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A Review-Based Study Evaluating Nutritional Behaviour, Knowledge, and Its Relationship with BMI Among Female College Students

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ABSTRACT

The dietary habits play a vital role in maintaining health of any population. In this study we will assess and compare the eating habits (food preference and frequency), nutritional awareness and BMI in females of different departments. The body mass index (BMI) is the metric currently in use for defining anthropometric height/weight characteristics in adults and for classifying (categorizing) them into groups.

The common interpretation is that it represents an index of an individual's fatness. It also is widely used as a risk factor for the development of or the prevalence of several health issues. In addition, it is widely used in determining public health policies. Nutritional knowledge and nutritional behaviour are connected to BMI which is directly proportional to level of nutritional knowledge which affects an individual's nutritional behaviour.

The findings revealed that female college students have a poor understanding of nutrition and its importance. Most of them consume high-fat and high-calorie foods, which increases their BMI and the risk of obesity-related diseases. Additionally, the study identified a positive correlation between the nutritional knowledge of female college students and their BMI. Students who had a good understanding of nutrition were more likely to have a healthy BMI than those with poor knowledge.

Keywords: Body Mass Index, Nutrition

I. INTRODUCTION

Nutrition is an essential aspect of health that is affected by a variety of factors, including knowledge and behavior. Female college students are a population at risk of nutritional imbalances due to changes in lifestyle and dietary habits. Dietary habits are crucial for maintaining the health of any population (Turconi G & Guarcello M et al., 2008). However, college students are more prone to engaging in risky health behaviors such as poor dietary habits, physical inactivity, and stress (El-Hazmi MA & Warsy

AS et al., 2002). The dietary habits of young adults, particularly college students, are significantly influenced by the fast-food market (Alhazmi A & Aziz F et al., 2020). Fast food is readily available, easy to prepare, and moderately inexpensive, and is favored by people of all age groups (Bahadoran Z & Mirmiran P et al., 2015). Moreover, fast foods are typically served in large portions and contain high levels of energy, sugar, and salt, with low levels of micronutrients and fiber (Feeley A & Pettifor JM et al., 2009). According to the World Health Organization, 80% of chronic disease burden is due to lifestyle and dietary factors, emphasizing the need to improve lifestyle and dietary intake by adopting balanced and nutritionally healthy diets to overcome various adverse medical conditions (Perlstein R & McCombe S et al., 2016).

Nutritional knowledge is one of the essential factors for selecting a healthy and nutritious diet (Worsley A, 2002). Poor nutritional knowledge is one of the main causes of nutritional problems that adversely affect dietary practices. Understanding the nutritional attitudes and beliefs of the community is also vital to improving healthy eating habits (Kearney JM & Gibney MJ et al., 2001)9. Recent studies suggest that most undergraduate students lack adequate nutritional knowledge, attitudes, and practices, and do not select healthy food or have a diverse diet or healthy lifestyle (Hakim et al., 2012; Schnettler et al., 2015; Lupi et al., 2015; and Ruby et al., 2016).

This present study aims to assess the nutritional behavior, knowledge, and its association with BMI of female college students.

Nutritional Behavior

Nutritional behavior is “the sum of all planned, spontaneous, or habitual actions of individuals or social groups to procure, prepare, and consume food as well as those actions related to storage and clearance. In this context, the term ‘nutritional behavior’ not only refers to influencing factors but also to health, environmental, social, and economic implications along the entire product chain from farmer to consumer” (Leonhäuser et al. 2009)

The definition illustrates the multidimensional character of nutritional behavior. It is associated with multiple factors from the four dimensions of nutrition: health, environment, economy, and society (Schneider K & Hoffmann I et al. 2011)

Eating behavior is a broad term that encompasses food choice and motives, feeding practices, dieting, and eating-related problems such as obesity, eating disorders, and feeding disorders.

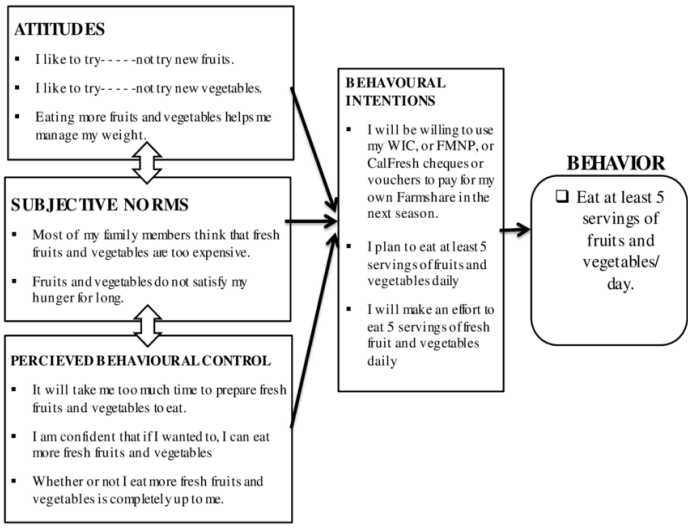
Intraindividual factors influencing eating behavior and food choice include physiological processes (e.g., hunger, satiety, innate preference for sweet foods, brain mechanisms) and psychological processes (e.g., learned food preferences, knowledge, motivations, attitudes, values, personality traits, cognitive processes, self-regulation). (LaCaille L. 2013)

Many behavioral models have been applied to eating behavior. The Health Belief Model (Rodenstock,1966) maintains that health habits are a function of perceived vulnerability to a disorder and the belief that a particular health measure will be sufficient to overcome this vulnerability. This enables understanding of why people practice health behaviors and prediction of some of the circumstances under which their health behavior will change. (Gracey D & Stanley L et al. 1996)

II. NUTRITIONAL BEHAVIOUR OF FEMALE COLLEGE STUDENTS

Studies have shown that female college students exhibit poor nutritional behavior, characterized by a high intake of energy-dense foods and low consumption of fruits and vegetables. A cross-sectional study conducted in Saudi Arabia found that 58% of female college students consumed fast food more than twice a week, and only 24.8% consumed

fruits and vegetables daily (Al-Rethaiaa & Fahmy, 2010). Another study in Turkey reported that 51.4% of female college students consumed fast food regularly, and only 27.8% consumed fruits and vegetables daily (Kiziltan & Ozer, 2016).



Theory of planned behavior application to the food access problem. Theory construct variables were adapted from Ajzens & Sheikh"s: Action versus Inaction: anticipated affect in theory of planned behavior (2013).

Nutritional Knowledge:

Knowledge about nutrition is widely recognized as a critical factor in making informed decisions about healthy eating and ensuring sufficient nutrient intake across all age groups. Nutrition knowledge encompasses an understanding of the principles and mechanisms underlying nutrition and health, including the relationships between diet and health outcomes, the impact of dietary choices on disease risk, and guidelines and recommendations for optimal nutrition (Loretta M & Katrina G et al. 2014). Studies have consistently shown a positive correlation between nutrition knowledge and the quality of an individual's diet (Geaney F & Fitzgerald S et al. 2015). Having a good understanding of healthy food choices is a key factor in promoting the adoption of a healthy diet (Thomas J 1994).

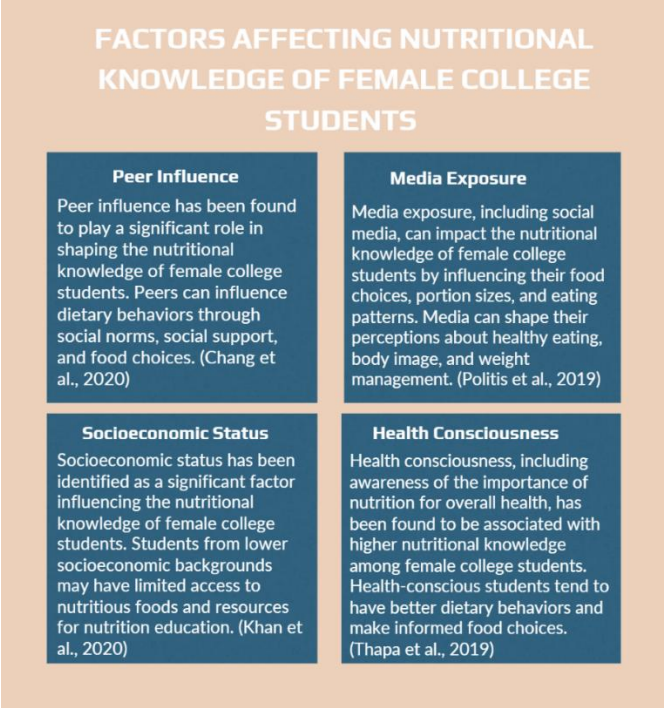
Nutritional knowledge is an important determinant of nutritional behavior. Nutritional knowledge is an essential aspect of maintaining a healthy lifestyle. Several studies have investigated the relationship between nutritional knowledge and body mass index (BMI) in different populations.

Nutritional knowledge among female college students

Nutritional knowledge among female college students has been a topic of research in the past years, with studies conducted in various countries including Saudi Arabia (Al-Muammar & El-Shafie, 2020), Spain (Moreno et al., 2019), Australia (Baker et al., 2018), South Korea (Jin & Kim, 2017), and China (Li et al., 2017). These studies consistently found that female college students had inadequate nutritional knowledge and poor dietary behaviors, including high consumption of energy-dense, low-nutrient foods and low consumption of fruits and vegetables. Limited nutritional knowledge and misconceptions about healthy eating practices were identified as key factors influencing dietary behaviors among female college students. The studies emphasized the need for nutrition education interventions targeting female college students to improve their nutritional knowledge and promote healthy dietary behaviors. The findings highlight the importance of developing and implementing effective nutrition education programs, interventions, and strategies to empower female college students with accurate and practical nutritional knowledge, ultimately promoting their lifelong health.

Studies have shown that female college students have inadequate nutritional knowledge, which affects their dietary choices. A study in Iran reported that 56% of female college students had poor nutritional knowledge (Asghari et al., 2014). Similarly, a study in Nigeria found that 75.2% of female college students

had inadequate nutritional knowledge (Oyeyemi et al., 2018).



Body Mass Index

The body mass index (BMI) is the metric currently in use for defining anthropometric height/weight characteristics in adults and for classifying (categorizing) them into groups. The common interpretation is that it represents an index of an individual's fatness. Body fatness has been an important psychosocial issue among humans for millennia. It is clearly manifested by paleolithic statuettes of exceedingly plump women. This suggests being "full figured" was highly desirable at least for women. (Nuttall Q 2015)

It also is widely used as a risk factor for the development of or the prevalence of several health issues.

Numerous studies have examined the importance of BMI in various aspects of health, including its association with chronic diseases, mortality, and overall health outcomes. For example, several studies have found that higher BMI is associated with an increased risk of chronic conditions such as cardiovascular diseases (e.g., Hu et al., 2004) and type 2 diabetes (e.g., Chan et al., 1994). High BMI has also been linked to increased morbidity and mortality rates (e.g., Flegal et al., 2013).

In addition, BMI has been used as a screening tool in various health settings to identify individuals at risk for health issues related to body weight. For instance, it is commonly used in clinical practice to assess obesity and overweight status, as well as to guide weight management interventions (e.g., Jensen et al., 2013).

It's important to note that while BMI is a widely used measure, it has limitations, such as not taking into account factors like muscle mass, body composition, and individual variations. Therefore, it should be used as a part of a comprehensive assessment of an individual's health and not as the sole indicator of health status.

Association with BMI:

Nutritional behavior and knowledge are associated with BMI among female college students. A study in China found that female college students who consumed more fruits and vegetables had a lower BMI than those who consumed fewer fruits and vegetables (Wu et al., 2015). Similarly, a study in Iran reported that female college students with adequate nutritional knowledge had a lower BMI than those with poor nutritional knowledge (Asghari et al., 2014). Several studies have shown that higher nutritional knowledge is associated with a lower BMI, particularly in women. However, there are also studies that did not find a significant association between nutritional knowledge and BMI. Further research is needed to determine the direction of the association between nutritional knowledge and BMI and to develop effective interventions to improve nutritional knowledge and promote healthy eating habits.

III.CONCLUSION

In conclusion, female college students exhibit poor nutritional behavior and inadequate nutritional knowledge, which are associated with a higher BMI. Therefore, there is a need for interventions that aim to improve their knowledge of nutrition and promote healthy eating behaviors. Educational programs, counseling, and social support are effective strategies that can be used to improve the nutritional behavior of female college students. These interventions will help to reduce the risk of obesity and its related diseases in this population.

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