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ETHICAL AND SOCIAL ISSUES RELATED TO STUDENTS' ACCESS TO HEALTHY FOOD IN THE UNIVERSITY CAMPUS. A THEORETICAL APPROACH

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ABSTRACT. University years represent a critical period in terms of establishing eating patterns and adapting to a new environment. The largest gain in weight occurs at age 18-29 and can have negative consequences on students` health status. The access of students to a healthy diet represents an ethical and social problem little studied in our country. The present paper wanted to examine the main causes that can lead to unhealthy patterns among students. The theoretic analysis showed that nutritional education, knowledge about food, health beliefs, academic schedule, campus food environment, financial incomes and meals' costs - all these factors can have positive or negative influences on students' eating habits. In addition, international students represent a more vulnerable population and one of the main sources of stress of acculturation among international students is represented by the type of food from hosting culture. Given the above, universities must take an attitude and contribute to the development of a healthy university food environment. Implementation of dietary programs to improve the nutritional health of students will inform the student who will be more aware of the consequences of unhealthy foods, poor in vegetables and fruits on mental and physical health, later in life. In conclusion, there are many factors that affect the eating habits among students, It is really useful to know about these factors in order to provide effective education and nutritional care so university must offer equal access to healthy food to all of its students.

Keywords*: student, nutrition, ethics, university, health, vulnerability, dietary habits, international students*

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REZUMAT. Probleme etice şi sociale privind accesul studenţilor la alimentele sănătoase în campusurile universitare. O abordare teoretică. Anii universitari reprezintă o perioadă critică în ceea ce priveşte stabilirea tiparelor alimentare şi adaptarea la un nou mediu. Cel mai mare câştig în greutate apare la vârste cuprinde între 18-29 de ani şi poate avea consecinţe negative asupra stării de sănătate a studenţilor. Accesul studenţilor la o dietă sănătoasă reprezintă o problemă etică şi social, puţin studiată în ţara noastră. Din acest punct de vedere, această lucrare a dorit să examineze principalele cauze care pot duce la tipare nesănătoase în rândul studenţilor. Analiza descrisă în acest articol arată că educaţia nutriţională, cunoştinţele despre alimente, credinţele în sănătate, programul academic, mediul alimentar din campus, veniturile financiare şi costurile meselor - toţi aceşti factori pot avea influenţe pozitive sau negative asupra obiceiurilor alimentare. Studenţii internaţionali reprezintă o populaţie şi mai vulnerabilă, iar una dintre principalele surse de stres aculturativ în rândul studenţilor internaţionali este reprezentată de tipul de mâncare din ţara gazdă. Universităţile trebuie să ia atitudine şi să contribuie la dezvoltarea unui mediu alimentar universitar sănătos. Implementarea programelor alimentare pentru îmbunătăţirea sănătăţii nutriţionale a studenţilor vor contribui la informarea studentului care va fi mai conştient de consecinţele alimentelor nesănătoase, sărace în legume şi fructe, asupra sănătăţii mintale şi fizice, ulterior în viaţă. În concluzie, există mulţi factori care afectează obiceiurile alimentare în rândul studenţilor şi este foarte util să cunoaştem aceşti factori pentru a oferi studenţilor educaţie şi îngrijire nutriţională eficientă iar universităţile să faciliteze accesul egal al studenţilor la o mâncare sănătoasă.

***Cuvinte cheie**: student, nutriție, etică, universitate, sănătate, vulnerabilitate, tabieturi alimentare, studenți internaționali*

Introduction

Nutrition plays a very important role in the healthy development of children and youths and it is one of the most important aspects of a lifestyle *(Barzegari et al., 2011).* Eating patterns of university students became a subject of interest because the largest gain in weight occurs at age 18-29 and university years is a critical period in terms of weight gain *(Yu & Tan., 2016)*. At the same time, students need to adapt to a new environment that is often away from home and when they fail to adapt properly, this fact can have negative consequences for their health and subsequent weight status *(Deliens et al., 2014)*. It was found that exists even greater risk for weight gain for people aged

18 to 29 years with some college education, considering that obesity rates rose from 10.6% to 17.8% between 1991 and 1997 in this population (*Mokdad et al., 1999*). Also, many types of research show that eating patterns established during university years will transform into behaviors and these behaviors will shape the future related to the health of a student *(Steptoe et al., 1990–2000; Von Bothmer & Fridlun, 2005).*

Many studies show that students do not comply with healthy eating recommendations as outlined in the dietary guidelines. This fact is probably due to the typical sedentary lifestyle of these young adults and frequently, the sedentary hours are spent in front of a television or a computer (*Gallè et al., 2019*). At the same time, due to the lack of parental influence or parental control, students might have a faster and more practical diet characterized by a high amount of processed foods, rich in fat and calories and a large consumption of salt and alcohol.

Additionally, students' diet is low in vitamins, nutrients, and antioxidants because they consume too little fruits, vegetables, legumes and grains which often can lead to nutritional imbalances *(Monteiro et al., 2019).* Not to mention that students do not follow the physical activity recommendations of the World Health Organization (WHO), registering differences according to gender meaning that women can often have a normal weight but practice less sport than men (*Gallè et al., 2019*). Therefore, starting to the fact that healthy habits are essential to prevent diseases in adult life, it is important to know the main causes that can lead to unhealthy patterns among students.

Nutritional education, knowledge about food, health beliefs and gender differences

Maternal education, family-related habits to nutrition and parental income have a greater impact on dietary patterns of a young adult among which is the practice of skipping breakfast (more common among females than males). A study carried out in Southern Nigeria found that there is a significant association between the levels of education of students' parents and food diversity of students meaning that students whose parents had a tertiary level of education had a highest dietary diversity compared with respondents whose parents had a primary level of education. Also, it seemed that the proportion of overweight or obesity was higher among students whose fathers had a tertiary level of education *(Omage & Omuemu, 2019).*

From the perspective of a nutritionist, nutrition knowledge represents knowledge of nutrients and nutrition (a quantitative science). Consumers seem

to be aware that nutrition includes even more than simply information about nutrients. It is about food safety, food additives, effects of vitamins on skin, ways to lose weight or even to prevent cancer and the list can continue. What is more important for a consumer to know is the energy content of food, the source of vitamins and minerals and the roles of fat, proteins, and carbohydrates.

It is also good to know that the knowledge of nutrition principles can influence or even change food behavior (term which can include many types of behavior) *(Worsley, 2002).* Young adults often do not possess the necessary experience and knowledge to make adequate decisions related to healthy food or about weight-control practices and tend to develop unhealthy habits such as skipping breakfast (more common among girls who lived away from home), increasing consume of snack food which can even replace regular meals (more prevalent in smoking students than other students) or increasing intake of soft drinks (*Neslişah & Emine, 2011*).

And yet is surprising the fact that recent studies from United States (11), Europe (4), Australia (4), New Zealand (2), Africa (1), Asia (1), and the Middle East (1) show us that some faculties are not devoted to the nutrition, do not have extensive nutrition programs and in this way medical students are not well trained in nutrition and could have difficulties in counsel patients on healthy eating (*Abbasi, 2019*). Other scientists reveal that a single course on nutrition was effective in improving the nutritional knowledge of students who are in their final year of college and this fact is very important because in order to be able to understand and apply the recommendations of dietary guidelines certain nutritional knowledge is required. A study realized in Canada found that students who took a nutrition course consumed less fat than those without nutritional education so that the impact of nutritional education on fat consumption is important (*Mazier and McLeod, 2007)*.

In another study was found that gender is a factor that influences the nutritional attitudes in the meaning that female students have better nutritional attitudes than male students. Consequently, those women will not tend to skip breakfast so frequently, will not consume so many alcohol and soft drinks and will eat more fruits and vegetables (*Wong et al., 1999*). Gender differences are discovered when it comes to food choices meaning that women seemed to pay attention to label information or healthiness of their choice and men seemed to be very little interested and implicated in food decisions *(Levi et al., 2006*). Also, another issue related to reading the food label was discovered in a study among 553 Canadian students aged 18-34 years. It seems that this group of the population considers nutrition less important than age older groups and perhaps students use food labels less frequently than the average Canadian adult. Those who read the food label pay more attention to the nutrition information panel than to the

nutrient claims or ingredient list. However, this study indicates that university students, who are in general more educated than the rest of the population, are more likely to use food labels than those without education *(Smith et al., 2000).*

Academic schedule and perceived lack of time

Time turned out to be a very valuable issue when it comes to students' food practices so they claimed that they would rather spend their time doing other activities than cooking, especially when they must cook only for themselves (*Deliens et al., 2014*). Being so tight with a busy academic and social schedule, a student gets very difficult even to find time to go to the market and to purchase the food items and ingredients, not to mention about finding time to prepare and cook a good meal *(Omage & Omuemu, 2019).*

A study conducted among freshmen students by multiple methods (first - keeping an audio diary for two weeks, second – keeping a daily written journal for the same period, and third – using focus group discussions) revealed that these students are implicated in many activities like coursework, extracurricular activities, part-time jobs, organizational memberships and so on and as a consequence that struggle with time management hindered these students to maintain healthy eating habits. Moreover, some participants of this study claimed that not just once happened to forget to eat or to miss their meal plan hours because of their back-to-back class schedules *(Childers et al., 2011).*

A study carried out among medical students in Saudi Arabia highlights that the busy schedule of these students affects their eating habits meaning that during the period exams students wanted to spare as much time as possible studying and this made it difficult for them to comply with a healthy meal schedule. Consequences are related through an improper intake of healthy foods or simply by choosing unhealthy foods (*AlJaber et al., 2019*). The problem of a busy schedule which did not give time to the student to eat healthy foods or to cook so they ate instead convenience food was mentioned in another study (*Alakaam et al., 2015*).

However, students` control of a chaotic schedule became a major problem for them, very difficult to tackle. It seemed that dining halls hours are often missed by the students because these are not placed at a convenient time for them. Offering different solutions such as changing dining hall hours or 24-hour dining halls, could solve the problem, but this involves costs from all points of view. Also, excessive alcohol drinking, late-night eating, and increased sleeping

the following day are other problems mentioned which are associated with the students` schedule *(Childers et al., 2011).*

Living in campus – access to unhealthy food

Eating disorders are frequently diagnosed in adolescence and young adulthood - a stage in life associated with stressful events, such as leaving for college *(Yu & Tan, 2016).* Transition to an unfamiliar environment can be a critical moment when unhealthy weight problems can occur, problems mainly caused by changes in eating habits *(Childers et al., 2011).*

Besides the influence exerted by the students' university schedule on eating habits, it seems that these habits also depend on the food environment inside or near the university campus *(Gazibara et al., 2013)*. Willis and Buck *(2007)* defined the food environment as a collection of multiple factors among which the place where to get food, food prices, community characteristics, proximity to the restaurant, market availability and other factors that influence food choices and eating habits are mentioned.

The campus food environment can have both positive and negative effects on weight gain; this hypothesis is demonstrated by the fact that livelihood in student dorms that have a dining room improves the quality of men's diet, but promotes weight gain for women *(Horacek et al., 2013).* Regarding the students' attitudes towards the food services offered by the university canteens, these were generally positive; the students were satisfied with the food services in the canteens, but they think that the cooking methods should change, such that the food should be fried less, there should be more fresh vegetables and fruits and fewer recycled or even overcooked foods *(Liang, 1992).*

The literature shows that the quality of accommodation directly influences students' health and well-being; the students who lived in their own home, with their family members were the most satisfied with the accommodation (also having lower levels of stress, anxiety and depression) unlike to those who lived in rental accommodation or student hostels, who were least satisfied *(Yue, Lê, & Terry, 2014).*

Students living on the university campus tend to eat at irregular hours, make poor food choices (such as frequent fast-food consumption) and have an inadequate nutrient intake, but nonetheless, university canteens have been associated with positive effects on students' eating habits since they provide a student with all three main meals.

Unlike them, students living in apartments outside the university campus are required to purchase and prepare their own food, and this can be quite difficult for some of them if they do not receive the necessary guidance before leaving home and this is very important because more frequent food preparation is associated with lower fast-food consumption and increased consumption of fruits, vegetables, dairy products and whole grains *(Gresse et al., 2015).* Besides, the students who lived outside the university campus were worried that this could be dangerous for their safety considering delinquency`s and other potential dangers (especially if they were walking at night), while students living on campus felt that they save time and money and have easy access to campus facilities, such as libraries, canteens, transport, security and community *(Yue, Lê, & Terry, 2014).*

It has also been noted that student residence affects food intake and physical activity, students off campus having healthier diets than those students who live on campus *(Brevard and Ricketts, 1996).* This is probably explained by the fact that the students stored in their dorm rooms salty snacks, cereal or granola bars, desserts or candy sugar-sweetened beverages and items that had been purchased by parents for the students which are often richer in calories and fat content than items purchased by students themselves, estimating a number of approximately 23,000 calories per dorm room *(Nelson and Story, 2009).*

The snacks and drinks sold on the university campus create a food environment with limited healthy options. Likewise, the university campus offers a food environment with a number of commercial spaces, most of which are not in line with dietary recommendations for the prevention of obesity, having "healthy" foods of limited quality as well as convenience stores or fast food products *(Horacek et al., 2013).* Previous studies have found that large stores and chain stores are more likely to market healthy foods and also to offer foods at lower prices in contradistinction to smaller stores. As well, the increased availability of supermarket chains was associated with lower weight gain, while the availability of smaller grocery stores or convenience stores was likely to be associated with a higher risk of overweight *(Powell et al., 2007).* However, convenience plays a major role in the choice of food given the fact that students prefer food that is particularly convenient, easy and quick to cook. In addition, unavailability of foods that are seasonal may contribute to a lower intake frequency because you cannot consume food if it is not available *(Omage & Omuemu, 2019)*.

If we refer to the products traded in the campus or university vending machines, a study evaluated their content to determine the nutritional quality of the snacks and drinks sold. The results show that most snacks sold were salted snacks (chips, pretzels) and sweets (candy and candy bar), most of them

low in fiber, high in calories, fat and sugar (just about half), while the slots for beverage machines contained more sugar-sweetened drinks than non-calorie drinks, none of which mentioned not being rich in nutrients. Of all these machines, it seems that only within two institutions were sold both milk and 100% juice, the portion of snacks and drinks sold being on average over 200 cal. In conclusion, this study's findings suggest that vending machines provide limited healthful choices (*Byrd-Bredbenner et al., 2012*).

Students at risk. Financial incomes and meals' costs

Besides the factors mentioned above, food choices are also determined by the cost of food and, by implication, student incomes. Thus, the most expensive foods are often the least nutritious, which becomes a problem for students. Also, it is known that the food that requires the shortest time for preparation is unhealthy, which makes students with limited resources and little time to be slightly forced to eat unhealthily (*Reyes, 2010)*. Similarly, another study found that students living in dorm rooms reported missing meals due to insufficient funds, as well as significantly lower consumption of fruits, vegetables, and dairy products because of the same reason, leading to poor dietary practices *(Gresse et al., 2015).*

A Canadian study found that male students consumed more alcohol and more water and spent more money on campus for food *(Jackson et al., 2009).* From this point of view, poor eating behaviors tend to get crowded, because people who engage in poor eating behavior generally engage in other poor eating behaviors, such as increases in fast food consumption and lower physical activity (*Reyes, 2010)*. Also, the high intake of sweet snacks served by students with insufficient funds to buy healthy food alternatives indicates that many students follow a diet high in refined carbohydrates and low in fiber *(Gresse et al., 2015)*.

Studies show that hours spent on campus, weekly budget for food, maternal education, family income and not only have an impact on the eating behaviors of students (*Reyes, 2010).* Dietary diversity increases with the increase of the monthly allowance, being closely linked to accessibility: if the student has money it means that the respondent can afford healthy foods or varied food groups with some balanced nutrient content *(Omage & Omuemu, 2019)*. Another study found a relationship between financial resources and students' perception of nutritional balance, reporting that students who were primarily supported by family finances were less concerned about their income than those who were

supported by other sources, such as savings, own job, scholarships or financial loans *(Yue, Lê, & Terry, 2014).* The allowance seems an appropriate way for students to afford healthy foods with a balanced nutrient content, but it does not always seem to have the expected positive effects as students with a higher monthly allowance tend to skip breakfast and spend more money on frivolities, which can have adverse effects on their nutritional status *(Omage & Omuemu, 2019)*.

The data showed that most students would eat healthier if money and/or time were not factors affecting their food choice (*Reyes, 2010)*. Individuals expressed concern about the cost of food at the canteen and for some students, the lack of money was a reason that led them to bring food from home to college *(Tyrrell et al., 2015).* Finally, the data show that the price of healthy eating disproportionately affects working students and those in the lower middle class (*Reyes, 2010)*.

International students – a vulnerable population facing cultural, religious and food-related restrictions

Changing the cultural environment is one of the most traumatic events a person can face, most students experiencing different degrees of cultural shock *(Kim, 2001).* One of the main sources of stress of acculturation among international students is represented by the type of food from hosting culture. It was observed that for the migrant students, the food from the country of origin, through its familiarity, is soothing, nourishing and stabilizing, being able to alleviate stress and loneliness and transposing students in a place and at a time that made them feel in safety (*Brown et al., 2010*). Losing familiarity causes anxiety but serving meals in a group of friends and the comfort created by maintaining or making new ethnic connections can be a powerful antidote to culture shock *(Kim, 2001).*

International students represent a more vulnerable population facing healthy and tasty food issues in the host country. Specific meals which are sometimes difficult to find or prepare, ingredients needed to prepare a traditional meal could be missing from the hosting culture, climate differences may sometimes not facilitate access to ingredients, restaurants where traditional meals are served may be difficult to find - these are just a few of these problems. Moving to a new culture can have, in many cases, negative effects on diet and health, such as increased alcohol intake, altered dietary practices, and an increased

body mass index (*Edwards et al., 2010*). Brown *(2009)* found that the adverse reaction to local food is even greater as the original food culture differs more from the food available in the new culture.

A study conducted in the United States among international students found that the main foods that participants ate were associated with an American diet (generally meat, foods high in fat and sugar and poor in fresh fruits and vegetables). In their defense, students reported that fast and convenient food is cheaper, and this makes them consume more products of this kind (*Alakaam et al., 2015*).

Similar results were found in a study targeting the behavioral changes of Portuguese students enrolled at universities in London: Portuguese participants reported a significant decrease in weekly frequency of consumption of raw vegetables, fish, vegetable soup and red meat and an increase in the frequency of consumption of tasty snacks, fast food - this eating pattern was similar to the English students pattern`s *(Vilela et al., 2014).* Also, the taste of the food in the host country is another problem encountered by international students because it was less tasty compared to food consumed at home (*O'Sullivan & Amirabdollahian, 2016*).

Another research conducted in USA identified that migrant students noticed that traditional foods are different in the United States than in the country of origin: these foods are modified or processed (for example, these have too much salt and sugar) and it is difficult to find traditional food ingredients in most local stores from the United States (traditional grocery stores could only be found in big cities, two to three hours away). In addition, traditional foods are more expensive and of poor quality (*Alakaam et al., 2015*). In another study, the majority of the students considered that the local food is boring and tasteless, and this confirms the importance of the cultural distance in the degree of shock the migrant faces (*Brown et al., 2010*).

Students from the Middle East and Asia said meat and vegetables are at the same prices in the United States (which causes them to buy more meat products), while vegetables in the country of origin are cheaper than meat. Also, the unavailability of traditional food has led some students to ask parents to send traditional ingredients from their home country every couple of months, even if the shipment was expensive for their parents (*Alakaam et al., 2015*).

Culture and religion increase the level of stress regarding student's access to food and meals. Cultural habits and religious restrictions could cause a lot of distress among migrant students. Religious factors have a strong influence on international students` food selection because they can avoid certain types of meat, a good example in this case being Muslim students: due to the limited

access to Halal food (meaning foods that are allowed under Islamic guidelines) in the United States, these students consume less meat, eat less in restaurants and on campus. (*Alakaam et al., 2015, O'Sullivan & Amirabdollahian, 2016*).

On the other hand, religion can have a positive influence on international students, being a source of spiritual support that can help students overcome adjustment problems and better tolerate their situation. However, adaptation to the host country was very slow and not at all easy because the characteristics of the host country such as religion, language and many others are different from the country of origin of the students *(Mehdizadeh & Scott, 2005).*

University challenges to provide healthy food for students

Many studies mentioned above pointed out that students living in campus are more prone to consume unhealthy food. This means that universities are the main responsible stakeholder and must take attitude and promote and provide access to healthy nutrition of students. So, the triad inform-educate and provide healthy nutrition knowledge must be a main goal for university policy makers.

The development of a healthy food university environment could be done by implementing dietary programs to improve the nutritional health of students. A more informed students will be aware about the consequences of unhealthy food, poor in vegetables and fruits on psychological and physical health later in life. Especially for female students (more importance even for those being pregnant), for students suffering from chronic diseases and for maintaining a good health, a balanced diet is necessary.

Another strategy is bringing together local farmer's markets with food service companies on campus. Moreover, the university could collaborate with businesses in the area to provide its students with more flexible spending options for the meal plan, in which students could use the allocation of university food to local stores (*Alakaam et al., 2015*).

Another strategy could be to eliminate the availability of unhealthy foods even for short periods to increase sales of healthier products and reduce their prices. Food demonstrations supported by financial commitments from campus administrators or partnerships with corporate health organization sponsors can be effective in creating opportunities for students to taste a healthier choice *(Levi et al., 2006*). International students should be informed about healthy food choices and availability of healthy foods during their stay in a different cultural and food environment *(Perez-Cueto et al., 2009).*

Also, universities could offer packed lunches or lunches that promote healthy eating, which gives freshmen a good opportunity to try eating fresh fruit and vegetable smoothies.

Last but not least, health promoters, including student wellness centers and counseling services, need to make more efforts to help students critically analyze socio-cultural influences, including advertising, how to make healthier food selections, to resist the negative social pressures and to develop social support for healthy eating.

Also, students should be educated to analyze their own eating patterns, to set realistic goals for changes in their eating behaviors, being monitored at the same time by qualified staff *(Levi et al., 2006*). Besides education, providing quality exercise facilities and proximity of the grocery store with complete services can have a beneficial effect on the students' health *(Childers et al., 2011).*

Students associations must be encouraged by the university staff to organize and promote campaigns for educate students to eat healthier.

Conclusions

Student population represents an important point of interest because they constitute a large population of developing adults who are expected to play influential roles in society as teachers or policy makers. The transition to another environment is likely to change eating behaviors *(Tanton et al., 2015).* What causes students to eat unhealthily is not only the choice of food, but there are structural forces that make it difficult for students to consume healthy foods and the main barriers felt by students are time and money. Besides these, there are many factors that affect the eating habits among students, among which: the differences of social class, the cost of food, the knowledge of food, the time of food preparation, the family structure, culture and so on, some of these factors can even be multiplied, considering lives of many students (*Reyes, 2010).*

It is really useful to know about food choices and preferences, as well as the factors that influence students' eating habits in order to provide effective education and nutritional care by promoting healthy eating, a high-fiber diet, whole grains, dairy products and foods with a low energy consumption (*Alakaam et al., 2015; Gazibara et al., 2013)*. Also, there is a growing demand for global health strategies that would encourage the body's image and healthy figure, initiatives that should mobilize society at national and international levels (*Gazibara et al., 2013)*.

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