APPROACHES AND RELATIONSHIP TO HEALTH AND HEALTHY LIFESTYLE OF UNIVERSITY FEMALE STUDENTS

[a]MARIÁN MERICA, [b]RÓBERT OSAĎAN, [c]LILLA KOREŇOVÁ, [d]JÁN GUNČAGA

Comenius University in Bratislava, Faculty of Education,
Račianska 59, 813 34 Bratislava, Slovak Republic
email: [a]merica@fedu.uniba.sk, [b]osadan@fedu.uniba.sk
[c]korenova@fedu.uniba.sk, [d]guncaga@fedu.uniba.sk

Abstract: In their contribution, the authors describe the issue of health and healthy lifestyle of university female students of the Faculty of Education of Comenius University in Bratislava, who study in the study program - pre-school and elementary pedagogy. The aim of the article is to describe and interpret, according the questionnaire consisting of 29 questions, the answers of 101 female students of bachelor's and master's study concerning their attitudes towards health and realization of healthy lifestyle as part of their overall mental hygiene. Based on the questionnaire evaluation by the percentage-frequency analysis and the results obtained from testing the 10 hypotheses using the Chi-squared test, we can conclude that our college students in their value perception tend to have a positive relationship to health and try to respect the basic attributes of a healthy lifestyle. Most of the students are aware of their reserves in this area and therefore they want to improve their eating habits, drinking regime, using their free time and they want to be more active in the means of regeneration and relaxation from fatigue and stress, by increasing the number of hours in several of their leisure activities.

Keywords: health, healthy lifestyle, university female students, rational nutrition, relaxation, physical activity.

1 Introduction

Part of a healthy lifestyle of every individual is, in addition to appropriate exercise, also healthy rational nutrition with plenty of drinking regime and proper mental hygiene. Eating habits is undoubtedly a habit that most affects people's health. The habit of eating is constantly repeated throughout a person's life. According to some authors, up to 90% of all diseases, when not considering infectious diseases and injuries, are related to diet.

On the contrary, according to Pamplon-Roger (1996), nourishment does not depend on the voluntary nature of the individual, and it is completely involuntary. It includes all the processes and transformations by which food in the organism passes through to its complete transformation. Under normal conditions, if there is no pathological process in the body, good nutrition is reflected in good nutritional status.

The issue of rational nutrition, adherence to the drinking regime and mental hygiene has been given great attention in recent years, also because of that many diseases nowadays arise as a result of unnatural and unsuitable food, non-compliance with the drinking regime and also failure to comply with the basic rules of mental hygiene. We meet with this in the works of many authors for example Carper (1998), Sullivan (2002), Horáková (2009), (Piťha-Poledne (2009), Grotto (2009) and others. According to Gregor (2007) we still meet lots of people who do not want to admit that these health problems may also be related to the non-compliance with these basic rules of a healthy lifestyle.

Many peole often do not have time to eat, and when they find it, they usually eat fast food and they do not realize what negative consequences this diet can have on the body, which is mostly rich in fat and cholesterol. If we realize that many children and students have also this eating habits, this issue is still current. Sports nutrition was mainly addressed by authors: Clarková (2000), Kalečík (2000), Konopka (2004), Fořt (2005), Žák (2005) and others. In the application of rational nutrition, the knowledge of Clark (2000) is very important, with emphasis on natural nutrition, where fruits and vegetables contain 70-85% of water and should be the major, ideal food.

And we must not forget that for every individual, in addition to rational nutrition, it is extremely important to maintain adequate physical activity. With the exercises as part of a healthy lifestyle, we meet in the work of several authors, for example Kalečík (2000), Škovierová (2000), Murgová (2001), Novotná-Merica (2007), Dahlke (2008), Hrčka et al (2011), Merica (2012), and others. In particular, these authors emphasize the need for recreational, but regular exercise, as the inevitable need of each individual.

2 Methodology

The aim of this work was to find out attitudes and relationship to health and healthy lifestyle of university female students of bachelor and master studies at the Faculty of Education of Comenius University in Bratislava, who study in the study program - pre-school and elementary education.

Tasks. Based on our goal, we set out the following tasks: choose university in Bratislava for solving our issue, compile a questionnaire with 29 questions and, based on this, gain knowledge about a healthy lifestyle of the students. The results obtained are statistically processed and evaluated on the basis of percent-frequency analysis and Chi-squared test. In educational research, the application of Chi-squared test can be found e.g. in the authors (Barot, T., Krpec, R. 2018, 2019).

Hypotheses. Based on the goal and tasks of the work we built 10 hypotheses, which we approach in the results of this work.

Methods. Quantitative Analysis Applied on Achieved Results of Observed Students. In the quantitative research, results of questionnaires achieved from observed students were analyzed using statistical methods of the mathematical induction. 46 samples of a bachelor studies and 55 samples of master degree studies were appeared in this observed population file. The population included students which belong to Faculty of Education at Comenius University in Bratislava.

3 Results and discussion

Following particular statistical hypotheses 1H – 10H were considered in the form of zero and alternative hypotheses:

1H0: There are not statistically significant dependences of an assessment of a current healthy state on a type of a study (bachelor or master degree).
1H1: There are statistically significant dependences of an assessment of a current healthy state on a type of a study (bachelor or master degree).
2H0: There are not statistically significant dependences of a frequency of eating food on a type of a study (bachelor or master degree).
2H1: There are statistically significant dependences of a frequency of eating food on a type of a study (bachelor or master degree).
3H0: There are not statistically significant dependences of a frequency of eating fruits and vegetables on a type of a study (bachelor or master degree).
3H1: There are statistically significant dependences of a frequency of eating fruits and vegetables on a type of a study (bachelor or master degree).
4H0: There are not statistically significant dependences of monitoring the caloric value of eating foods on a type of a study (bachelor or master degree).
4H1: There are statistically significant dependences of monitoring the caloric value of eating foods on a type of a study (bachelor or master degree).
5H0: There are not statistically significant dependences of a frequency of drinking alcohol on a type of a study (bachelor or master degree).
5H1: There are statistically significant dependences of a frequency of drinking alcohol on a type of a study (bachelor or master degree).
6H0: There are not statistically significant dependences of a form of spending free-time on a type of a study (bachelor or master degree).

6H1: There are statistically significant dependences of a form of spending free-time on a type of a study (bachelor or master degree).
7H0: There are not statistically significant dependences of a frequency of smoking cigarettes on a type of a study (bachelor or master degree).
7H1: There are statistically significant dependences of a frequency of smoking cigarettes on a type of a study (bachelor or master degree).
8H0: There are not statistically significant dependences of an appearance of experiences with drugs on a type of a study (bachelor or master degree).
8H1: T here are statistically significant dependences of an appearance of experiences with drugs on a type of a study (bachelor or master degree).
9H0: There are not statistically significant dependences of an appearance of physical activities in a life style on a type of a study (bachelor or master degree).
9H1: There are statistically significant dependences of an appearance of physical activities in a life style on a type of a study (bachelor or master degree).
10H0: There are not statistically significant dependences of using regenerative or relaxing possibilities against stress or tiredness on a type of a study (bachelor or master degree).
10H1: There are not statistically significant dependences of using regenerative or relaxing possibilities against stress or tiredness on a type of a study (bachelor or master degree).
As can be seen in Table 1, the statistically significant dependences between pairs of categorical statistical variables are assigned to a particular hypothesis. In this table, numbers of questions are declared.

Table 1 Description of Pairs of Statistical Categorical Variables for Purposes of Testing Hypotheses

Hypothesis	1st Categorical Variable	2nd Categorical Variable
1H	Question 3	Bachelor or Master Degree
2H	Question 5	Bachelor or Master Degree
3H	Question 7	Bachelor or Master Degree
4H	Question 14	Bachelor or Master Degree
5H	Question 17	Bachelor or Master Degree
6H	Question 18	Bachelor or Master Degree
7H	Question 21	Bachelor or Master Degree
8H	Question 22	Bachelor or Master Degree
9H	Question 24	Bachelor or Master Degree
10H	Question 26	Bachelor or Master Degree

With respect to categorical type of observed statistical variables, statistical method Chi-squared test were applied in the frame of testing hypothesis 1H – 10H. As value 0.05, a significance level α was considered for purposes of an educational quantitative research. According to achieved p-values in PAST Statistics (Hammer, et al., 2001), conclusions of testing hypotheses can be seen in Table 2.

Table 2 Testing Hypotheses Using Chi-Squared Test

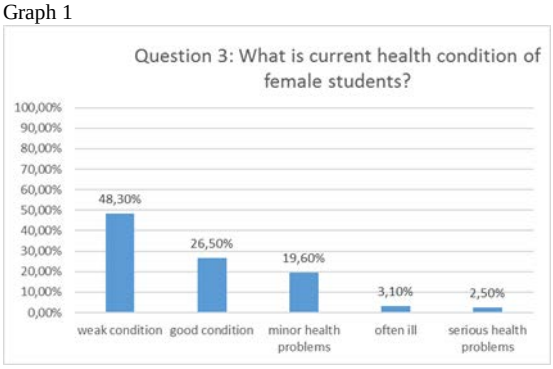
Hypothesis	*p*-value	Conclusion
1H	$0.05509 > \alpha$	$1H_0$ is failled to reject.
2H	$0.57472 > \alpha$	$2H_0$ is failled to reject.
3H	$0.16288 > \alpha$	$3H_0$ is failled to reject.
4H	$0.04905 < \alpha$	$4H_0$ is rejected in favor of $4H_1$
5H	$0.96231 > \alpha$	$5H_0$ is failled to reject.
6H	$0.72137 > \alpha$	$6H_0$ is failled to reject.
7H	$0.79816 > \alpha$	$7H_0$ is failled to reject.
8H	$0.66813 > \alpha$	$8H_0$ is failled to reject.
9H	$0.28904 > \alpha$	$9H_0$ is failled to reject.
10H	$0.61030 > \alpha$	$10H_0$ is failled to reject.

Due to achieved results of testing hypotheses, only 2H indicated an existence of statistically significant dependences on the significance level 0.05. In other cases, there were not confirmed existences of statistically significant dependences on the significance level 0.05.

Furthermore, we will present some of the results from the questionnaire, based on percent-frequency analysis and on the basis of the assessment in the form of zero alternative hypotheses of the Chi-squared test with simultaneous opinion on the ten hypotheses (1 H, 2 H, 3 H, 4 H, 5 H, 6 H, 7 H, 8 H, 9 H, 10 H). To these hypotheses, some selected questions from the questionnaire are included in the text, which contained 29 questions in total.

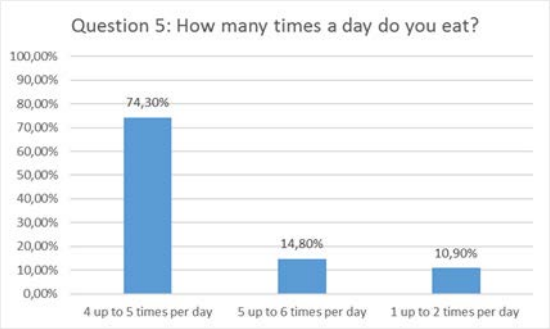
1 H (Question 3: How do you evaluate your current health condition?). We found out that when evaluating their current health condition, most students find themselves healthy, but 48.3% feel healthy, but they are aware of their weaker condition. Another 26.5% of students feel healthy with good condition. 19.6% of female students have minor health problems, 3.1% of female students are often sick and only 2.5% of female students have serious health problems (Graph 1). Based on the assessment in the form of zero and alternative Chi-squared test hypotheses we note that there are no statistically significant dependencies in the assessment of their health status among bachelor and master students in the form of a zero hypothesis, but there are statistically significant dependencies in the assessment as an alternative hypothesis.

Graph 1



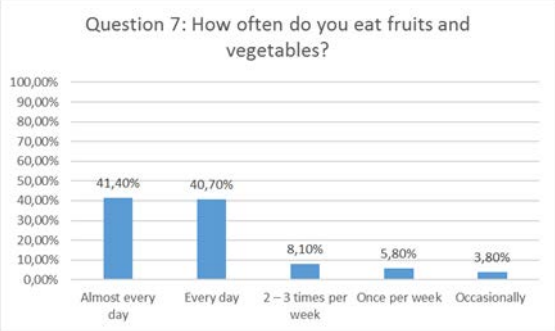
2 H (Question 5: How many times a day do you eat?) We found out that female students eat mostly 4 to 5 times a day (74.3%), followed by female students who eat 5 to 6 times a day (14.8%) and 10.9% of female students eat 1-2 times a day. The research indicated that nearly half of the students cook by themselves from the food they brought from home and bought in the store (Graph 2). At the same time, we note that there are no statistically significant addictions at frequencies of eating among bachelor and master students in the form of a zero hypothesis, but there are statistically significant dependencies on the significance level of 0.05 when assessed as an alternative hypothesis.

Graph 2



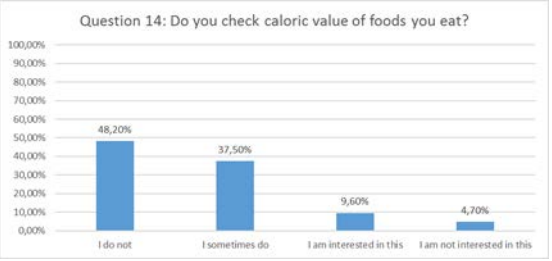
3 H (Question 7: How often do you eat fruit and vegetables?). We discovered that in the largest percentage (41.4%) there are students who eat fruit and vegetables often, almost every day. They are followed by female students who eat fruit and vegetables every day (40.7%), followed by female students who eat fruit and vegetables 2-3 times a week (8.1%), once a week (5.8%) and occasionally (3.8%) – (Graph 3). At the same time, we note that there are no statistically significant dependencies in the frequency of fruit and vegetable consumption among bachelor and master students in the form of a null hypothesis, but there are statistically significant dependencies in the assessment as an alternative hypothesis.

Graph 3



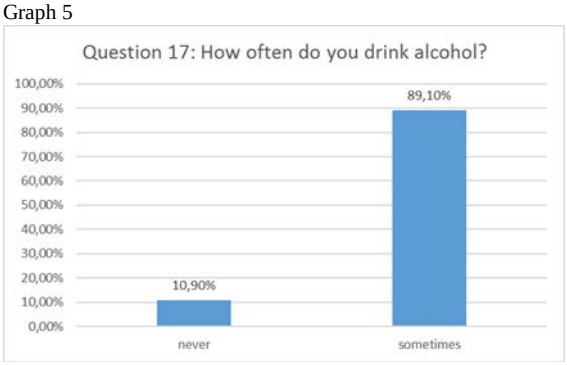
4 H (Question 14: Do you check the caloric value of the foods you eat?). We found that most students (48.2%) do not check the caloric value of the foods they eat, and sometimes it is checked by 37.5% of the students. 9.6% of female students are interested in this information and 4.7% of female students are not interested (Graph 4). At the same time, we observe that there are no statistically significant dependencies in the observation of the caloric value of food consumption among bachelor and master students in the form of a zero hypothesis, but there are statistically significant dependencies in the assessment as an alternative hypothesis.

Graph 4



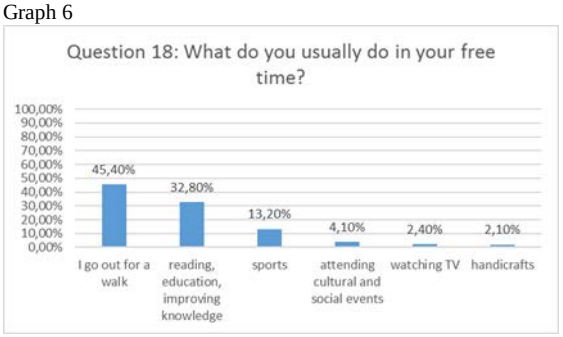
5 H (Question 17: How often do you drink alcohol?). We found that 10.9% of students have never consumed alcohol and 89.1% of students drink only occasionally, for example while meeting with friends, celebrating, at disco, after exam or while having fun (Graph 5). At the same time, we note that there is no statistically significant dependence on the frequency of alcohol consumption among bachelor and master students in the form of a zero hypothesis, but there are statistically significant dependencies when assessed as an alternative hypothesis.

Graph 5



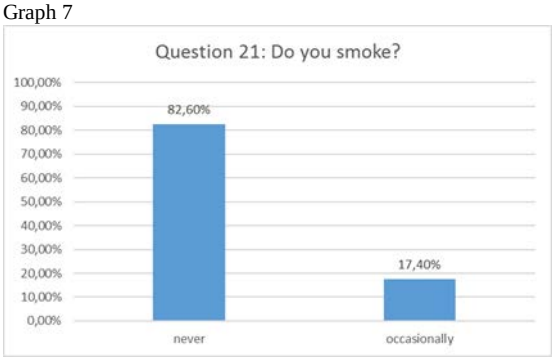
6 H (Question 18: What do you usually do in your free time?). We found that the majority of students spend their free time in nature (45.4%) and that 32.8% of them read, educate and increase their professional knowledge. Other 13.2% female students are doing sports, others are attending cultural and social events (4.1%), then watching television programs (2.4%), doing handicrafts (2.1%) – (Graph 6). At the same time, we note that there are no statistically significant dependencies in the forms of spending free time among bachelor and master students in the form of a zero hypothesis, but there are statistically significant dependencies in the assessment as an alternative hypothesis.

Graph 6



7 H (Question 21: Do you smoke?). We found that the most female students do not smoke at all (82.6%) and other female students smoke occasionally (17.4%) – (Graph 7). At the same time, we note that there are statistically significant dependencies in the frequency of smoking among bachelor and master students in the form of a null hypothesis, but there are no statistically significant dependencies in the assessment as an alternative hypothesis.

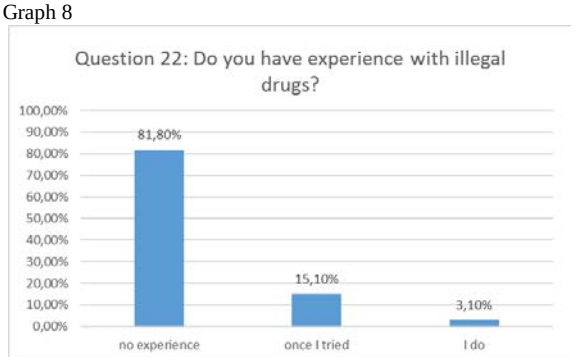
Graph 7



8 H (Question 22: Do you have personal experience with illegal drugs?). We found that most female students have no experience with illegal drugs (81.8%), but 15.1% of female students tried it once and nothing more. The remaining 3.1% of students have personal drug experience (Graph 8). At the same time, we note that there are statistically significant addictions in the case of the

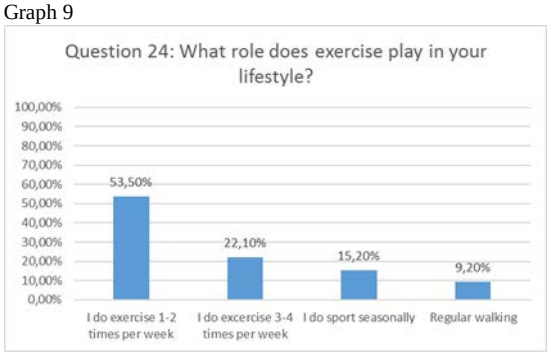
drugs experience among bachelor and master students in the form of a null hypothesis, but there are no statistically significant dependencies in the assessment as an alternative hypothesis.

Graph 8



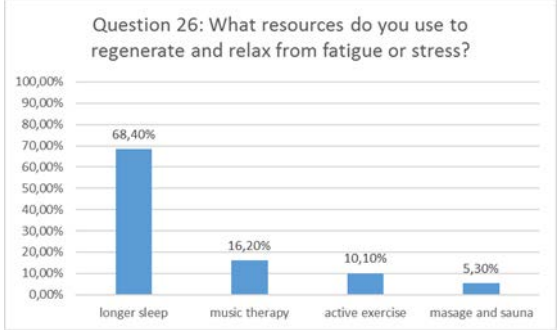
9 H (Question 24: What role does exercise play in your lifestyle?) We found that most students (53.5%) do exercise 1-2 times a week, other students do sports 3-4 times a week (22.1%). Female students who only sport seasonally are represented by 15.2% and female students who do not do sports, but try to keep fit at least by regular walking by 9.2% (Graph 9). At the same time, we note that there are no statistically significant dependencies in the occurrence of physical activity among bachelor and master students in the form of a null hypothesis, but there are statistically significant dependencies in the assessment as an alternative hypothesis.

Graph 9



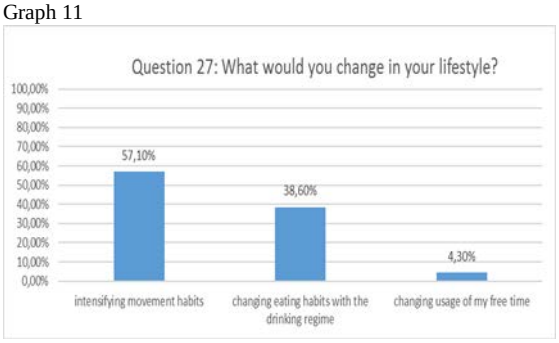
10 H (Question 26: What resources do you use to regenerate and relax from fatigue or stress?). We found that the majority of students (68.4%) use longer sleep to regenerate, other students use music therapy (16.2%), other students use an active form of exercise (10.1%). 5.3% of students go for massage and sauna for regeneration (Graph 10). Based on the assessment in the form of zero and alternative hypotheses of the Chi-squared test, we state that there are no statistically significant dependencies in the occurrence of physical activity among bachelor and master students in the form of a zero hypothesis, and there are no statistically significant dependencies in the assessment as an alternative hypothesis.

Graph 10



An interesting finding among the studied students was the answer to Question 27: What would they change in their lifestyles? We found that most students (57.1%) would like to change (intensify) their physical habits, other students (38.6%) would like to change their eating habits along with the drinking regime and 4.3% would like to change their use of free time. More than 39% of the students work along the study because they want to have better life and at the same time they want to help their parents (Graph 11).

Graph 11



A positive finding among the female students of our group was that most female students do not consume sweets and drink clean water from beverages. However, most female students are still aware of their reserves of healthy lifestyle issue and therefore they want to improve their eating habits, drinking regimes, using their leisure time and they want to be more active in devoting themselves to the means of regeneration and relaxation from fatigue and stress by increasing the number of hours in several of their leisure time physical activities.

4 Conclusion

In our contribution we tried to clarify the issue of health and realization of healthy lifestyle of University female students at the Faculty of Education of Comenius University in Bratislava, who study in the study program - pre-school and elementary education. On the sample of 101 students, we also surveyed their drinking regime and overall mental hygiene as part of a healthy lifestyle in the form of a questionnaire consisting of 29 questions. Based on the results of testing the 10 hypotheses using the Chi-squared test and the percent-frequency analysis, we can conclude that our University students in their value perception tend to have a positive relationship to health and try to respect the basic attributes of a healthy lifestyle. Among the bachelor and master students in the results of the second hypothesis regarding the frequency of food consumption, we find the existence of a statistically significant dependence on the significance level of 0.05. Most of the students are aware of their reserves of healthy lifestyle and therefore they want to improve their eating habits, drinking regime, using their free time and they want to be more active in the means of regeneration and relaxation from fatigue and stress by increasing the number of hours in several of their leisure activities.

Their desire is to maintain good health during their studies as well as in their next working life. A positive finding among the students was that most female students did not consume sweets and prefer pure water to drink.

This topic as it is elaborated opens possibilities further to qualitative research (e.g. Severini, Kostrub, 2018; Kostrub, 2016).

Literature:

1. Barot, T., Krpec, R.: Alternative Approach to Fisher's Exact Test with Application in Pedagogical Research. 2nd Computational Methods in Systems and Software 2018: Computational and Statistical Methods in Intelligent Systems, 50-59. Advances in Intelligent Systems and Computing 859.

Springer (2019). ISSN 2194-5357. doi:10.1007/978-3-030-00211-4-6.
2. Carperová, J.: *Potraviny - zázračné léky*. Olomouc: Votobia, 1997. 592 p. ISBN 80-7198-222-9.
3. Clarková, N.: *Sportovní výživa*. Praha: Grada, 2000. 266 p. ISBN 80-247-9047-5.
4. Dahlke, R.: *Najlepšie tipy pre zdravie*. Bratislava: Eugenika, 2008. 168 p. ISBN 978-80-8100-110-9.
5. Fořt, P.: *Výživa pro dokonalou kondici*. Praha: Grada, 2005. 181 p. ISBN 80-247-1057-9.
6. Gregor, T.: Vplyv telesného pohybu na psychické zdravie In: *Revue medicíny v praxi*. Roč. 5, č. 1, 2007, p. 29-38.
7. Grotto, D.: *Stojedna potravin, které vám mohou zachránit život*. Praha: LK, 2009. 405 p. ISBN 978-80-7309-688-5.
8. Hammer, O., Harper, D.A.T., Ryan, P. D.: PAST: Paleontological statistics software package for education and data analysis. Palaeontologia Electronica, 4(1). ISSN: 1094-8074.
9. Horáková, K.: *Umenie zdravo žiť*. Bratislava: Metro Media, 2009. 236 p. ISBN 978-80-969606-6-8.
10. Hrčka, J., Kovářová, M., Beňačka, J.: *Pohybová aktivita edukantov fyzioterapie vo voľnom čase a jej reflexia na vybraných zdatnostných a zdravotných charakteristikách*. Trnava: UCM, 2011. 151 p. ISBN 978-80-8105-323-8.
11. Kalečík, Ľ.: Zdravie a plávanie. In: Zdravie, výživa a pitný režim v športe: Zborník. Bratislava: STU MTF, 2000. pp. 84-87. ISBN 80-227-1704-5.
12. Konopka, P.: *Sportovní výživa*. České Budějovice: KOPP, 2004. 125 p. ISBN 80-7232-228-1.
13. Kostrub, D.: *Základy kvalitatívnej metodológie - keď interpretované významy znamenajú viac ako vysoké čísla*. Bratislava: PdF UK, 2016. 161 p. ISBN 978-80-223-4166-0.
14. Merica, M.: Telovýchovné aktivity na vysokej škole. In: *Vedecké práce 2012*. Bratislava: STU, 2012. pp. 133-139. ISBN 978-80-227-3724-1.
15. Mplona-Roger, J.: *Vychutnaj život : Kniha o zdravej výžive*. Martin: Advent Orion, 1996. 224 p. ISBN 80-88719-51-8.
16. Murgová, R.: *Tajomstvo zdravého života*. Prešov: Grafotlač Šoltýs, 2001. 152 p. ISBN 80-967523-5-9.
17. Novotná, S., Merica, M.: Pohybové aktivity ako prostriedok pri zvládaní stresov vysokoškolákov. In: *Sport a kvalita života* 2007: zborník z medzinárodnej konferencie (CD). Brno: MU FSS, 2007. p. 94. ISBN 978-80-210-4435-7.
18. Piťha, J., Poledne, R.: *Zdravá výživa pro každý den*. Praha: Grada Publishing, 2009. 144 p. ISBN 978-80-247-2488-1.
19. Severini, E., Kostrub, D.: *Kvalitatívne skúmanie v predprimárnom vzdelávaní*. Prešov: Rokus, 2018. 182 p. ISBN 978-80-895-1071-9.
20. Sullivan, K.: *Jeme zdravo a dobre*. Praha: Ottovo nakladatelství, 2002. 192 p. ISBN 80-7181-705-8.
21. Škovierová, K.: *Zdravo žiť*. Bratislava: Ikar, 2000. 71 p. ISBN 80-7118-896-4.
22. Žák, F.: *Výživa pre výkon a zdravie*. Bratislava: ICM AGENCY, 2005. 131 p. ISBN 80-969268-2-9.

Primary Paper Section: A

Secondary Paper Section: AK