Original Research Article

Nutritional Literacy and Dietary Habits Among City of Germantown High School Students

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ABSTRACT

Nutrition and health knowledge are fundamental determinants of dietary behavior. This study evaluated awareness levels among Germantown high school students to identify barriers to healthy behaviors. In 2025, 56 students aged 16–18 completed an anonymous online questionnaire covering nutrition knowledge and eating habits. Data were analyzed using descriptive statistics, and inferential analyses consisted of two-sample *t*-tests and one-way ANOVA *F*-tests to compare different demographic subgroups. The overall awareness rate was low at 30.36%. Significant correlations emerged with healthcare exposure. Respondents with healthcare study or work experience achieved a 75.36 mean awareness score, compared to 59.39 for those without. Digital media platforms were the primary information source (78.57%), while school education accounted for 21.43%. Students demonstrated high awareness in Pathophysiology (75.36%) but deficits in Nutritional Literacy (55.16%). Although 60.71% claimed to actively limit unhealthy foods, cafeteria purchases were dominated by French fries (36.36%) and fried chicken (36.36%). Key barriers included taste (60.61%), inconvenience (39.39%), and time (36.36%). Because students rely heavily on digital media platforms that provide inconsistent guidance, structured school nutrition education and cafeteria reform are vital to align intentions with healthy dietary outcomes. Furthermore, collaboration among food manufacturers, the media, and public health sectors is necessary to cultivate a supportive food environment.

Keywords: Adolescents; nutrition literacy; awareness; dietary behavior; healthy eating

INTRODUCTION

Overweight and obesity rates in the Greater Memphis area are currently among the highest in the United States, a trend that extends significantly into its suburban communities, including Germantown, Tennessee (1). The region has already reached a critical threshold: nearly three in four adults in the metropolitan area are currently classified as overweight or obese, accounting for over 470,000 residents across Shelby County (1, 2). This is driven by an adult obesity rate of 45.1% within Memphis city limits and 39.6% countywide. Even in affluent suburban enclaves like Germantown, obesity remains a primary driver of local mortality rates, directly fueling chronic conditions like hypertension (affects 41.0% of the local population) and cardiovascular disease (CVD),

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Accepted July 10, 2026
https://doi.org/10.70251/HYJR2348.44211220

which continues to be the leading cause of death across Shelby County (1, 2). While environmental factors such as physical inactivity and pollution contribute to this public health burden, epidemiological data strongly suggest that dietary choices are the primary contributors to chronic conditions, including hypertension, type 2 diabetes mellitus (T2DM), and metabolic syndrome, which frequently precede cardiac failure (3). A balanced diet serves as a critical preventative measure that supports systemic homeostasis, stabilizes body weight, and significantly reduces the risk of 13 distinct types of cancer (4). Achieving these systemic health benefits requires a sustained adherence to healthy eating patterns, defined as a balanced intake of proteins, carbohydrates, fats, vitamins, and minerals.

It is widely accepted that higher levels of nutrition knowledge serve as a direct catalyst for healthier dietary behaviors, whereas lower literacy is closely linked to poor eating habits (5). Standard nutritional literature frequently addresses health literacy barriers within under-resourced urban settings (6, 7). Consequently, less is known about the specific socioeconomic and behavioral dynamics driving dietary choices in high-income areas. In public health discourse, wealthy suburban enclaves are often overlooked under the assumption that greater community and family resources inherently translate to higher health literacy and superior nutritional knowledge (8, 9). This study challenges that assumption by examining the localized health and nutrition awareness level of adolescents within a high-resource environment.

Furthermore, a notable gap remains between theoretical public health recommendations and real-world dietary behavior, particularly among adolescents (10). Informal observations by the study team within Germantown school cafeterias revealed that students consistently chose low-nutrient items over healthier alternatives. Because dietary patterns established during youth serve as the foundational blueprint for lifelong habits, identifying the specific systemic and personal barriers that disrupt healthy choices in adolescence is critical to designing effective, long-term interventions (10–13).

The purpose of this survey-based study was to comprehensively assess nutrition and health knowledge alongside the actual eating habits of adolescents aged 16–18. By identifying the unique systemic and personal barriers to healthy eating that persist within well-resourced, affluent suburban environments, this research aims to provide an empirical and scientific rationale for targeted, school-based health interventions.

METHODS AND MATERIALS

Study design and participants

The Nutrition and Health Awareness Survey was conducted in February 2025 in Germantown, Tennessee, to assess students' understanding of healthy eating principles, macronutrients, and the relationship between diet and chronic disease. The study protocol and survey instrument were reviewed and granted institutional approval by the school administration following ethical guidelines for educational research. Given the completely anonymous, voluntary, and minimal-risk nature of the questionnaire, parental consent was waived by the administration. To obtain participant assent, an introductory statement was included at the start of the online survey. This statement informed minor participants that the study was voluntary, anonymous, and for academic research purposes. Inclusion criteria required participants to be full-time students in Germantown, Tennessee, between 16 and 18 years of age. The introductory text further clarified that completing and submitting the questionnaire constituted their informed assent to participate.

A convenience sampling strategy was used. Homeroom teachers emailed the survey link to eleventh- and twelfth-grade students at Houston High School. Approximately 400 students received the survey link. Participation did not take place as a mandatory activity during instructional time, and participants completed the questionnaire independently. The link remained active for exactly one week before being deactivated at the end of February, with the vast majority of submissions occurring within the initial 24 to 48 hours of distribution. Ultimately, a total of 56 students completed the questionnaire, yielding an approximate response rate of 14.0%. To ensure data quality, the online survey platform was configured to mandate a response for every item before a submission could be finalized. Consequently, no incomplete or partial datasets were generated, and all 56 completed submissions were deemed valid and included in the final analysis.

Questionnaire and scoring

The 38-item questionnaire was divided into three primary sections: sociodemographic characteristics, nutrition and health literacy, and dietary habits. The nutrition and health knowledge portion consisted of 19 questions categorized into three domains: General Principles, Nutritional Literacy, and Pathophysiology (the link between diet and disease prevention).

The questions utilized a mix of formats, including

single-choice questions, multiple-choice questions, and Likert-scale questions (ranging from "Strongly Disagree" to "Strongly Agree"). A weighted scoring system (0–100) was applied.

For single-choice questions, correct answers were assigned 4.0 points and defined as "knowing" the item, incorrect or "Don't Know" responses received 0 points. For multiple-choice questions, each question included five options, including one "Don't Know" response and at least two correct answers. Correct selections earned 1.5 points each. An additional 1.5 points were awarded if the respondent avoided selecting any incorrect options. "Knowing" a multiple-choice item was defined as selecting at least two correct answers without choosing a wrong answer. For Likert-scale questions, responses were recorded on a scale from 5 ("Strongly Agree") to 1 ("Strongly Disagree"). Responses of "Strongly Agree" or "Somewhat Agree" were categorized as "knowing" the item.

Awareness score was the cumulative score of the 19 nutrition and health knowledge questions. A score of 70 was defined as the threshold for "nutrition and health awareness."

Total Awareness rate is calculated as: (Total number of participants meeting the awareness threshold / Total number of participants who completed the survey) × 100%. Each item's Awareness Rate was calculated as: (Number of participants defined as "knowing" the specific question / Total number of participants who completed the survey) × 100%.

Statistical analysis

Statistical analyses were performed in R (version 4.2.0). Sociodemographic characteristics were treated as categorical variables and expressed as percentages for a descriptive analysis. Additionally, inferential analyses were performed to explore the associations between sociodemographic characteristics and their influence on nutrition and health knowledge awareness scores. These inferential analyses were performed within a linear modelling framework where each sociodemographic characteristic was evaluated as a categorical predictor against the continuous awareness score. A separate simple linear model regressing awareness score against each individual sociodemographic characteristic was fit using the lm() function in R. As there were five sociodemographic characteristics of interest, five separate linear models were fit. From these linear models, two-sample Student's *t*-tests (for sociodemographic characteristics with two levels), one-way ANOVAs (for sociodemographic characteristics with multiple levels), and 95% *t* confidence intervals for subgroup-specific means were computed using model coefficient, contrast, and pooled variance estimates. Prior to inferences, all models' assumptions were verified. Normality of residuals was confirmed with quantile-quantile plots, homoscedasticity was confirmed with residuals vs. fitted plots, the absence of influential observations and outliers was confirmed with residuals vs. leverage plots and with visual inspection, and the independence assumption was presumed based on the autonomous and anonymous nature of the online survey completion.

For sociodemographic variables with two levels (gender, healthcare exposure, history of chronic medical conditions), Student's two-sample *t*-tests were performed to compare mean awareness scores between the two levels. Because the overall sample size was 56 respondents, these models utilized 54 residual degrees of freedom (sample size minus estimated parameters). Given that the assumption of homoscedasticity was met, pooled variance estimates from the linear models were utilized to compute subgroup-specific 95% confidence intervals for the mean awareness scores from a *t*-distribution with 54 degrees of freedom.

On the other hand, for sociodemographic variables with more than two levels (family income, ethnicity), omnibus one-way ANOVA *F*-tests were performed to determine whether any difference in awareness scores existed between the various levels. The *F*-test for family income utilized a numerator degrees of freedom of 3 and a denominator degrees of freedom of 52, while the F-test for ethnicity utilized a numerator degrees of freedom of 4 and a denominator degrees of freedom of 51. Subgroup-specific 95% confidence intervals for the means of the different levels of these variables were similarly computed from a *t*-distribution using pooled variance estimates and their respective denominator (residual) degrees of freedom. Post hoc multiple comparison two-sample *t*-tests were only reserved if an omnibus *F*-test achieved statistical significance.

To ensure the robustness of the findings of our two-sample Student's *t*-tests and one-way ANOVA *F*-tests, nonparametric sensitivity analyses were conducted using Mann-Whitney-Wilcoxon tests for our two-level variables and Kruskal-Wallis tests for our multi-level variables. These nonparametric alternatives yielded identical statistical conclusions as their parametric counterparts; however, because the results were identical and the underlying parametric assumptions were met, only the parametric tests' findings are reported. Finally, for all

inferential analyses, a significance level of 0.05 was selected. Because these sociodemographic comparisons were fundamentally exploratory and designed for baseline hypothesis generation, primary analyses were conducted without formal alpha-level adjustments for multiplicity; a Bonferroni adjustment was reserved exclusively for post hoc pairwise comparisons for sociodemographic characteristics with multiple levels.

RESULTS

Sociodemographic characteristics of respondents

The study sample consisted of 56 respondents aged 16 to 18 years, representing a racially diverse population. All participants were full-time high school students. Males accounted for 53.57% and females for 46.43%. Notably, 53.57% of respondents reported a household income exceeding $150,000. Additionally, 19.64% reported a history of chronic disease, and 17.86% indicated having exposure to healthcare environments through current or past employment, or related studies. A comprehensive, itemized breakdown of these descriptive baseline metrics is presented in Table 1.

Awareness rate of nutrition and health knowledge

The overall awareness rate was 30.36%. The overall mean awareness score was 62.24.

Among the three domains of nutrition and health knowledge, the section concerning Pathophysiology demonstrated the highest awareness rate at 75.36%. This was followed by General Principles at 60.71% and Nutritional Literacy at 55.16%. The detailed awareness rates for each individual survey item are presented in Table 2.

Source of nutrition and health knowledge

Participants identified several primary sources for information regarding healthy eating. The most prevalent source was digital media platforms, cited by 78.57% (n = 44) of respondents. This was followed by family and friends (50.00%, n = 28), healthcare providers (39.29%, n = 22), and school-based education (21.43%, n = 12). Community programs represented the least common source of information, accounting for only 1.79% (n = 1) of the sample. An itemized breakdown of these information channels is detailed in Figure 1.

Factors influencing nutrition and health knowledge awareness score

The mean awareness score among female respondents was 64.71 (95% CI: [58.92, 70.50]), compared to 60.10 for male respondents (95% CI: [54.71, 65.49]); this difference between the genders was not statistically significant according to a two-sample t-test ($t(54) = 1.17$, $p = .248$). Similarly, there was no statistically significant difference in the mean awareness score of students with chronic medical conditions, 59.64 (95% CI: [50.66, 68.61]), compared to 62.88 (95% CI: [58.44, 67.32]) for students without chronic medical conditions (t(54)

Table 1. *Sociodemographic characteristics of adolescent respondents (N = 56) in Germantown, Tennessee (2025) and corresponding nutrition and health knowledge awareness rates.*

Sociodemographic characteristics	Frequency (n)	Percentage (%)	Awareness rate (%)
Gender			
Female	26	46.43	42.31
Male	30	53.57	20.00
Race			
Asian	19	33.93	47.37
Black	6	10.71	33.33
Hispanic	5	8.93	40.00
White	22	39.29	13.64
Other	4	7.14	25.00
Annual household income			
<$50,000	8	14.29	50.00
$50,000 - $99,999	11	19.64	9.09
$100,000 - $150,000	7	12.50	14.29
>$150,000	30	53.57	36.67
History of chronic disease			
Yes	11	19.64	18.18
No	45	80.36	31.11
Healthcare exposure			
Yes	10	17.86	70.00
No	46	82.14	21.74

Notes: N = total sample size; n = subgroup frequency. Annual household income is reported in U.S. dollars (USD). Healthcare exposure denotes participant involvement in healthcare environments through current or past employment, volunteer work, or related academic studies. Awareness rate represents the specific percentage of participants within that demographic subgroup who met or exceeded the threshold score of 70 on the nutrition and health knowledge portion of the 38-item survey.

Table 2. *Itemized awareness rates of adolescents (N = 56) across the three primary knowledge domains of the survey.*

The items of nutrition & health knowledge	Awareness rate (%)
General principles	60.71
1. How familiar are you with USDA's nutrition guide, MyPlate?	44.62
2. In your opinion, how much of your plate should be vegetables for it to be considered healthy?	82.71
3. Which of the following would you consider the important aspects of healthy eating?	82.14
4. Which of the following would you consider part of the healthy, balanced meal?	78.57
5. Do you know what type of milk is recommended for adults by USDA and American Heart Association?	12.50
Nutritional literacy	55.16
6. Which of the foods do you think are good source of vitamin C?	58.93
7. Do you know which food is most beneficial to prevent Cardiovascular disease?	69.64
8. What do you think fruits are good source of?	32.14
9. Which of the following nutrients can you get from whole fruit that is not usually found in juice?	48.21
10. Nuts and seeds are good sources of which of the following?	37.50
11. What important mineral is found in all dairy products?	85.71
12. Which of the following is whole grain?	51.79
13. Which of the following foods are high in saturated fat?	42.86
14. Which of the following do you think is correct?	69.64
Pathophysiology	75.36
15. On a scale of 1-5, how important do you think eating a healthy balanced diet is in helpingprevent chronic diseases?	87.50
16. On a scale of 1-5, what extend do you believe unhealthy diet can contribute to the developmentof diabetes?	82.14
17. On a scale of 1-5, do you believe eating too much processed meat increases the risk of bowel cancer?	48.21
18. On a scale of 1-5, do you believe eating a diet rich in fruits and vegetables can lower your risk of developing certain cancers?	66.07
19. Which of the following do you think healthy diet can help with?	92.96

Notes: N = total sample size; USDA = United States Department of Agriculture. Domain awareness rates (alongside domain titles) represent the percentage of cumulative respondents who achieved the threshold criteria for that specific domain. Individual item awareness rates represent the percentage of total participants defined as "knowing" that particular question based on the study's weighted scoring criteria: earning 4.0 points for correct single-choice options, selecting at least two correct answers without choosing a wrong answer for multiple-choice questions, or selecting "Strongly Agree" or "Somewhat Agree" on 1–5 Likert scales.

= -0.65, p = .519). However, a significant difference in mean awareness scores was detected between students with prior healthcare exposure (75.35, 95% CI: [66.76, 83.94]) and students without such experience (59.39, 95% CI: [55.39, 63.40]). Students with healthcare exposure had awareness scores that were 15.96 points higher than those without (95% CI: [6.48, 25.43], $t(54) = 3.38$, p = .001).

With regards to income category, the mean awareness score for students with family income under $50,000/year was 61.50 (95% CI: [50.85, 72.15]), 58.95 (95% CI: [49.87, 68.04]) for students with family income between $50,000 – $100,000/year, 59.71 (95% CI: [48.33, 71.10]) for students with family income between $100,000 – $150,000/year, and 64.23 (95% CI: [58.73, 69.73]) for students with family income over $150,000/year. Overall, there was no statistically significant difference in mean awareness scores between the different income categories

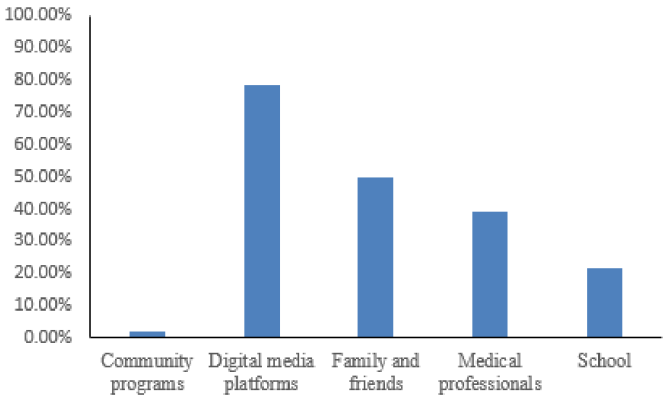

Figure 1. *Primary sources of nutrition and health knowledge among adolescent respondents. The bars represent the percentage of participants who reported obtaining health and nutrition knowledge or guidelines from each respective source of information. Participants were able to select multiple information sources in the survey, therefore percentages sum to >100%.*

($F(3, 52) = 0.43$, $p = .736$). With regards to ethnicity, the mean awareness score was 57.59 (95% CI: [51.35, 63.84]) for White students, 64.83 (95% CI: [52.87, 76.79]) for Black/African American students, 67.76 (95% CI: [61.04, 74.48]) for Asian students, 61.20 (95% CI: [48.10, 74.30]) for Hispanic students, and 59.00 (95% CI: [44.35, 73.65]) for students who declined to self-identify. Again, there was no overall statistically significant difference in mean awareness scores by ethnicity ($F(4, 51) = 1.342$, $p = .267$).

The distribution of individual participant awareness scores across these various demographic and experiential subgroups is visually summarized in Figure 2.

Dietary behaviors and habits

Respondents' self-assessment of their dietary health revealed a significant lean toward poor nutrition. While only 8.93% of students considered their diet "very healthy" and 32.14% "somewhat healthy," the majority (58.93%) characterized their eating habits as "not very

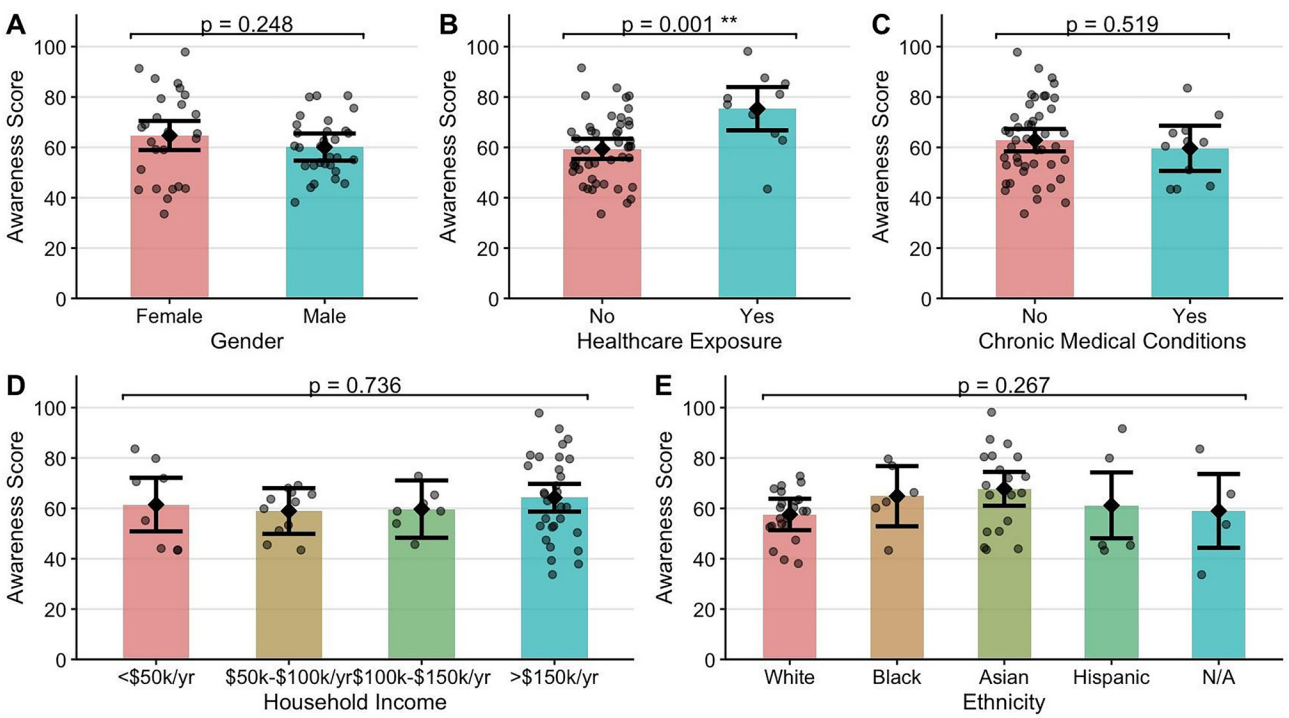

Figure 2. *Mean nutrition and health knowledge awareness scores of participants across sociodemographic subgroups, stratified by (A) gender, (B) healthcare exposure, (C) history of a chronic medical condition, (D) family income category, and (E) ethnicity. Each point represents the awareness score of a single individual belonging to that subgroup. Bars and diamonds represent the mean awareness score of that subgroup, whereas error bars represent the 95% t confidence interval. P-values above each plot represent either the t-test for the difference between the two levels (A, B, C) or the F-test for the presence of any difference between multiple levels (D, E). Of note, prior healthcare exposure was the only sociodemographic factor associated with significantly higher mean awareness scores.*

healthy" or "unhealthy." When identifying the primary obstacles to maintaining a nutritious diet, students cited taste and flavor as the most prevalent barrier (60.61%), followed by inconvenience (39.39%), time constraints (36.36%), household preferences (27.27%), and financial cost (21.21%). Notably, only 12.12% of students identified a lack of knowledge as the primary barrier, despite the low overall awareness scores.

Regarding specific food groups and food management, 62.50% of students reported consuming fruits and vegetables daily, while 33.93% consumed them a few times per week, and 3.57% rarely consumed them.

Efforts to improve dietary quality were mixed: 60.71% of respondents stated they actively tried to limit unhealthy foods, whereas 39.29% did not make such attempts.

Engagement with nutritional information was also low, as only 17.86% of students reported "always" reading food labels, compared to 48.21% who did so "sometimes," 21.43% who did so "rarely," and 12.50% who "never" checked labels. The top three most frequently consumed breakfasts were eggs (46.43%), milk and yogurt (28.57%), and fruits (28.57%). The three most frequently purchased items in the cafeteria were French fries (36.36%), fried chicken (36.36%), and fruits (27.27%). When asked to identify their least healthy dietary behaviors, students most frequently reported consuming excessively large meals (58.93%), maintaining a high intake of processed foods like chips, soda, and fast food (42.86%), and skipping breakfast (33.93%).

DISCUSSION

This study was conducted to comprehensively assess the nutrition and health knowledge level of Germantown high school students. The sample represented a well-educated cohort from a relatively affluent and socioeconomically stable demographic. However, despite these high-income and well-educated characteristics, the overall baseline awareness rate was notably low at 30.36%.

Demographic influences on awareness

Students with prior healthcare exposure achieved a mean awareness score of 75.35, suggesting that specialized exposure or education is a highly effective driver of nutritional knowledge. Interestingly, no significant differences in awareness were observed between respondents with chronic diseases and those without. This finding contradicts the conventional expectation that a medical diagnosis serves as a catalyst for health education (14, 15). It suggests that, for many adolescents, a chronic condition may not yet be perceived as a personal "teachable moment." Furthermore, no statistically significant differences in nutrition literacy emerged across racial groups, household incomes, or genders. While conflicting findings have been reported elsewhere regarding demographic effects, our study demonstrated a lack of demographic variance (16–19). This outcome is likely attributable to our constrained sample size and specific school location. Future regional studies with larger cohorts are needed to confirm these trends across the wider Memphis area.

The conceptual gap: theoretical awareness vs. functional literacy

A primary finding of this study is the contrast between students' high awareness rate of disease prevention and their limited technical knowledge of nutrition. Among the three domains of nutrition and health knowledge, Pathophysiology awareness was the highest at 75.36%, with a significant 92.86% of respondents identifying the critical link between a balanced diet and general well-being. This suggests that public health messaging regarding the long-term consequences of diet has been effectively internalized; students broadly value "healthy eating" as a concept.

However, this high level of general awareness does not translate into specific nutritional proficiency. The domain of Nutritional Literacy yielded the lowest overall awareness rate at 55.16%. Within this category, the awareness of fruit-specific nutrition was the most deficient, at only 32.14%. This highlights a deficit: the actual nutritional value of food is absent from many students' minds and is rarely factored into daily dietary selections. Consequently, targeted efforts are needed to improve functional knowledge of food nutrition facts, thereby enabling students to make more rational food choices.

The knowledge-behavior gap

While students acknowledged that food impacts long-term health, there was a clear disconnect in how that knowledge translates into behavioral outcomes. Although 60.71% of students stated they actively attempted to limit unhealthy foods, this intention was routinely undermined by actual purchasing habits. In the school cafeteria, the most frequently purchased items were French fries and fried chicken, suggesting that the appeal of taste

outweighed that of health.

Despite their stated interest in health, only 17.86% of students reported "always" reading food labels. This suggests that even when students want to choose healthy options, they may not actually know how to identify them in a processed-food environment, relying on preconceived notions of healthiness instead of the actual nutritional data.

Adolescent dietary behavior was further characterized by poor meal structure and inadequate portion control. Over half of the respondents (58.93%) admitted to eating excessively large meals, and 42.86% reported high intakes of processed snack foods like chips and soda. Additionally, 33.93% frequently skipped breakfast, a habit that often leads to overcompensating with high-calorie, low-nutrient foods later in the day.

Existing positive habits

Despite these behavioral challenges, the study identified significant protective factors that serve as a strong foundation for future health interventions. Promisingly, nearly all students (96.43%) consumed fruits and vegetables several times a week, with 62.50% doing so daily. Furthermore, home-based breakfast choices frequently included nutrient-dense options such as eggs (46.43%), milk/yogurt (28.57%), and fruits (28.57%). This pattern implies that the behavioral breakdown occurred primarily in the autonomous, peer-driven environment of the school cafeteria rather than the home. Identifying these healthy anchor habits provides a strategic opportunity for schools to replicate home-based dietary successes within an institutional setting.

Barriers to implementation

Despite the high socioeconomic status of the sample (53.57% reporting an annual household income exceeding $150,000), financial cost (21.21%) was still cited as a barrier, though it was dwarfed by taste (60.61%), inconvenience (39.39%), and time (36.36%). This suggests that even when resources are available, the path of least resistance, consisting of fast, flavorful, and processed food, prevails in the suburban adolescent lifestyle.

Institutional shortcomings

While public discourse increasingly emphasizes healthy lifestyles, these efforts are often undermined by the pervasive marketing of ultra-processed products high in fats, sugars, sodium, and preservatives (20). Consequently, addressing these dietary challenges necessitates moving beyond individual-level education toward systemic environmental reform. Our data indicated that only 21.43% of students received nutrition information from school. These low awareness scores, combined with the dominance of processed items in cafeteria purchases, suggest that the school environment remains a missed opportunity for health intervention. To address this, schools should introduce mandatory nutrition and health classes while replacing processed offerings with healthier food options in the cafeteria.

Limitations

This study is subject to several limitations. First, a convenience sampling strategy was used to recruit students from a single high school; the small sample size limits the generalizability of the results to broader adolescent populations. Second, to preserve absolute participant anonymity, identifiable information was not tracked during data collection. Consequently, the study design could not technologically prevent or identify duplicate survey submissions. To reduce this risk, instructions were embedded within the survey header and communicated by homeroom teachers directing students to submit the questionnaire only once. The potential for duplicate entries remains an unmeasurable factor in the dataset. Third, the United States Department of Agriculture updated its guideline from the portion-based MyPlate model to the New Food Pyramid framework (21, 22). This transition directly impacted the scoring of a question under the "General Principles" section: "Do you know what type of milk is recommended for adults?" Responses selecting whole milk were marked incorrect based on the active MyPlate guideline at that time, which recommended skim or low-fat milk. Because these responses would be considered correct under the current guidelines, lower performance on this item reflects a guideline conflict rather than a lack of nutritional awareness. Finally, variations in scoring criteria and questionnaire design may limit the generalizability of the results compared to other studies.

CONCLUSION

The nutritional awareness of Germantown high school students is suboptimal, characterized by a heavy reliance on social media as a primary source of nutrition and health information. This reliance likely contributes to the identified "conceptual gap," where students value the abstract ideas of health but lack functional knowledge of nutrients. Implementing structured, evidence-based

nutrition education in schools is essential to provide adolescents with the foundational literacy required to establish informed dietary habits early in life.

However, education alone is insufficient to bridge the "knowledge-behavior gap." Systemic change is required to reform the school cafeteria environment, ensuring that nutritious options are as accessible and appealing as processed alternatives. Furthermore, collaboration between food manufacturers and the media is necessary to create a supportive food environment, in which students can be empowered to translate their healthy intentions into sustainable choices.

ACKNOWLEDGEMENTS

The authors gratefully acknowledge Dr. Qi Zhao, Professor in the Department of Preventive Medicine at the University of Tennessee Health Science Center, College of Medicine, for her valuable guidance and advice on the development of the survey questions.

FUNDING SOURCES

This research was supported by Backyard Eggs, a local small business in Germantown, Tennessee, which provided financial coverage for the manuscript submission and publication fees.

CONFLICT OF INTEREST

The authors declare that there are no conflicts of interest related to this work. While the manuscript submission and publication fees were supported by the local business Backyard Eggs, this financial relationship did not influence the objectivity, data collection, or interpretation of results.

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