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Eating habits of students during a typical exam period-Case of Kosovo

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ABSTRACT

The exam period is a stressful period for students, which often influences them to make wrong food choices. This study examines the eating habits of students during a typical exam period, to understand their food patterns or dietary choices, in a period when they have greater stress due to the high academic demands at the university. The 200 students of different academic levels at the University of Prishtina participated in this research. Data have been compiled through online questionnaires where the respondents were asked to anonymously declare their health status, the number of meals they take per day during a typical exam period, their food preferences, physical activity, and sleep. Results showed that Kosovar students have unhealthy eating habits during exam periods. They have a disorder in the time and number of meals they take during the day on a typical exam period, compared to other periods of the year. The findings of this research contribute to the existing literature related to dietary habits of students in stressful periods, providing knowledge for students and addressing the issue of education for healthy nutrition in educational institutions.

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1. INTRODUCTION

In a healthy body, nutrition represents a healthy intake of nutrients. Having a balanced diet is crucial to ensure that our organism has the energy it needs for daily activities. Intake of nutrients either too low or too high can lead to deterioration of health and lessen the performance of organisms. An organism's appetite can be affected by various factors, including age, gender, physical activity, sleep, health and genetic factors [1], [2]. Food choices are made also according to marketing, economic and emotional factors, therefore understanding motivational factors can help us to improve the behaviour towards a healthy lifestyle [3].

Because of their inseparable relationship, food choices and eating habits determine our health for all of us. It is particularly true for students, who are subjected to constant psychological pressure during their academic careers. According to Tahir [4], stress is the main factor that is related with emotional eating and that leads to unhealthy dietary patterns. In this form, it can be the purpose for decreased or increased eating. To develop effective guidance on stress management, it is therefore necessary to examine the influence of dietary habits and participation in nutrition studies [5]. Stress can affect students' eating habits, resulting in undereating or overeating. This is because emotional situations push students to consume unhealthy foods

rich in sugar and fat. Since the stress-food relationship is controlled by hormones and neurotransmitters, such eating is considered one of the main factors in the appearance of obesity [6], [7].

The stress from the heavy workload during exams affects the change in eating habits among students. A study conducted with bachelor- and master-level students at Punjab University in Lahore has shown that when students feel stressed, they consume more food and add more salt to their food [8]. The consumption of unhealthy foods and generally poor dietary habits has also been reported in other studies. As reported by Alduraywish *et al*. [9], students in such periods avoid eating breakfast and reduce their fruit and water intake. Thus, breakfast is one of the most important meals that should not be skipped [10], and it has been proven that people who regularly eat breakfast have a lower risk of gaining weight than those who skip breakfast [11], [12]. Improved cognitive function, memory recall and improved performance in daily activities are some of the positive effects of eating breakfast. While skipping breakfast can have also negative impacts like increased risk for obesity and reduced performance during a day. Breakfast should be taken daily and in regular time and it is important to contain fibres and proteins, vitamins, minerals and less fat and sugar [13]. Eating habits are also related to the frequency and duration of eating during the day. These two factors are related to body mass index (BMI).

During the exam period, students tend to have little and poor sleep [14], [15]. Insufficient sleep negatively affects attention and memory, while the lack or interruption of sleep causes a decrease in the academic performance of students [16]. Taking food late at night is another very widespread practice. In such cases, foods with a high content of carbohydrates and fat are preferred, therefore problems with metabolism are evident [17].

In addition to eating habits, during the test period there are also changes in the physical exertion of students. Regular exercises and physical conditioning are essential in precluding health problems [18]. Studies have shown that physical exertion affects the reduction of depression, anxiety and has given salutary goods in perfecting tone- confidence [19], [20].

It is evident that exam period is a challenging period for students from a psychological point of view. Thus, it has been proven that in such periods, students experience increased stress and anxiety, as well as emotional distress [21]. Therefore, the purpose of this study was to investigate and analyze eating habits among students during a typical exam period. Such studies have not been done before with students in Kosovo. This study included the exploration of the most consumed foods of students, the number, and meals they take, and their overall nutrition. Furthermore, the article aimed to collect data on the impact of stress on students' sleep and physical activity during such a period.

2. METHOD

This study was carried out with students of different academic levels of the University of Prishtina "Hasan Prishtina" in Kosovo. The data were collected through online questionnaires where the respondents were asked to anonymously declare their health status, the number of meals they take on a day during the exam period, their food preferences, physical activity, and sleep. The data generated by the questionnaires were analyzed through the IBM SPSS program (Version 27.0, Armnouk, NY, 2020). Descriptive analyzes were used to summarize the data, while correlational analysis was used to find the relationship between eating habits and different factors such as the academic level of students and stress during exams. If the data had a normal distribution, the Pearson correlation was applied, while the Spearman correlation was applied when there was no normal distribution.

3. RESULTS AND DISCUSSION

The 200 students studying at University of Prishtina "Hasan Prishtina" in Kosovo took part in the online survey. The 84.5% of students were female and 15.5% male. Of the 200 respondents, 72.5% were 18-24 years old, 15% of respondents were 25-31 years old and 12.5% were above 31 years old. About 76.5% of students were on bachelor studies, 17.5% on master studies and 6% on their doctoral studies.

In general, respondents stated that their eating routine during an exam period differs from other times of the year when they have more free time. About 63.5% of students indicated that they do not take their meals at the same time as usual, so they have an imbalance in the time of taking their meals. The self-assessment of health was made with the assessment of poor, satisfactory, good, and very good as shown in Figure 1, where based on the analyzed data, a weak negative correlation was observed between the imbalance of the time of taking meals and the general health of the students ($r=-0.195$, $p=0.006$). This means there is a slight tendency for the decrease of health status as the time of taking meals changes.

A more frequent number of food meals and maintenance of a feeding schedule even during the exam period have been observed to have the students of the highest levels of studies. It has been shown that there is a weak positive correlation between the academic level of students and the number of meals they receive

(r=0.192, p=0.006). This shows that students of higher levels of studies have more knowledge about the importance of getting more meals during the day. This can be explained by the fact that they are older, and their knowledge is more extensive about the importance of healthy nutrition. Also, longer study experience may influence master's and doctoral students to have a better management of stress and nervousness at exam time, given that stress affects poorer academic results [22].

Stress during the exam period has been seen to have an impact on the eating habits of Kosovar students, where students are more nervous and stressed and this has also influenced the elimination of certain meals as shown in Figure 2. Additionally, a higher intake of unhealthy fast food is associated with the stress and anxiety brought on by exam time (r=0.304, p=0.001). Fast food consumption tends to rise as levels of stress and anxiety rise since there is a moderately positive association between these two variables.

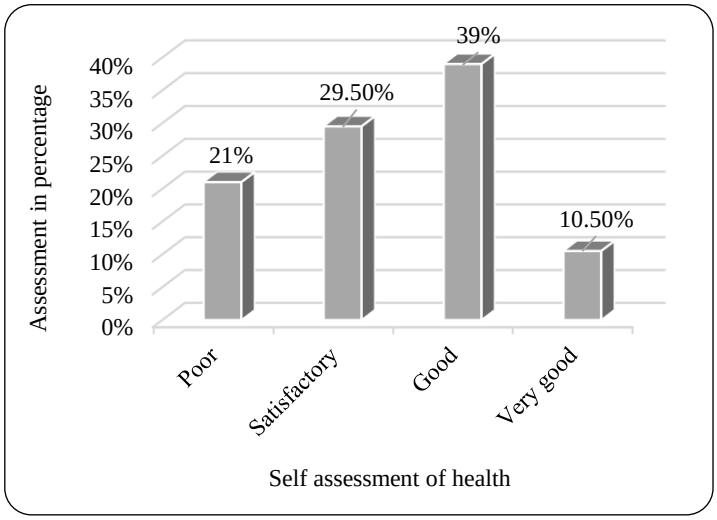

Figure 1. Students' self-assessment of health

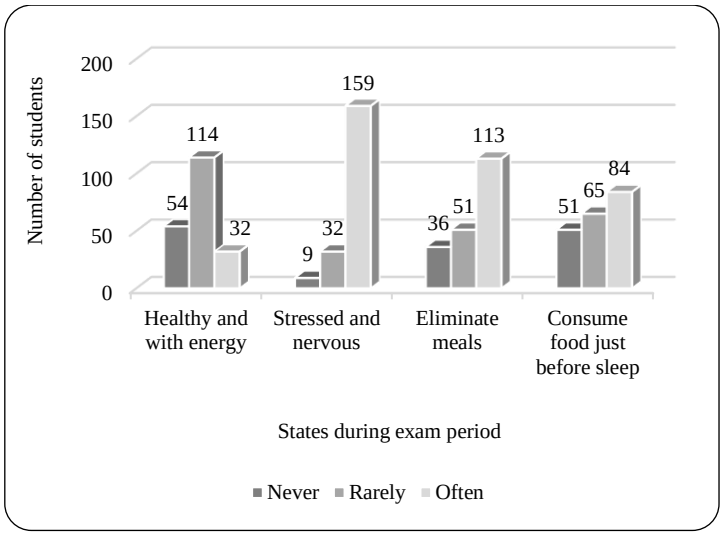

Figure 2. Different states of students during a typical exam period

Common dietary patterns are one of the main factors influencing students' daily food choices [23]. In general, it has been observed that there are different preferences in the number of meals taken during the day at the time of the exams, where most of the respondents take only two meals per day, while the number of students who take five or more meals a day is much lower (six students) as shown in Figure 3. Such an imbalance has shown a weak negative correlation with the general health of students. The correlation between these two parameters may have appeared because of greater stress of students during this period. As

suggested by Choi [24], it is important that students manage stress in a better way in order to prevent unhealthy eating, as students with high stress levels showed to have more unhealthy dietary habits compared to other students or times of the year when there is no exam.

It is recommended that food meals are taken more often but in smaller quantities, and that fruits and vegetables are part of the daily diet. The World Health Organization [25] recommends consuming 400 grams of fruit and vegetables per day as the minimal quantity to lower the risk of many diseases. Snack meals are very important among main meals, since they represent a good source of energy, and based on the generated data, it was found that 30.5% of students always consume food or drinks between main meals, 53.5% sometimes and 16% of students do not consume snack meals at all. Even though this trend of consuming snacks is considered positive among Kosovar students, it has been established that in most cases these meals consist of unhealthy foods. Only 29.5% of students consume fruits and vegetables at least once a day, while cookies, cakes, chocolates, carbonated drinks, energy drinks, coffee, tea, and fast foods remain the most consumed as presented in Figure 4.

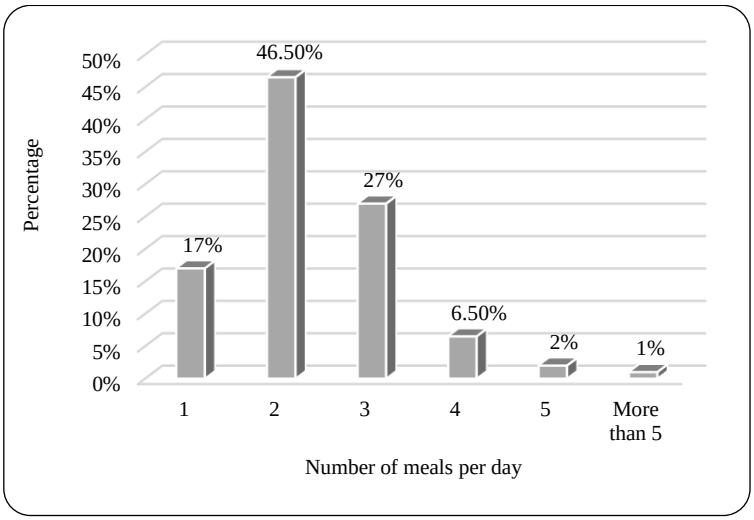

Figure 3. Percentage for number of meals taken per day during exam periods

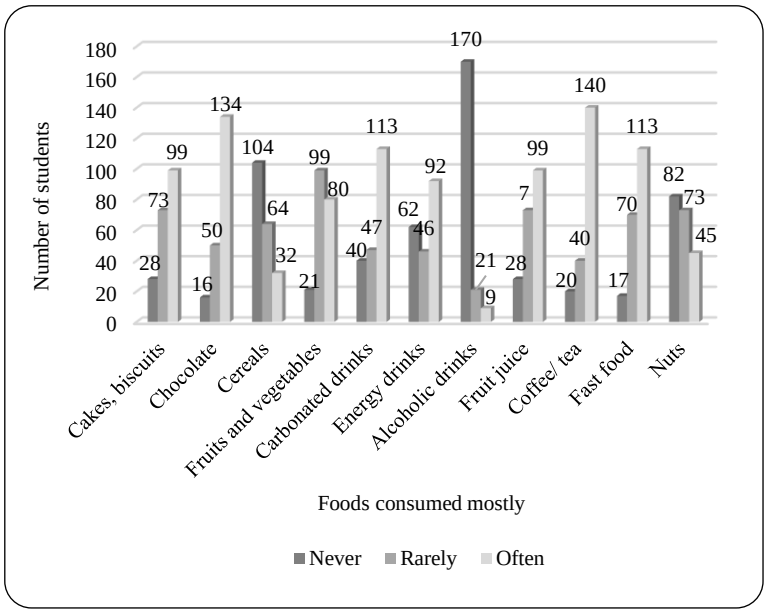

Figure 4. Snack meals preferences of students

Comparable results were also obtained by Alduraywish *et al*. [9], who have shown skipping meals and unhealthy diets among students at exam time. Despite these negative habits, it has been shown that

Kosovar students consume extraordinarily little alcoholic beverages during the exam period. This is important, as alcohol affects students' concentration during exam preparation and may be the cause of their low performance. This has also been shown in a study regarding the effect of alcohol consumption on academic performance, where significant differences were observed in the academic performance of students who consumed alcohol and those who did not consume such drinks [26].

The consumption of unhealthy drinks showed a slight correlation with the age of the students, in which case carbonated drinks (r=-0.169, p=0.017), energy drinks (r=-0.161, p=0.023) and tea or coffee (r=0.155, p=0.029) are mainly taken. At the same time, students do not prefer to consume nuts during a typical exam period, even though they have been estimated to have a great impact on concentration during learning.

According to Zunhammer *et al*. [27], students have a reduction in the time and quality of sleep during the exam period. Comparable results have been given by our research, where about 48% of students sleep less than 5 hours, although an approximately equal number of students (about 44.5%) sleep 6-8 hours as shown in Figure 5. This disorder in the sleeping schedule is influenced by the stress caused by exams, as 159 students out of 200 who were included in the research stated that they are stressed and nervous at the time of exams. A similar sleeping pattern is also linked to frequent eating right before bed, which is the main factor contributing to weight gain and an increased risk of cardiovascular diseases [28], [29].

General well-being and good health depend directly on our eating habits, but not only. This is also related to our everyday physical activity. According to the results generated by this research, a serious lack of physical activity has been observed among Kosovar students during the exam period, where 73% of them do not have physical activity at all as presented in Figure 6. This can be explained by the fact that during this period they are under the time pressure of preparing for exams and are under stress. The absence of active work adversely affects students' execution, as there is no improvement of the cerebrum, its neurotrophic factors, and a decline in the overall wellbeing status [30], [31].

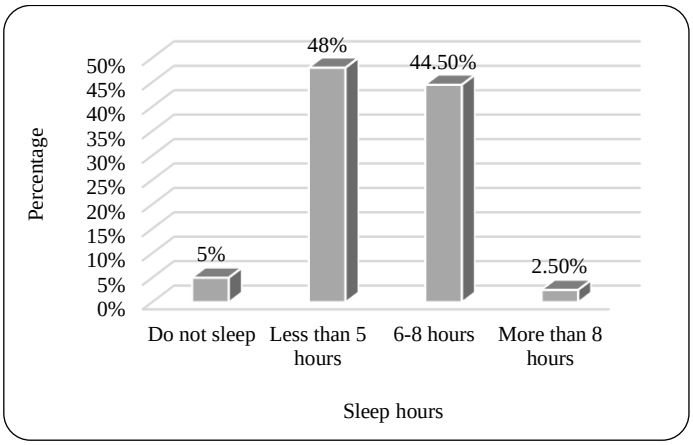

Figure 5. Percentage of survey participants sleeping hours

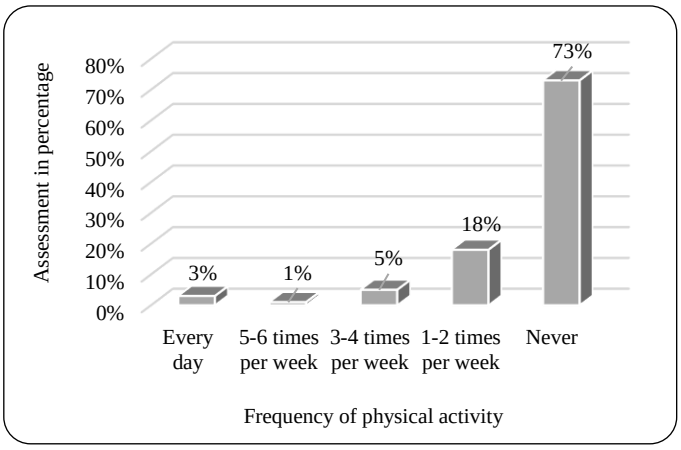

Figure 6. Percentage of survey participants physical activity

4. CONCLUSION

In conclusion, Kosovar students have shown unhealthy eating habits during the exam period. They have an irregularity in the time and number of meals they take during the day compared to other periods of the year when they are free from exams. Stress and time pressure are the main factors that influence unhealthy food choices such as fast food, carbonated and energy drinks, sweets and low intake of fruits and vegetables. Such nutrition can negatively affect the health and academic performance of students. Furthermore, this research has found that Kosovar students have very low physical activity and sleep fewer hours during the stressful period of exams.

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Salih Salihu Within the esteemed academic community of the University of Prishtina "Hasan Prishtina," Salih Salihu holds the esteemed position of Associate Professor within the Faculty of Agriculture and Veterinary. His scholarly pursuits are primarily concentrated in the multifaceted domain of cereals, encompassing an intricate understanding of plants, and delving into the innovative and evolving processing technologies associated with fruits and vegetables. Salih Salihu stands out as a well-regarded and accomplished researcher, his work resonating within the academic and scientific spheres. Through dedicated exploration and investigation, he has significantly contributed to the advancement of knowledge in his specialized areas of interest. His willingness to engage with peers, students, and researchers underscores his commitment to fostering an environment of academic excellence and the sharing of knowledge within the University of Prishtina community. He can be contacted at email: salih.salihu@uni-pr.edu.

Njomza Gashi holds a pivotal role as a Research and Teaching Assistant at the University of Prishtina "Hasan Prishtina," where her academic endeavors contribute significantly to the Faculty of Agriculture and Veterinary. In her current pursuit of a Doctor of Philosophy (Ph.D.) in Food Science at the prestigious University of Debrecen in Hungary, she exemplifies a profound commitment to expanding her expertise and making impactful contributions to her field. Within the realm of food science, Njomza's research portfolio is diverse and multifaceted. Her keen interest extends across various domains, including cereal technology, microbiomes, healthy nutrition, urban agriculture, and the exploration of novel and functional foods. This comprehensive approach not only underscores her passion for unraveling the complexities of food science but also highlights her holistic understanding of the interconnections between food, technology, and health. For those seeking to connect with Njomza Gashi for academic collaboration, inquiries, or discussions related to her research. She can be contacted at email: nj.gashi2@gmail.com.