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# NUTRITION KNOWLEDGE AMONG COLLEGE STUDENTS: A NARRATIVE REVIEW

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**ABSTRACT**
College is an important stage for developing eating habits that may continue into adult life. Students often make their own food choices while dealing with academic pressure, irregular schedules, limited cooking skills and financial concerns. This narrative review examines nutrition knowledge among college and university students, factors related to their knowledge, the link between knowledge and eating habits, and the effect of nutrition education. Research from different countries shows that many students have only moderate or inadequate nutrition knowledge, especially about fat, salt and sugar. Female students and students studying health-related subjects often have better scores. Students living with family also tend to have better knowledge than those living independently. Better nutrition knowledge is generally linked with healthier food choices, but knowledge alone does not always lead to healthy eating. Cost, taste, convenience, stress, peer influence and the campus food environment can strongly affect food choices. Classroom education and mobile health tools can improve nutrition knowledge, but these approaches work better when healthy and affordable food is also available. More long-term studies and common assessment tools are needed.
**KEYWORDS:** nutrition knowledge, college students, nutrition education, dietary behavior, food literacy, university health

## 1. INTRODUCTION

The college years are an important period for developing long-term eating habits. Many students begin making food decisions without the regular guidance they received at home. At the same time, they may face busy academic schedules, financial limitations, limited cooking experience and easy access to fast food. These factors can affect diet quality and may contribute to future health problems such as obesity and other diet-related diseases.
Nutrition knowledge means understanding basic nutrition principles, the nutrient content of foods, dietary recommendations and the relationship between food and health. Earlier research suggests that students with better nutrition knowledge may be more likely to read food labels and eat fruits, vegetables and other healthier foods. However, many students still have important gaps in nutrition knowledge even when they understand that healthy eating is important.
This review brings together available research on nutrition knowledge among college students. It focuses on four areas: the overall level of nutrition knowledge, factors related to differences in knowledge, the relationship between knowledge and eating behavior, and the effectiveness of nutrition education interventions.

## 2. METHODOLOGY

This paper is a narrative review. Relevant peer-reviewed studies were identified from the biomedical and nutrition literature using terms such as nutrition knowledge, college students, university students, dietary habits and nutrition education. Cross-sectional studies, systematic reviews and intervention studies were considered. Studies were given greater attention when they used a validated nutrition knowledge questionnaire and included undergraduate or postgraduate students. Research on food literacy, dietary attitudes and the campus food environment was also considered when it helped explain students' nutrition knowledge and food choices. Because this was a narrative review, the purpose was to summarize major themes rather than perform a formal systematic assessment of every available study.

### 3. Nutrition Knowledge among College Students

Overall, research suggests that nutrition knowledge among college students is often moderate and may be inadequate in some groups. Students commonly have difficulty answering questions about the fat, salt and sugar content of foods. Similar gaps have been reported in studies from different countries, showing that the problem is not limited to one region or education system.
Students studying health-related subjects generally perform better than students from other academic fields. However, being enrolled in a health-related course does not guarantee strong nutrition knowledge. Some nursing and allied health

students have also shown gaps in specific nutrition topics. This suggests that nutrition education may need to be strengthened even in courses that are related to health.

## 4. Factors Related to Nutrition Knowledge

### 4.1 Gender

Several studies report that female students tend to have higher nutrition knowledge scores than male students. This difference may be related to greater interest or exposure to health, diet and body-related information. However, the reasons are not fully established and need further study.

### 4.2 Field of Study and Academic Level

Students studying nutrition, dietetics and other health-related subjects usually have better nutrition knowledge because they receive more relevant academic exposure. Older and more advanced students may also have slightly higher scores, possibly because of greater exposure to health information. Even so, knowledge gaps can remain in specific technical areas.

### 4.3 Living Arrangement

Living arrangements may affect both nutrition knowledge and food habits. Students who live with their families may have more opportunities to observe food preparation and participate in dietary decisions. Students living in hostels or residence halls may have less access to cooking facilities and may depend more on ready-to-eat or outside food.

### 4.4 Socioeconomic Status and Food Security

Food access and nutrition knowledge are related but are not the same problem. A student may know what a healthy diet looks like but still be unable to follow it because healthy food is expensive or difficult to obtain. Food insecurity can therefore affect diet quality even when nutrition knowledge is adequate.

### 4.5 Culture and Region

Culture, family food habits and the local food environment can influence nutrition knowledge and eating behavior. Studies comparing students from different countries have reported differences in nutrition knowledge, attitudes and dietary practices. These differences may reflect previous nutrition education and differences in food traditions and availability.

## 5. Nutrition Knowledge and Dietary Behavior

In general, better nutrition knowledge is associated with healthier eating patterns. Students with higher knowledge scores have been reported to consume less unhealthy fat and to have better overall diet quality. Some studies have also found a relationship between nutrition knowledge and higher fruit and vegetable intake.

However, knowing what is healthy does not always mean that students will choose it. Studies have reported continued high consumption of fast food and sugary drinks among students who were aware of their health risks. Emotional eating, stress, boredom, peer influence and lack of control over eating can also affect food choices. Therefore, nutrition knowledge should be viewed as an important starting point, but not the only requirement for behavior change.

The evidence suggests that healthy eating depends on the interaction between knowledge and the environment in which students make food decisions. Cost, convenience, taste, social factors and emotional well-being can all influence whether knowledge is put into practice.

## 6. Environmental and Structural Barriers

The campus food environment can strongly influence students' eating habits. Research indicates that taste, cost and convenience are often more important to students than nutrition information when they choose food. Students may have easy access to fast food, vending machines and inexpensive convenience foods while healthier options may be less available or more expensive.

Other factors include cooking skills, family habits, peer influence, examination schedules, campus culture and access to cooking facilities. Body dissatisfaction and unhealthy restrictive eating can also complicate the relationship between nutrition knowledge and healthy eating. These findings show that improving knowledge alone is unlikely to solve all nutrition-related problems among college students.

## 7. Interventions to Improve Nutrition Knowledge and Behavior

Nutrition education can improve students' understanding of healthy eating. Studies involving university students have shown that focused lectures and structured education programs can improve nutrition knowledge and, in some cases, dietary practices. Nursing students and other health-related students may respond particularly well to targeted education.

Mobile health and smartphone-based interventions are another useful approach. Students participating in food literacy programs have reported better awareness of portion sizes and calorie content and, in some cases, replacing less nutritious foods with healthier choices. However, increased awareness does not always lead to lasting behavior change. Digital programs may therefore work best when they are combined with practical support and a healthier food environment.

## 8. DISCUSSION AND RESEARCH GAPS

The reviewed evidence shows that nutrition knowledge among college students is often not adequate, even across different countries and educational settings. Differences are seen according to gender, field of study and living arrangement. Students who live independently may face additional barriers because of limited cooking facilities, cost and convenience. Nutrition knowledge is generally related to healthier eating, but the relationship is not strong enough to assume that education alone will change behavior. Stress, emotional eating, social influence, food prices and the availability of healthy choices can all reduce the effect of nutrition education.

There are also important gaps in the existing research. Many studies are cross-sectional, so they cannot clearly show whether better knowledge causes healthier behavior. Different studies use different questionnaires, making direct comparison difficult. Long-term evidence about whether interventions produce lasting changes is limited. More research is also needed on topics such as ultra-processed foods, sustainable eating and supplement use among college students.

## 9. CONCLUSION AND RECOMMENDATIONS

Nutrition knowledge is an important part of promoting healthy eating among college students, but it is only one part of the solution. Many students have gaps in basic nutrition knowledge, particularly regarding fat, salt and sugar. Better knowledge is usually linked with healthier dietary patterns, but students may still make unhealthy choices because of cost, taste, convenience, stress and social influences.

Universities can support students by providing short, practical nutrition education through orientation programs or regular coursework. Mobile and digital nutrition education can provide an additional low-cost way to reach students. At the same time, campuses should make healthy foods affordable, accessible and convenient. Future research should use more consistent assessment tools and follow students over longer periods to determine whether nutrition education produces lasting changes.

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