	3	6.7
Others	1	2.2

Note: Internet was by far the most common source of health information.

Awareness of NCDs

The mean awareness score was **6.98 ± 1.22** (scale 0–10). Awareness was highest for risk factors such as secondhand smoke (93.3%) and air pollution (84.4%). Two-thirds correctly identified obesity as an NCD and recognized hypertension as potentially asymptomatic. However, major misconceptions persisted: only **4.4%** correctly recognized that NCDs are not communicable, and only **8.9%** knew that vaccination cannot prevent all NCDs.

Table 2. Awareness of NCDs among participants (n = 45)

Item	Correct (%)	Incorrect (%)	Don't know (%)
NCDs are not transmitted person-to-person	4.4	95.6	0.0
High blood pressure can be asymptomatic	71.1	15.6	13.3
Air pollution can cause stroke/cancer	84.4	6.7	8.9
Consuming >5 g of salt/day increases heart disease risk	53.3	11.1	35.6
Diabetes can damage organs even without symptoms	68.9	13.3	17.8
Secondhand smoke increases NCD risk	93.3	4.4	2.2
Obesity is a non-communicable disease	71.1	11.1	17.8
Physical inactivity is a risk factor	82.2	8.9	8.9
Vaccination cannot prevent all NCDs	8.9	80.0	11.1
NCD prevalence is rising among Bangladeshi youth	80.0	15.6	4.4

Note: Widespread misconceptions about communicability and vaccination highlight urgent knowledge gaps.

Attitudes toward NCDs

The mean attitude score was **3.67 ± 0.48** (scale 1–5). Many students agreed on the importance of healthy eating and check-ups. However, concerning perceptions remained: **37.8% strongly agreed** that exercise is a waste of time, while 31.1% reported feeling embarrassed to discuss NCDs. One-third stated they would only pay attention to prevention if a close contact became ill.

Table 3. Attitudes toward NCDs among participants (n = 45)

Statement (examples)	Strongly Disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly Agree (%)
Risk of NCDs for young people is not very high	31.1	22.2	8.9	6.7	28.9
Regular check-ups unnecessary unless unwell	11.1	44.4	8.9	6.7	26.7
Exercise wastes time	22.2	31.1	4.4	2.2	37.8
Embarrassed to discuss NCDs	11.1	20.0	6.7	28.9	31.1
Will focus on prevention only if relative is ill	15.6	37.8	4.4	2.2	37.8

Correlation between awareness and attitudes

A **very strong positive correlation** was found between awareness and attitudes (Pearson's r = 0.944; Spearman's ρ = 0.939; both $p < 0.001$). This suggests that students with greater knowledge exhibited more positive attitudes toward prevention.

Table 4. Correlation between awareness and attitudes

Variable Pair	Correlation coefficient	p-value
Awareness score vs Attitude score (Pearson's r)	0.944	<0.001
Awareness score vs Attitude score (Spearman's ρ)	0.939	<0.001

Subgroup comparisons

No statistically significant differences were found in awareness or attitudes by age, gender, or family history of NCDs ($p > 0.05$). Males had slightly higher mean scores (Awareness 7.17

vs. 6.63; Attitudes 3.75 vs. 3.52), and first- and second-year students scored marginally higher than senior students, though these were not significant.

Lifestyle risk behaviors

Multiple high-risk behaviors were reported. Most students consumed fried/fast food more than three times per week (82.2%), while nearly half engaged in inadequate physical activity (<30 minutes/day, 46.7%). One-third reported tobacco use in the past 30 days. Preventive behaviors were limited: only 37.8% had checked blood pressure in the past year, and only 22.2% had participated in an NCD awareness programme

Table 5. Risky behaviors among participants (n = 45)

Behavior	Yes (%)	No (%)
Eat fried/fast food >3 days per week	82.2	17.8
<30 minutes physical activity daily	46.7	53.3
Add extra salt to food	13.3	86.7
Sleep <6h or >10h per day	64.4	33.3
Sugary drinks multiple times daily	44.4	55.6
Smoked/used tobacco in past 30 days	31.1	68.9
Unaddressed stress/anxiety	66.7	33.3
Participated in NCD awareness programme	22.2	77.8

Note: Widespread unhealthy behaviors persisted despite moderate awareness.

Discussion

This study explored awareness and attitudes toward NCDs among university students in Dhaka, revealing both promising strengths and notable gaps with implications for public health. Awareness levels were moderately high, with strong recognition of risk factors such as secondhand smoke and physical inactivity, but serious misconceptions persisted regarding the communicable nature of NCDs and the role of vaccination. These gaps echo findings from Sri Lanka and South Asia, where fragmented knowledge leads to reduced urgency in preventive behavior (Gamage and Jayawardana, 2017).

Attitudes were moderately positive, but misconceptions remained common. A significant proportion of students undervalued exercise, avoided discussing NCDs, or delayed prevention until illness affected someone close to them. These patterns align with Southeast Asian findings where youth recognize health importance but deprioritize prevention due to academic and social pressures (Nursiswati et al., 2025).

A striking result was the very strong correlation between awareness and attitudes ($r = 0.944$, $p < 0.001$), stronger than reported in many prior studies (Amin et al., 2024; Banu et al., 2022). This suggests that awareness-building could strongly influence preventive attitudes in Bangladeshi university populations.

No significant subgroup differences were observed across gender, age, or family history, suggesting broadly distributed gaps. However, risky behaviors including excessive fast-food consumption, low physical activity, tobacco use, and stress remained common despite awareness. This knowledge–behavior gap highlights the need for supportive university environments and structured interventions, as seen in prior regional programs (Salwa et al., 2019; Kabir et al., 2022).

Overall, the findings emphasize that although awareness exists, translation into preventive action is limited. Digital platforms, university-based health education, and peer-led interventions could bridge this gap and support healthier lifestyle adoption.

Conclusion

This study highlights moderate awareness but persistent misconceptions and risky behaviors regarding NCDs among Dhaka university students. The strong awareness–attitude correlation indicates that strengthening health literacy may foster positive attitudes, yet the prevalence of fast-food consumption, inactivity, tobacco use, and limited preventive practices underscores a critical need for interventions. Student-centered awareness campaigns, integration of preventive health into university curricula, and institutional support for healthy environments are recommended to reduce the future NCD burden in Bangladesh.

Recommendations

Based on the findings of this study, several recommendations are proposed:

1. **University-based health promotion**: Institutions should integrate structured NCD awareness and prevention programs into their curricula, ensuring students receive accurate knowledge about risk factors, prevention strategies, and the non-communicable nature of NCDs.

2. **Digital health campaigns**: As the internet is the primary source of health information for students, tailored digital campaigns using social media and interactive platforms could effectively address misconceptions and promote healthier behaviors.

3. **Campus wellness infrastructure**: Universities should provide supportive environments by promoting affordable healthy food options, accessible recreational facilities, and stress management programs.

4. **Policy engagement**: Collaboration between universities, health ministries, and NGOs is essential to design sustainable, youth-centered strategies for reducing NCD risk factors at an early stage.

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