ORIGINAL ARTICLE

Inclusion of preschool children into organized activity in leisure time

Milenko Janković [1] ✉ • Karolina Berenji [2] • Zoran Milić [3] • Sandra Vujkov [3] • Ágnes Halasi [4]

Received: 10th October, 2018
Accepted: 13th November, 2018

DOI: 10.31382/eqol.181204

Abstract

All physical activity of preschool children during the day occurs while they are in kindergarten or during their leisure time. The aim of the study was to present the results related to the participation of children in organized activities during leisure time and what is the perception of parents about the scope of their children's physical activity and the time spent on watching TV, using computers and playing video games (as a part of wider study). The research was conducted in 2017 in the Preschool institution "Naša Radost" in Subotica. The survey questionnaire was filled in by 135 parents for children of the average age of 5.14 years (±0.91). The survey questionnaire contained questions about children's nutrition (NutriStep survey) and their involvement in organized activities with educational and sports-recreational content during leisure time, as well as parent's opinion on quantity in child's sedentary activities. 65.9% of children aged 5 to 7 was found to attend some kind of organized activity, most often within programs of foreign language schools, sports schools and programs with aesthetic presentation of skills is important (ballet, dance and folklore). The largest number of parents reported that their child spent one hour watching TV, using a computer or playing games. About 71% of parents reported that their child was physically active enough. In both cases, a statistically significant difference was found between boys and girls. Within the family circle and within the educational institution, where children spend most of the time, it is necessary to provide conditions for undisturbed growth and development. One of the best ways is through exercising physical activity.

Keywords preschool children • structured activity • leisure time

✉ milenkojankovic@live.com

[1] University of Novi Sad, College for Vocational Education of Preschool Teachers, Novi Sad, Serbia

[2] Public Health Institute, Subotica, Serbia

[3] University of Novi Sad, College for Vocational Education of Preschool Teachers and Sport Coaches, Subotica, Serbia

[4] Polytechnic School, Subotica, Serbia

Introduction

The importance of physical activity for human health is reflected in the improvement of cardio-vascular functions (Lachman et al, 2018), respiratory functions (Fuertes et al, 2018), and significantly is associated with motor skills in children (Wrotniak, Epstein, Dorn, Jones, Kondilis, 2006), etc. The term physical activity is usually understood as any physical movement generated by skeletal muscles that leads to energy consumption (Caspersen, Powell, & Christenson, 1985). This definition should be understood in the broadest context, as it applies to all consciously executed movements and motion.

Recent studies confirmed that the lack of physical activity (PA) is commonly assumed as a concerning factor for obesity risk (Machado-Rodrigues et al., 2016). Furthermore, nutritional habits of children and adolescents are crucial to maintaining health and preventing diseases. Very

often early nutritional habits are extended into adulthood, increasing the risk of chronic non-communicable diseases and disability (Deren et al., 2018).

Recommendations for daily and weekly amount of physical activity can be given in means of time, distance (or steps), content desirably practiced, etc. The World Health Organization's documents recommend that children aged 5 to 17 practice 60 minutes of moderate to intense physical activity (World Health Organization, 2010). It is also stated that additional health benefits are achieved if the activity exceeds the recommended 60 minutes, and it may even be practiced in several separate parts (e.g., twice for 30 minutes). Habits related to regular physical exercise and positive attitudes towards physical activity should be built at the youngest age. In that case, children are most likely to follow in footsteps of their parents and adults from their surroundings because they spend most of their time with them.

Free physical activities are predominant in daily activities of pre-school children, but a large number of parents enroll their children in educational and sports-recreational programs. Organized activities involve the existence of certain structure, orientation towards some goals or outcomes, and is organized and carried out by a trainer, instructor or other trained person. It is very important for children to get involved in some sports-recreational organization from the earliest days, in order to remain active at later stages of life. Thus, in previous studies, it was found that the involvement of children in sports and recreational activities in childhood and adolescence contribute to the same output in early adulthood (Kjønniksen, Anderssen, & Wold, 2009; Telama, Yang, Hirvensalo, & Raitakari, 2006) and old age (Hirvensalo, Lintunen, & Rantanen, 2000).

All physical activity of children during the day occurs while they are in kindergarten or during leisure time. There is a lack of information regarding daily level of organized activities in preschool children in Serbia outside kindergarten. Therefore, the aim was to present only the results related to the participation of children in organized activities during leisure time and what is the perception of parents about the scope of their children's physical activity and the time spent watching TV, and playing video games or using computer.

The results presented in this paper are part of a wider study on children's physical activity, it was not possible to display all the results obtained by research.

Method

The research was conducted in September and October 2017 in the pre-school institution “Naša Radost” in Subotica. The survey was completed by 135 parents (70 parents of boys and 65 parents of girls) of children of the average age of 5.14 years (±0.91).

The results presented in this paper are part of a wider study on nutrition and body composition of pre-school children in Subotica. In this research the parents completed the survey questionnaire with questions about children's nutrition (NutriStep survey) and their involvement in organized activities with educational and sports-recreational content. This paper presents only results related to the participation of children in organized activities during leisure time and parents’ attitudes on physical and sedentary activities of their children.

The results were processed by calculating the percentage values and displaying the frequency of the results in statistical program (SPSS.20). Mann-Whitney test was used to compare groups of subjects in nonparametric variables. The level of significance is set to $p \leq 0.05$.

Results

Out of 135 parents who completed the survey questionnaire, 89 (65.9%) responded positively to the question: “Does your child attend some organized activity during the week?”. Table 1 lists activities indicated by parents as attended by their children. It must be noted that some parents have indicated that children attend two, and in some cases three activities.

Table 1. Organized activities attended by children in their free time

Activity	Gender	
	Boys	Girls
Music school, choir...	0	11
School of foreign language	16	23
Drawing or painting school	0	1
Logico	2	1
NTC school	0	1
Logoped / Speech Therapist	1	1
Ballet, dance, folk dance...	3	29
School of sports	22	6
School of football	7	0
Swimming	4	1
Ice skating, roller skating…	1	2
Karate	3	2
Gymnastics	0	1

Although organized activities with sports-recreational content can be and usually are educational in nature, in this paper they are divided and separately discussed. In the first six of the above-mentioned activities there is no content referring to sports-recreational activities.

Since it was assumed that a number of children do not attend any of the activities, parents were asked to indicate the reason for their absence. The obtained results are presented in Chart 1.

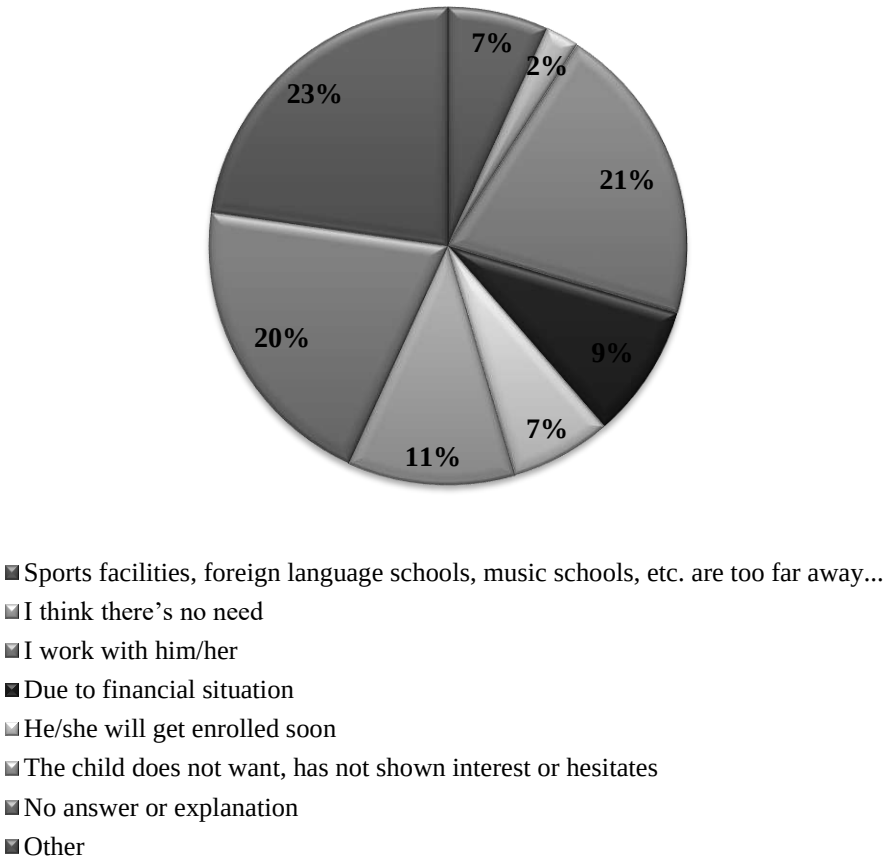

Figure 1. Reasons for non-attendance organized activity

Most parents agree that there is a need for a child to attend some organized activity, but there are certain reasons why some parents did not enroll their children in some organized activity. The largest number of parents whose children do not attend any activity did not give a response or explanation or stated that they work with the child. Attending any kind of activity, in most cases, requires certain financial expenses, so parents in a minority of cases (8.7%) pointed out the financial situation. When the parents opted for Other (21.7%), they stated the following: "my husband and I are working in shifts, so we cannot take the child to the activity"; "I do not have time to take him/her to the activity anymore"; "I'm waiting for him/her to adapt to the kindergarten a bit"; "choir, sometimes", "due to transportation"; "I'm waiting for a karate group to be formed"; "we are waiting until he/she turns five so he/she could start with swimming", etc.

Considering the overall activity of the child, parents were asked whether their child should be more physically active and how much time does it spend watching TV, using a computer or playing video games. The results are shown in Table 2 and Table 3.

Table 2. Perception of parents about the scope of physical activity of the child

Variable	Boys	Girls	Total	p
More physical activity is needed	15 (21.4%)	24 (36.9%)	39 (28.9%)	.048
It is physically active enough	55 (78.6%)	41 (63.1%)	96 (71.1%)	

From the Table 2 it can be seen that most parents consider that their child is sufficiently physically active. A statistically significant difference was also found in the responses of the parents of boys and girls. A higher percentage of boys' parents compared to the girls' parents thinks that their child is physically active enough.

Table 3. Watching TV, using a computer or playing games

Variable	Boys	Girls	Total	p
About 4 hours	0 (0.0%)	5 (7.7%)	5 (3.7%)	.017
About 3 hours	12 (17.1%)	15 (23.1%)	27 (20.0%)	
About 2 hours	21 (30.0%)	22 (33.8%)	43 (31.9%)	
1 hour or less	37 (52.9%)	23 (35.4)	60 (44.4%)	

An integral part of daily activities represents activities that are being exercised with: watching TV, using computer or playing video games. In Table 3 also was established a statistically significant difference in the responses of the parents of boys and girls. When comparing the results, it can be seen that a higher percentage of the parents of the girls indicated that their child watches TV, uses computer or plays video games for a longer period of time

Discussion

The activities indicated by parents as attended by their children can partially be understood in the context of modern times. For example, the largest number of parents stated that their child is attending a foreign language school, which is nowadays highly appreciated: in education, employment, tourism, etc. For this reason, parents very early begin to encourage their children to learn a foreign language. Other educational activities in which there is no sports-recreational content (music school, choir, school of drawing or painting, logico, etc.) are present in preschool children to a lesser extent. One of the reasons may be that work in a preschool institution is carried out through various areas (art, music, mathematics, etc.), so parents do not decide to enroll their child on some of the organized activities with related content. During the execution of activities in the kindergarten, the areas of work often intertwine, and it is worth mentioning that in previous studies it was found that physical activity positively affects cognitive functioning (Donnelly et al., 2016; Fedewa, & Ahn, 2011; Sibley, & Etnier, 2003). This fact is very important for all those working in the educational process with children.

The most common form of organized physical activity of pre-school children is the sports school. This is somewhat expected, as the programs of these schools are adapted to the age and are directed to the development of all motor skills, muscle groups and the enrichment of motor skills. In some studies, it has been found that the attendance of such programs contributes to the development of children's motor skills and positively influences morphological characteristics (Popović, & Stupar, 2011; Stupar et al, 2017). In addition, it must be noted that lately there is more and more such contents (school of sports). It is good that parents usually decide to enroll their children on such programs because that creates a good basis for engaging in some sports in the later period.

Based on the results in Table 1, there are some differences between boys and girls in engagement in one of the activities. Although this study did not investigate who had the most influence on the selection of activities, it is assumed that preschool children are most influenced by parents. In almost all organized physical activities, boys are more represented, except in those that are practiced with music and where aesthetic aspects of skills matter (ballet, dance, folk dance, ice skating, etc.). A greater proportion of boys in sports clubs has been observed in earlier studies with older children (Telama et al, 2006), and it can be assumed that organized sport activities are more suited to their needs and interests (Kjønniksen et al., 2009).

Most experts agree that the most appropriate period for the psycho-physical development of children is until they turn 7 or 8 years (Strong et al., 2005). During that period parents should spend most of their time and attention to the intellectual, emotional and physical development of their children. In the conducted research, 46 parents gave a negative answer to the question on engagement of children in organized activity. Participation of children in organized physical activities provides the possibility of a positive effect on the health status, children have the opportunity to get acquainted with sports skills, and in such an environment it is possible to control the potential risks when exercising physical activity (Committee on Sports Medicine and Fitness, & Committee on School Health, 2001). Also, parent support is significantly related to the physical activity of children (Trost et al, 2003).

The results obtained in this study are comparable with the results from earlier studies, showing that girls spend longer periods of inactivity such as watching TV, using computers and playing video games (Cherney, & London, 2006). As much as 30.8% of girls spend more than 3 hours in these activities, while with boys these activities make up 17.1%. These activities are often associated with poor social skills, while having a TV in the bedroom is related with sleeping problems and lower emotional reactivity (Mistry, Minkovitz, Strobino, & Borzekowski, 2007). Watching a violent or non-violent entertainment program before child turns three is associated with an Attention Deficit Disorder (Zimmerman, & Christakis, 2007). It should be noted that sedentary activities such as watching TV, playing video games and spending time using computers can be one of the causes of obesity (Danner, 2008; Proctor et al, 2003), which is due to the reduced volume of physical activity and increased calorie intake. However, it should be noted that the findings of some studies confirm that the effects of watching television depend on the content of the program and the genre (Wright, Huston, Murphy, Peters & Piñon, 2001), which means that they may have positive impact on children's development.

Conclusion

During growing up, children spend most of their time with their families and within the educational institution. During that period, it is necessary to provide adequate conditions for their undisturbed growth and development. Although within the pre-school educational program there are contents that are focused on the overall psycho-physical development, this research found that a large number of pre-school children are involved in organized activities during their free time. Free physical activity is becoming less represented in children, which is probably noticed by parents, so they enroll their children in sports-recreational organized contents. Future studies need to identify the extent of the physical activity of children during their stay in the kindergarten and during their free time. Thus, adequate recommendations can be provided and certain corrections can be made. Furthermore, as a part of a limited study, overall results on current dietary behaviors and practices of preschool children from Subotica was evaluated with satisfactory nutritional level.

Acknowledgements

This research is a part of science-research project "Body composition, postural state and nutrition quality in preschool children from Subotica", co-financed by the Provincial Secretariat for Higher Education and Scientific-Research Development of Vojvodina, accomplished by the College for Vocational Education of Preschool Teachers and Sport Coaches in Subotica (No: 142-451-3018/2017-02-2, head researcher: Sandra Vujkov, PhD).

References

Caspersen, C. J., Powell, K. E., & Christenson, G. M. (1985). Physical activity, exercise, and physical fitness: definitions and distinctions for health-related research. *Public health reports*, *100*(2), 126–131.

Cherney, I. D., & London, K. (2006). Gender-linked differences in the toys, television shows, computer games, and outdoor activities of 5-to 13-year-old children. *Sex Roles*, *54*(9-10), 717.

Committee on Sports Medicine and Fitness, & Committee on School Health. (2001). Organized sports for children and preadolescents. *Pediatrics*, *107*(6), 1459-1462.

Danner, F. W. (2008). A National Longitudinal Study of the Association Between Hours of TV Viewing and the Trajectory of BMI Growth Among US Children. *Journal of pediatric psychology*, *33*(10), 1100-1107.

Dereń, K., Nyankovskyy, S., Nyankovska, O., Łuszczki, E., Wyszyńska, J., Sobolewski, M., & Mazur, A. (2018). The prevalence of underweight, overweight and obesity in children and adolescents from Ukraine. *Scientific reports*, *8*(1), 3625.

Donnelly, J. E., Hillman, C. H., Castelli, D., Etnier, J. L., Lee, S., Tomporowski, P., ... & Szabo-Reed, A. N. (2016). Physical activity, fitness, cognitive function, and academic achievement in children: a systematic review. *Medicine and science in sports and exercise*, *48*(6), 1197.

Fedewa, A. L., & Ahn, S. (2011). The effects of physical activity and physical fitness on children's achievement and cognitive outcomes: a meta-analysis. *Research quarterly for exercise and sport*, *82*(3), 521-535.

Fuertes, E., Carsin, A. E., Antó, J. M., Bono, R., Corsico, A. G., Demoly, P., ... & Heinrich, J. (2018). Leisure-time vigorous physical activity is associated with better lung function: the prospective ECRHS study. *Thorax*, thoraxjnl-2017.

Hirvensalo, M., Lintunen, T., & Rantanen, T. (2000). The continuity of physical activity–a retrospective and prospective study among older people. *Scandinavian journal of medicine & science in sports*, *10*(1), 37-41.

Kjønniksen, L., Anderssen, N., & Wold, B. (2009). Organized youth sport as a predictor of physical activity in adulthood. *Scandinavian journal of medicine & science in sports*, *19*(5), 646-654.

Lachman, S., Boekholdt, S. M., Luben, R. N., Sharp, S. J., Brage, S., Khaw, K. T., Peters, R. J. G., & Wareham, N. J. (2018). Impact of physical activity on the risk of cardiovascular disease in middle-aged and older adults: EPIC Norfolk prospective population study. *European journal of preventive cardiology*, *25*(2), 200-208.

Machado-Rodrigues, A. M., Fernandes, R., Gama, A., Mourão, I., Nogueira, H., Rosado, V., & Padez, C. (2016). Nutritional Behaviors, Physical Activity, and Risk of Obesity in Portuguese Children. *Nutritional Epidemiology, the European Society for Clinical Nutrition and Metabolism.* DOI:10.3252/pso.eu. ESPEN2016.2016.

Mistry, K. B., Minkovitz, C. S., Strobino, D. M., & Borzekowski, D. L. (2007). Children's television exposure and behavioral and social outcomes at 5.5 years: does timing of exposure matter? *Pediatrics*, *120*(4), 762-769.

Popović, B., & Stupar, D. (2011). Effects of exercising by program on the development of motor abilities of preschool boys. *Glasnik Antropološkog društva Srbije*, (46), 269-277.

Proctor, M. H., Moore, L. L., Gao, D., Cupples, L. A., Bradlee, M. L., Hood, M. Y., & Ellison, R. C. (2003). Television viewing and change in body fat from preschool to early adolescence: The Framingham Children's Study. *International Journal of Obesity & Related Metabolic Disorders*, *27*(7).

Sibley, B. A., & Etnier, J. L. (2003). The relationship between physical activity and cognition in children: a meta-analysis. *Pediatric exercise science*, *15*(3), 243-256.

Stupar, D., Popovic, B., Romanov, R., Jankovic, M., Jezdimirovic, T., & Medjedovic, B. (2017). The Effects of Specific Exercise Program on Anthropometric Characteristics and Motor Abilities of Preschool Children. *International Journal of Morphology*, *35*(3).

Strong, W. B., Malina, R. M., Blimkie, C. J., Daniels, S. R., Dishman, R. K., Gutin, B., Hergenroeder, A., Must, A., Nixon, P, Pivarnik, J., Rowland, T., Trost, S. & Trudeau, F. (2005). Evidence based physical activity for school-age youth. *The Journal of pediatrics*, *146*(6), 732-737.

Telama, R., Yang, X., Hirvensalo, M., & Raitakari, O. (2006). Participation in organized youth sport as a predictor of adult physical activity: a 21-year longitudinal study. *Pediatric Exercise Science*, *18*(1), 76-88.

Trost, S. G., Sallis, J. F., Pate, R. R., Freedson, P. S., Taylor, W. C., & Dowda, M. (2003). Evaluating a model of parental influence on youth physical activity. *American journal of preventive medicine*, *25*(4), 277-282.

Wright, J. C., Huston, A. C., Murphy, K. C., Peters, M. S., & Piñon, M. (2001). The Relations of Early Television

Viewing to School Readiness and Vocabulary of Children from Low-Income Families: The Early Window Project. *Child Development*, *72*(5), 1347-1366.

World Health Organization. (2010). Global recommendations on physical activity for health. *Geneva: World Health Organization*, 8–10.

Wrotniak, B. H., Epstein, L. H., Dorn, J. M., Jones, K. E., & Kondilis, V. A. (2006). The relationship between motor proficiency and physical activity in children. *Pediatrics*, *118*(6), 1758-1765.

Zimmerman, F. J., & Christakis, D. A. (2007). Associations between content types of early media exposure and subsequent attentional problems. *Pediatrics*, *120*(5), 986-992.

How to cite this article:

APA: Janković, M., Berenji, K., Milić, Z., Vujkov, S., & Halasi, Á. (2018). Inclusion of preschool children into organized activity in leisure time. *Exercise and Quality of Life, 10*(2), 31-37. doi:10.31382/eqol.181204

MLA: Janković, Milenko, et al. "Inclusion of preschool children into organized activity in leisure time." *Exercise and Quality of Life* 10.2 (2018): 31-37.

Chicago: Janković, Milenko, Karolina Berenji, Zoran Milić, Sandra Vujkov, and Ágnes Halasi. "Inclusion of preschool children into organized activity in leisure time." *Exercise and Quality of Life* 10, no. 2 (2018): 31-37.