

THE CORRELATION OF SPORTS ACTIVITY AND EATING HABITS IN PRESCHOOL CHILDREN AND THEIR PARENTS

Mateja Videmšek, Vesna Pogelšek*, Damir Karpljuk, Jože Štihec, Jera Zajec*

Faculty of Sport, University of Ljubljana, Ljubljana, Slovenia

*Independent researcher

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The aim of this research was to analyze sports activity and eating habits in preschool children and their parents. We were interested in the correlation between parents' and preschool childrens' eating habits and sports activity.

A questionnaire consisting of 32 questions was used to interview 93 parents of three to five year old children from 3 Slovene kindergartens. The data was processed by the SPSS program, calculating the frequency and contingency tables.

We have established that nutrition of the majority of preschool children is regular and proper; despite the fact that quite a few five year old girls and 3 year old boys have an increased BMI (body mass index). Their parents' eating habits are far from exemplary though – over 50% eat only 2 to 3 meals a day. Even though no statistically characteristic correlation was ascertained, the results show that children whose parents are sports active have more adequate nutrition than those children whose parents are not sports active. It is statistically characteristic that parents, who are more sports active, involve their children in sports more. The majority of them also spend their holidays actively.

We are of the opinion that at the time when children are still prone for parents' and teachers' influences, children should adopt a positive attitude towards a sports active way of life and healthy nutrition which represent the fundamental condition for a normal way of life without any unnecessary troubles due to harmful habits and modern diseases.

Keywords: Preschool children, parents, sports activity, eating habits.

INTRODUCTION

Obesity is a growing problem in contemporary society. The reasons are various ranging from genetics, metabolism processes, social and economic standards, psychological reasons, and lack of exercising to irregular nutrition. Lack of exercising in particular is the factor that causes an increase in obesity and diabetes, while genetics is among the prevailing factors causing obesity (Bratanič, 2000). Of obese children, 40 to 50% come from families where one of the parents is obese, and 80% of obese children come from families where both parents are obese. The proportion of obese children where both parents have normal body weight is 10%. Losing the extra body weight is closely related to regular sports activity, whereas irregular sports activity and quick diets do not produce satisfactory results (Battelino, 2000).

Experts are of the opinion that Slovene national cuisine includes all the good eating habits. Nutrition used to be based on meals prepared from grains and vegetables, meat was eaten on Sundays and holidays only, and people used to have regular fasting days. Unfortunately, the plain country meals have almost disappeared from our dining tables, and like the rest of the modern world, Slovene people eat more and more unhealthy fast food

(Jurovič, 2003). An increased interest in a healthy way of life, which combines more suitable nutrition and more physical activity, is noticeable in public though. However, we cannot overlook the fact that nutrition organizers in kindergartens and schools still follow standards over thirty years old. The nutritional and caloric values of these meals are way beyond today's standards (Sušnik, 2005).

Up until today, the Ministry of Education and Sport has not yet updated the standards for planning meals in Slovene kindergartens and schools. We may be following the British government's example, which is planning to withdraw all food substances containing more than 10% fat. This way, the "black list" will include all fizzy and sweet drinks, hamburgers, puddings, and chocolate desserts, cakes, French fries and the like. The British government will increase the financial contribution for meals; therefore, meals will contain more fruit and vegetables of the local distributors, who will be obliged to undertake certain food production standards. These changes have proved to be successful especially because the main initiator was the celebrity Jamie Oliver (Sušnik, 2005).

Nutritional experts, among others, also blame the advertising industry that pushes to sell every food regardless of how healthy or unhealthy the food is (Sturm,

2002). For advertising food, the food industry spends approximately 420 per consumer a year, while less than 1 per consumer a year is spent for promoting healthy food. Positive examples are the Scandinavian countries (Norway, Sweden). They have decided to prohibit television advertisements for children. The majority of other countries have introduced numerous incomplete and sometimes cross-covering educational and promotional initiatives with nutritional instructions. It is not just the advertising industry that should be blamed. The internet, the availability of fast food restaurants and food vending machines, and above all, lack of movement, add a lot to this problem (Blenkuš, 2001). Parents play here a very important role, too. Very concerning in Slovenia are the facts that 30% of boys and 38% of girls come to school without having breakfast, and that only 10 to 15% of high school students are signed up for school meals.

Healthy, balanced and quality meals, combined with an active life style in childhood and adolescence, are the essential factors for appropriate children's physical and mental development and for a quality life (Strel, Kovač, Leskošek, Jurak, & Starc, 2002). Unfortunately, there are examples where laws and regulations are not followed. By law, primary schools must employ one person for planning school meals for every 420 pupils (for schools with fewer pupils, a corresponding share). In her study, Zakotnik (2005) has stressed that only 382 (79%) of 485 primary schools in Slovenia have an organizer of school meals, and only 34% of these employees have the required qualifications. School meals planning in the rest of the schools is done by history, geography, and math teachers, even by secretaries. In kindergartens, meals organization is less of a problem, though they too follow standards and norms prepared by the Kindergarten community 23 years ago. Nutrition in kindergartens is integrated into the educational process, the purpose of which is to assure adequate meals, accustom children to healthy food, encourage independency and assure an encouraging atmosphere at meal times. Education for healthy nutrition namely does not take place only during actual consumption of meals; it is a process integrated into a variety of activities.

Sports or movement activity in general plays a significant role in life. When talking about people who are sports active, this usually means no unhealthy food, alcohol, cigarettes and many other bad habits that are too frequent in the "domain of the modern man" (Wang, 2001). Sport helps to suppress negative factors when already present, or helps prevent them from occurring. Sport is a way to enrich one's life at any age, early or late.

The research by Pišot, Fras and Zaletel-Kragelj (2005) has shown that 41% of the Slovene population does not even practice one single sport or recreational activity. Despite this, an encouraging fact is that in the past few years records show an increase in the number of sport-

recreational activities, in the percentage of sports active population and in regular and frequent sports activity (Sila, 2005). There are fewer people who are inactive and more of those who are active and practice regularly. The ratio among inactive, occasionally active and regularly active is around 4:3:3. An increased number of active women is also very encouraging, meaning a significant decrease in sex distinction. There is a drop of sports activity related to the population getting older, primarily among occasionally active individuals. The regularly active population is normally faithful to an active life style, even in late ages. Sports activity is still strongly related to social status, primarily defined by education and income. The higher the social status, the more often individuals are sports active. Comparing Slovenian results with other European countries shows that Slovenians are far ahead of the Mediterranean countries, also ahead of the central European countries, but behind the northern and Nordic nations. According to the 2001/2002 international research paper "Health behavior in school aged children", Slovene children aged 11 are on average sports active at least one hour a day, approximately 4 days a week. When older, the number of days when children are active at least one hour a day is decreasing. A similar situation is shown by the research on physical characteristics and movement activities of children. The results have shown that the numbers of hours per week, including PE at school, 11 to 14 year old pupils are sports active is approximately five and a half hours. Decreasing sports activity when children are getting older is present in various countries and regions across Europe. On one hand, the number of days per week children are sports active (particularly significant with girls) is decreasing, while on the other side, boys compared to girls of the same age are sports active more frequently (Zakotnik, 2005). The research by Kropej and Videmšek (2003), studying sports activity among four to six year old children in the Ljubljana region, has shown that 50% children at this age are not involved in any activity. About 25% children are sports active (organized sport activities). The research has also ascertained that children whose families spend holidays inactively, are less frequently sports active as well. Studying the sample of parents of preschool children from around Slovenia, Kropej and Videmšek (2002) have ascertained that there are certain factors which increase sports activity in children that their parents can directly influence: parents being sports active, active holidays, getting used to social gatherings, and the parents' positive opinion about sport.

Practicing sport in childhood and adolescence are benefits for a lifetime. Experts believe that the problem of wide-spread cardio-vascular diseases today has roots in the childhood period. Inadequate exercising extensively contributes to excessive body weight, high cholesterol level and high blood pressure. All of these

symptoms may be present already in adolescence and represent a high risk of developing serious heart diseases later in life (Willet, 2001). If alcohol, cigarettes and unhealthy nutrition are added, the risk of developing various diseases increases highly.

Childhood and adolescence are the most significant periods of growing up. Growing up into an adult person can be developed through sport and its specific movement activities, and through proper eating habits (Uršič-Bratina, 2000a). As the process of socialization starts in childhood, the family plays a very important role in developing a child's personality. Knowing that parents today are often overloaded with work and have very little time for raising children, the role of a kindergarten or school is thus even more important. Children can often adopt many bad habits in an inappropriate environment. Kindergartens and schools are a kind of a counterpoise, trying to guide children in the most appropriate way. Kindergartens and schools should help individuals to develop the potentials they possess, in order to be able to enter and start an independent life based on their own capabilities, having high self-esteem and strong determination (Vrba, 2000).

Since the problems and issues described here are most prevalent and interesting, we decided to carry out a research project to analyze the sports activity and eating habits of three to five year old children. We were interested in the correlation between parents' and pre-school children eating habits and sports activity.

METHOD

Participants

The questionnaire was completed by 93 parents whose children visit 3 Slovene kindergartens (region Koper). The children are aged three to five.

Instruments

Data was obtained with a questionnaire including 32 (closed type) questions (resumed from: Pogelšek, 2006).

The sample of variables is as follows:

1. Child's sex?
2. Child's year of birth?
3. Child's weight?
4. Child's height?
5. Parents education?
6. Are you satisfied with your child's weight?
7. How many meals a day do you usually have?
8. How many meals a day does your child have?

9. Does your child have breakfast before going to kindergarten?
10. Where does your child most often eat when he/she returns from the kindergarten?
11. How often do you visit a fast food restaurant?
12. Do you eat seasonal fruit and vegetables?
13. Do you pay attention to the content of the meals for your child?
14. How many times a week do you prepare the following foods for your child?
15. Do you accustom your child to scheduled meals with appropriate intervals between meals?
16. Do you allow your child to have sweets and snacks between meals?
17. Do you manage to persuade your child to taste different foods?
18. What is the easiest and most frequent way you teach your child to get accustomed to good eating habits?
19. How many times a week do you offer your child an industrially prepared meal?
20. Why do you offer your child an industrially prepared meal?
21. Do you think your child is picky?
22. Ways and types of sports activity?
23. How often do you practice sport or are you sports active?
24. How many hours a day does your child spend outdoors when he/she returns from the kindergarten?
25. How do you spend your holidays?
26. Do you think your child is active enough (playground, sandpit, playing with a ball, running, cycling, playing with friends...)?
27. Do you encourage your child to play and to undertake movement activities?
28. Are there any clubs or associations in your town, which organize sport activities for children?
29. Does your child visit any of the organized sports activity?
30. How many times a week are you sports active with your child?
31. If your child shows interest in a certain sport, would you sign him/her up to do this sport?
32. What is your opinion about influences of sport on children?

Procedure

The data was processed by SPSS software. Frequency and contingency tables were generated with the help of FREQUENCY and CROSSTABS sub-programs. The probability relations among the variables were tested by contingency coefficient. Statistical characteristics were evaluated at a 5% risk level.

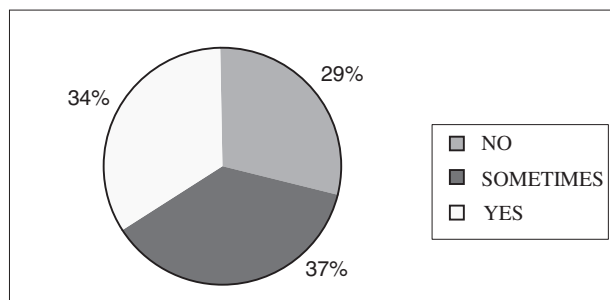
RESULTS

The sample includes randomly selected parents of three to five year old children of different education levels. The majority of parents have high school education (43%), following are parents with university education (40%), and the lowest percentage is those with vocational (11%) or primary school education (5%). Two thirds of these parents practice sport recreationally and irregularly, 20% practice recreationally and regularly (at least two times a week), and 15% do not do any sport.

42% of parents have three meals a day, 29% have four and only 19% have five meals a day. 10% of parents have only two meals a day, and none of the parents have more than five meals a day. The situation with children is slightly different; 47% have five meals, 39% have four meals, 11% have only three meals, and 3% have six or more meals a day. Before going to a kindergarten, only one third of children regularly have breakfast, 37% have breakfast occasionally, and as many as 29% never have breakfast (Fig. 1).

Fig. 1

Percentage of children having regular breakfast before kindergarten



Even though no statistically characteristic correlation was ascertained, the results show that children whose parents are sports active have more adequate eating habits. Parents, whose children have more than four meals a day, are sports active at least once a week. Parents' regular sports activity however does not influence children having breakfast; among these are namely parents who are sports active at least twice a week. The reason may be the fact that the majority of children come to kindergarten just before breakfast time, so they do not eat at home.

When they return from kindergarten. Of participating parents, 50% stated they never visit fast food restaurants, 36% visit fast food restaurants once a year, and the rest of them more often whereas 6% of the parents take a child to a fast food restaurant even one to two times a week, or every day. Almost all parents (95%) make sure their children have seasonal fruit and vegetables, but only 15% always pay attention to the content of children's meals (TABLE 1).

TABLE 1

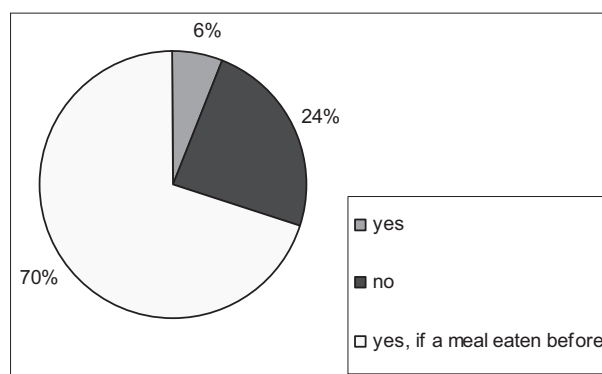
Pay attention to contents of children's meals

| Attention | % of answers |
|-----------|--------------|
| No | 3 |
| Sometimes | 37 |
| Often | 45 |
| Always | 15 |

Two thirds of parents prepare meat for their children four times a week or every day. Every day, only 77% parents offer children fruit and vegetables, 87% have dairy products every day, and 71% have bread, cereals, legumes or potatoes, whereas 8% of parents offer their children a dessert, chips or fizzy drink every day, one third of children get a dessert once a week and 9% never. Although 25% parents do not allow having sweets and snacks between meals, 70% allow this, provided that a child eats up the meal (Fig. 2). Only 5% of parents cannot persuade their children to taste different foods, over 50% manage to persuade them occasionally, 41% manage every time. They answered the question "How do they manage?" as follows: most parents (39%) explain to their children how beneficial and healthy the food is, 36% parents try to act as a good example, only a small percentage of parents answered they first taste the food themselves, or they try to trick their children, they promise a reward or they threaten a child. A little over one third of parents think their children are picky. Whereas 82% offer their children industrially prepared meals only once a month or less frequently, 14% offer such meals once a week and 4% offer such meals every day, usually due to a lack of time. These answers coincide with other results on children's eating habits - a majority of parents ensure a regular eating schedule, they do not eat in fast food restaurants and have varied meals including seasonal fruit and vegetables.

Fig. 2

Snacks in between meals



Based on the table of percentile distribution to estimate BMI (body mass index) in children and adolescents (Bratina, 2000b), overeating is estimated in those children whose BMI exceeds the 95th percentile according to their age and sex (TABLE 2). This research has established that three to four year old girls of the sample studied here, on average have adequate nutrition, the BMI of 75% five year old girls is above average, while in 25% cases the BMI even exceeds the 95th percentile which is concerning. The average BMI (ratio between body mass and the square of height) in five year-old girls of the sample studied is 17.06 kg/m² (TABLE 3). The value does not exceed the 95th percentile, however it is getting close. The situation is quite the opposite with boys: four to five year old boys have proper nutrition, while as many as one third of 3 year old boys have BMI above average, and 20% even exceed the 95th percentile (TABLE 4). The results show that the majority of parents (90%) are satisfied with their children's weight. Based on the above findings we are of the opinion that quite a few parents are satisfied with their children's weight even though they are overweight.

TABLE 2

The body mass index (BMI) in 3–5 year old boys and girls, National health and nutrition examination survey (Uršič-Bratina, 2000b)

| BOYS | | | | GIRLS | | | |
|---------|-------|-------|------|---------|-------|-------|------|
| AGE | 95. P | 50. P | 5 P | AGE | 95. P | 50. P | 5 P |
| 3 years | 18.4 | 16 | 14 | 3 years | 18.3 | 15.6 | 13.9 |
| 4 years | 18.1 | 15.8 | 13.8 | 4 years | 18.2 | 15.4 | 13.6 |
| 5 years | 18 | 15.4 | 13.7 | 5 years | 18.3 | 15.3 | 13.5 |

P = percentile

TABLE 3

Basic statistical parameters: body mass index (BMI) – girls (kg/m²)

| Age | Average | Minimal result | Maximal result | Standard deviation |
|---------|---------|----------------|----------------|--------------------|
| 3 years | 15.09 | 10.96 | 18.00 | 2.53 |
| 4 years | 15.75 | 12.70 | 19.95 | 1.96 |
| 5 years | 17.06 | 12.53 | 25.42 | 3.46 |

TABLE 4

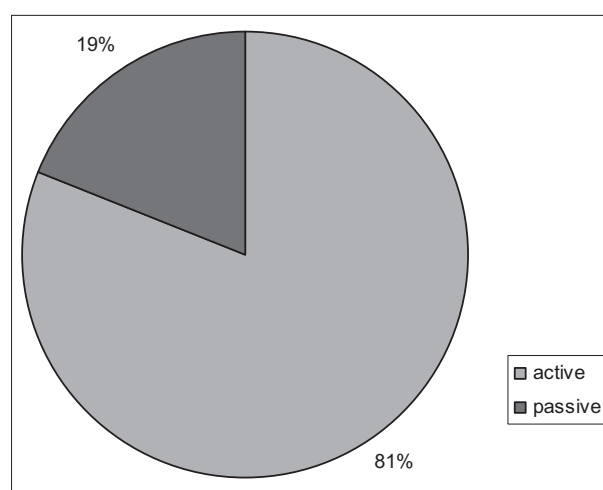
Basic statistical parameters: body mass index (BMI) – boys (kg/m²)

| Age | Average | Minimal result | Maximal result | Standard deviation |
|---------|---------|----------------|----------------|--------------------|
| 3 years | 16.43 | 13.20 | 20.99 | 2.27 |
| 4 years | 15.85 | 13.22 | 22.22 | 2.30 |
| 5 years | 15.77 | 14.83 | 20.83 | 1.96 |

When they return from kindergarten, the majority of children (even 93%) spend more than one hour a day outdoors. The same percentage of parents are of the opinion that their children are active enough and they get enough movement activities. Also, 81% spend active holidays, too (Fig. 3). Even though 79% parents stated that they encourage their children to participate in movement activities, 18% do not know of any sport clubs or associations in their town. Over 50% of children do not visit organized sport activities. Nearly all the parents are sports active with their children; the majority (41%) 2 to 3 times a week, 23% at weekends, 17% even every day (TABLE 5). Parents who are more sports active, are statistically characteristically more active with their children, too (TABLE 6); most parents (29%) who are active at least twice a week, are more sports active with their children, take them to trips, play ball with them, cycle, etc. Those parents who are active less than once a week, more often take time for their children at weekends or once a week.

Fig. 3

Ways of spending holidays

**TABLE 5**

Parents sports active with their children

| Answer | % of answers |
|------------|--------------|
| None | 3 |
| 1 × week | 16 |
| 2–3 × week | 41 |
| Every day | 17 |
| Weekends | 23 |

TABLE 6
Parents sports activity according to sports activity with their children

| How often are you sport active with children? | How often are you (parents) sports active? | | | | | | |
|---|--|-------------------------------|-----------------------------------|---------------|---------------------|---------------------|-----------|
| | Never | 1 time to couple times a year | 1 to 3 times a month | 1 time a week | 2 to 3 times a week | 4 to 6 times a week | Every day |
| | F % | F % | F % | F % | F % | F % | F % |
| None | 1 33.3 | 0 0 | 1 33.3 | 1 33.3 | 0 0 | 0 0 | 0 0 |
| 1 time a week | 0 0 | 3 20 | 7 46.7 | 2 13.3 | 1 6.7 | 1 6.7 | 1 6.7 |
| 2 to 3 times a week | 1 2.6 | 1 2.6 | 8 21.1 | 11 28.9 | 13 34.2 | 2 5.3 | 2 5.3 |
| Every day | 0 0 | 2 12.5 | 2 12.5 | 2 12.5 | 3 9.5 | 2 12.5 | 5 31.3 |
| Weekends | 0 0 | 3 14.3 | 6 28.6 | 8 38.1 | 2 9.5 | 1 4.8 | 1 4.8 |
| Contingency coefficient: 0.568 | | | Statistical characteristic: 0.007 | | | | |

If a child shows interest in a certain sports activity, the majority of parents would sign him/her up in the following cases: if they could coordinate their schedules, if the price was affordable or depending on the sports activity. Nearly all the parents (97%) are of the opinion that sport has a positive influence on a child's development and health; some parents commented that the activity has to be appropriate and professionally conducted.

DISCUSSION

Parents of the three to five year old children included in this research, have a rather high level of education – nearly half of them have university education. The percentage of those who are not sports active is lower compared to the results obtained in a public opinion survey (Sila, 2005); therefore, it was expected that the sample studied here – parents of three to five year old children, are adequately informed about healthy nutrition and the importance of sports activity, and how these factors influence a child's integral development and one's health respectively.

Based on the obtained results it can be seen that the majority of children have proper nutrition, meaning that they have at least four meals a day, and that their meals are primarily based on fruit, vegetables and dairy products. The majority of parents provide for regular intervals between meals and offer their children snacks only after they have eaten the main meal. Even though parents provide for a sufficient number of meals for their children, they are not so consistent about their own meals. Only one third of children eat breakfast at home. It is assumed that those children who come to kindergarten just before breakfast time do not eat

breakfast at home. Results of various research projects (Wang, 2001) indicate that children's productiveness is decreased by about 20% if they do not have breakfast. Sentočnik (2005) is of the opinion that a unified nutritional approach of a child's guardian leaves positive effects on eating habits later in life. We can develop the child's taste and attitude towards food up until they are five years old. This is the age when a child develops nutritional patterns which cannot be changed easily at a later time.

Children included in this research on average have proper nutrition. An above average BMI was found in five year old girls and three year old boys. Despite this, the majority of parents are satisfied with their children's weight. Bošnjak (2005) estimates that over 30% of European children aged between 7 and 11 are obese. They mostly come from Italy, Portugal, Spain and Malta. According to the International Association for the Study of Obesity, the number of obese children in Europe is increasing by at least 400.000 a year. Obesity is complex and the most wide spread disease of our modern time – in the developed countries, 50% of adults and 25% of children aged between 10 and 17 are obese (Sentočnik, 2005). The 2003 research paper on Slovene children and adolescent nutrition has shown that 9% of boys and 8% of girls are obese (Pavlič, 2006). According to Accetto and Bulc (2005), 43% of men and 54% of women from Ljubljana are obese.

The majority of parents are aware of how significant movement activities are for children's development – almost all of them spend more than one hour outdoors with their children and in addition, families spend their holidays actively. Despite this, over one half of children do not visit organized sport activities, and a lot of parents do not know of any organized sports activity in their town.

Parents, who are more sports active, are more active with their children. According to Žibret (2005), if parents are a good example, this is very significant for a child's attitude towards sport. The research on sport habits of primary and secondary school children has namely shown that children practice sport if their parents are sports active themselves. In sports inactive families, as many as 53% children are active only at PE classes in school. Sports active parents regularly or frequently direct their children to sign up for organized sport activities, since as many as 40% children regularly practice in different sport clubs.

We can change our habits – bad and good alike. We wish good eating and sport habits that we give to our children to remain a part of their lives forever. Therefore, we must, every day, pay special attention to influences from society – primarily the good examples of everyone in contact with children (kindergarten and school teachers, as well as coevals). A huge influence is represented by advertising information and information in the media about fashion trends (Robinson, 1998). The fact is that good eating and sport habits are far more difficult to be given up than going over from bad to good habits. We are aware that the bad eating habits of the Slovene population (adults and children) are related to inappropriate eating schedules and a consumption of food which is too high in calories. We must thus search for a way; first of all we must get people to know about regular daily meals and about proper food selection of what they eat. Koch (2002) quotes different studies which show that people who eat healthily, more often also lead a more healthy way of life. Obviously these people are more conscious of what health means for their qualitative way of life. A healthy life style is namely much more than just eating healthily (Kozjek, 2005). One of the most important foundations for a healthy life is undoubtedly also regular sports activity.

The experts think it is the government who is responsible for proper nutrition and sports activity of children in educational institutions. The government must set a legal framework, providing appropriate standards and norms in scope of organization, employment of trained specialists and regulation of the food's quality. It must also enable or ensure appropriate daily sport activities for young people. It is essential of course that the execution of these provisions is supervised.

At the time when children are still prone to parents' and teachers' influences, children should adopt a positive attitude towards a sporty way of life and healthy eating which represent the fundamental conditions for a normal way of life without any unnecessary troubles due to harmful habits and modern diseases.

We are aware that this research is just a small piece in the mosaic representing the study of eating habits and sports activity in young people. The sample of subjects

studied here is relatively small and not representative for Slovene children and their parents. In spite of this, we have established interesting conclusions, valid for this sample of subjects. Future research on the eating habits and sports activity of young people should be more thoroughly studied and the assumptions stated here should be analyzed.

REFERENCES

- Accetto, R., & Bulc, M. (2005). *V skrbi za vaše zdravje: Nevarnosti za srce in žilje*. Novo Mesto: Krka.
- Battelino, T. (2000). Uspehi programov hujšanja in posebne diete. In T. Battelino (Ed.), *Debelost in motnje hranjenja* (pp. 98–101). Ljubljana: Klinični oddelek za endokrinologijo, diabetes in presnovne bolezni.
- Bošnjak, D. (2005). Nadzorovano zmanjšanje telesne teže: Pogubna trebušna debelost. *Delo*, 47, 18.
- Bratanič, N. (2000). Epidemiologija debelosti v Sloveniji. In T. Battelino (Ed.), *Debelost in motnje hranjenja* (pp. 38–43). Ljubljana: Klinični oddelek za endokrinologijo, diabetes in presnovne bolezni.
- Gabrijelčič-Blenkuš, M. (2001). *Prehrana za mladostnike – zakaj pa ne?* Ljubljana: Inštitut za varovanje zdravja Republike Slovenije.
- Jurovič, B. (2003). *Physical activity of Slovene people consuming fast food at Mc Donald's restaurants*. Diplomaska naloga, Univerza v Ljubljani, Fakulteta za šport, Ljubljana.
- Koch, V. (2002). Ni skrivnega recepta: Pogovor z Lesjak. *Za srce*, 11(2), 15–16.
- Kropej, V. L., & Videmšek, M. (2002). Parents and sports activity of their preschool children. *Kinesio-logija Slovenica*, 8(1), 19–24.
- Kropej, V. L., & Videmšek, M. (2003). Sports activity of 4 to 6 year old children from the Ljubljana region. *Šport*, 51(1), 60–62.
- Maučec-Zakotnik, J. (2005). Resolucija o nacionalnem programu prehranske politike 2005–2010. In *Uradni list RS*. Ljubljana: Ministrstvo za zdravje.
- Morabia, A., & Costanza, M. C. (2004). Does walking 15 minutes per day keep the obesity epidemic away? *American Journal of Public Health*, 94(3), 437–440.
- Pišot, R., Fras, Z., & Zaletel-Kragelj, L. (2005). Sports activity for health among the Slovene population: Introduction to some selected key results of a research project. In *Slovenski forum za preventivo bolezni srca in žilja 2005* (pp. 11–20). Ljubljana: Združenje karidiologov Slovenije.
- Pogelšek, V. (2006). *Children's eating habits and sports activity*. Bachelor thesis, University of Ljubljana, Faculty of Sport, Ljubljana.
- Robinson, T. (1998). Does television cause childhood obesity? *JAMA*, 279(12), 959–960.

- Rotar-Pavlič, D. (13. 01. 2006). Eating habits and bad habits among Ljubljana pupils. *Delo*, 48, 6.
- Rotovnik-Kozjek, N. (2005c). Young athletes and nutrition. *Polet*, 4, 54–55.
- Sentočnik, T. J. (2005). Obesity: Epidemiology on the march. *Viva*, 13(142), 66–67.
- Sila, B. (2005). Sports-recreational activity of Slovene adults. In *Strokovni posvet Gibanje za zdravje odraslih – stanje, problemi, podpora okolja* (pp. 29–32). Ljubljana: Inštitut za varovanje zdravja Republike Slovenije.
- Strel, J., Kovač, M., Leskošek, B., Jurak, G., & Starc, G. (2002). Physical and motor development of children and adolescents in Slovenia from 1990 to 2000. *Slovenska pediatrija*, 9, 90–101.
- Sušnik, D. (2005). Would Slovene school children need their own Jamie Oliver? *Nedelo*, 11(39), 18–19.
- Sturm, R. (2002). The effects of obesity, smoking, and drinking on medical problems and costs. *Health Affairs*, 21(1), 245–253.
- Uršič-Bratina, N. (2000a). Nutrition of male and female adolescents, and sports activity. In T. Battelino (Ed.), *Debelost in motnje hranjenja* (pp. 27–37). Ljubljana: Klinični oddelek za endokrinologijo, diabetes in presnovne bolezni.
- Uršič-Bratina, N. (2000b). Estimating simple obesity with children and adolescents. In T. Battelino (Ed.), *Debelost in motnje hranjenja* (pp. 44–57). Ljubljana: Klinični oddelek za endokrinologijo, diabetes in presnovne bolezni.
- Vrba, L. (2000). Psycho-social aspects of obesity. In T. Battelino (Ed.), *Debelost in motnje hranjenja* (pp. 75–78). Ljubljana: Klinični oddelek za endokrinologijo, diabetes in presnovne bolezni.
- Wang, Y. (2001). Cross-national comparison of childhood obesity: The epidemic and the relationship between obesity and socioeconomic status. *International Journal of Epidemiology*, 30(5), 1129–1136.
- Willett, W. C. (2001). *Eat, drink, and be healthy*. New York: Simon & Schuster.
- Žibret, A. (2005). A manual on guidelines for healthy nutrition of children and adolescents. *Delo*, 47, 6.

**KORELACE SPORTOVNÍ AKTIVITY
A STRAVOVACÍCH NÁVYKŮ
U DĚTÍ PŘEDŠKOLNÍHO VĚKU
A JEJICH RODIČŮ
(Souhrn anglickéh textu)**

Cílem výzkumu bylo analyzovat sportovní aktivitu a stravovací návyky u dětí předškolního věku a jejich rodičů. Zajímala nás korelace mezi stravovacími návyky rodičů a dětí předškolního věku a sportovní aktivitou.

Pro dotazování 93 rodičů tří až pětiletých dětí ze tří slovinských školek byl použit dotazník obsahující 32 otázek. Údaje byly zpracovány programem SPSS, který počítá frekvenci a kontingenční tabulky.

Zjistili jsme, že výživa většiny dětí předškolního věku je pravidelná a vhodná, přestože některé pětileté dívky a tříletí chlapci mají zvýšený BMI (index tělesné hmotnosti). Stravovací návyky rodičů však nejsou ani zdaleka vzorné – přes 50 % má pouze 2 až 3 jídla denně. Přestože nebyla potvrzena žádná statisticky charakteristická korelace, výsledky ukazují, že děti, jejichž rodiče jsou sportovně aktivní, mají vhodnější výživu než děti, jejichž rodiče sportovně aktivní nejsou. Statisticky charakteristické je, že rodiče, kteří jsou sportovně aktivnější, zapojují své děti do sportu ve větší míře. Většina z nich rovněž tráví aktivně prázdniny.

Domníváme se, že v době, kdy ještě podléhají vlivu rodičů a učitelů, by děti měly přijmout pozitivní přístup ke sportovně aktivnímu způsobu života a zdravé výživě, které představují základní podmínku normálního způsobu života bez zbytečných problémů způsobených škodlivými návyky a civilizačními chorobami.

Klíčová slova: děti předškolního věku, rodiče, sportovní aktivita, stravovací návyky.

Dr. Mateja Videmšek, Ph.D.



University of Ljubljana
Faculty of Sport
Gortanova 22
1000 Ljubljana
Slovenia

Education and previous work experience

Works at department of basic sport pedagogy and didactics of Faculty of Sport in Ljubljana. Her research activities are focused on elementary sport education.

First-line publication

- Videmšek, M., & Karpljuk, D. (1999). Social milieu and motor abilities of three year old children. *International Journal of Physical Education*, 36(2), 61–68.
- Videmšek, M., & Karpljuk, D. (2000). Assessment of intensity of effort of 5.5 year old children during relay races. *Kinanthropologica*, 36(1), 85–93.
- Videmšek, M., Karpljuk, D., & Štihec, J. (2002). Determining differences in motor skills among five and a half year old boys and girls. *Acta Universitatis Carolinae, Kinanthropologica*, 38(2), 95–103.

- Videmšek, M., Štihec, J., Karpljuk, D., & Debeljak, D. (2003). Sport activities and smoking habits among the youth in Slovenia. *Acta Universitatis Palackianae Olomucensis. Gymnica*, 33(2), 23–28.
- Videmšek, M., Karpljuk, D., Štihec, J., & Kropelj, V. (2003). Comparison of efficiency of two training programmes for developing selected motor abilities of children in kindergarten. *Kinesiologia Slovenica*, 9(3), 67–73.
- Videmšek, M., Videmšek, P., Štihec, J., & Karpljuk, D. (2004). Sport activity and eating habits of 14 year old male and female pupils. *Kinesiologia Slovenica*, 10(2), 65–77.
- Videmšek, M., Štihec, J., & Karpljuk, D. (2005). Determination of differences in runs between boys and girls aged 5.5. *Acta Universitatis Palackianae Olomucensis. Gymnica*, 35(2), 105–111.
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