

55 - LEVEL OF PHYSICAL ACTIVITY AND BODY COMPOSITION IN ADOLESCENTS

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INTRODUCTION

The accelerated growth of the population, together with the popularization of the automobile and the lack of urban planning, resulted in a confused picture, consisting of congestion, fuel waste, excessive occupation of the road space, delay, air and noise pollution (PARADELA et al, 2015).

As cities grow, there is a need for the deployment of a rotating car park, since parking space on public roads becomes very limited, increasing the demand for parking spaces. Rotating parking is a proven fact and a necessity for the rationalization of the use of the public highway (PARADELA et al, 2015).

According to Capri (2005), the rotating parking lot has officials responsible for the distribution of parking cards and inspection (tax agents) that walk normally on foot, verifying that vehicles remain stationary within a certain period of time, indicated on the cards of parking.

Because it is a work that directly involves the physical and mental exhaustion of its employees, there is usually a decrease in the practice of physical activity, which may contribute to the increase of body weight (CAPRI, 2005). With increased body weight associated with decreased physical activity, obesity becomes evident in modern society (NAHAS, 2001).

Obesity can be defined by the accumulation of body fat above adequate levels for health, and can develop various diseases such as hypertension, type II diabetes, cardiovascular diseases and some cancers (WHO, 1998; VESPASIANO et al, 2013; MOTA, VESPASIANO, CESAR, 2015).

Obesity has become a worldwide epidemic, being present in several countries in both developed and developing countries. Obesity is diagnosed when the Body Mass Index (BMI) reaches a value equal to or greater than 30 kg / m² (GONZALEZ et al, 2008; VIGITEL, 2017).

In Brazil, the frequency of obese adults varies between 15.0% in Florianópolis and 23.8% in Manaus, in the state of São Paulo, with 18.5% of obese adults (VIGITEL, 2017). Factors that could explain this increasing increase in the number of obese individuals appear to be more related to changes in lifestyle and irregular eating habits. (MOTA et al, 2015).

There is a direct influence of the low level of physical activity on the development of obesity in childhood and adolescence, and increasing the level of physical activity is important for the treatment of obesity (EPSTEIN et al, 1996). Like the study by Tiene, Vespasiano (2012) suggested that physical activity plays an important role in regulating body mass and decreasing obesity and related diseases in children and adolescents.

Thus, physical activity is defined as any and all body movement produced by the skeletal muscles, where energy expenditure is required (WHO, 2014). Physical activity can occur at work, at home, during a bicycle ride, domestic services, and on the way from one place to another, it is emphasized that physical activity is then a strategy that can and should be encouraged as the various benefits that it can bring (NAHAS, GARCIA, 2010).

In view of the above, the objective of the study was to analyze the level of physical activity and body composition of adolescents working in the rotary parking lot in the municipality of Itapeva-SP.

METHODOLOGY**Population and sample**

This project is a cross-sectional observational study carried out in the municipality of Itapeva, located in the interior of the State of São Paulo, in the south of the state, which has a population of 87,753 people in the last census (2010), but estimated in (2017) around 93,570 people, 50.7% female and 49.3% male (IBGE, 2018).

The Association for the Educational and Social Development of the Adolescent of Itapeva (ADESAI) has 59 young people, 42 young men and 17 female, who work in the rotary parking. After presentation of the project and invitation to the youngsters, 14 volunteers accepted to participate in the study, all signed the free and informed consent form. The volunteers who participated in the study had a mean age of 18.9 ± 0.92 years, mean height 1.61 (cm) and mean weight 58.3 (kg) and worked 8 hours a day, having one lunch hour in the parking lot rotary.

All precautions have been taken to protect the privacy of research subjects and the confidentiality of their personal information and to minimize the impact of research on their physical, mental and social integrity (WMA, 2008). All procedures were carried out in compliance with the Helsinki Declaration of the World Medical Association (2008) and resolution 466 of December 12, 2012, which involves ethics in research on human beings. The exclusion criteria were: students absent on the day of data collection.

The site and volunteers for the study were chosen for convenience because of the ease of the researchers in developing the research.

Data collection procedure**Anthropometric evaluation**

The collection occurred on 05/30/2018 at ADESAI in two periods, one was performed from 08:00 to 10:00 hours and the other from 14:00 to 16:00 hours, in a single measurement, one at a time, both periods were supervised by the same two evaluators, one responsible for the orientation and explaining to the volunteers how to position themselves and another responsible for launching the data on the computer.

The body mass index was calculated by dividing body mass in kilograms by height in square meter squared. The BMI classification was performed by four strata: underweight, adequate weight, overweight and obesity (COSTA, 2001).

Regarding the collection of data as mass and stature for the calculation of BMI, a digital scale of tempered glass of the

brand (TECH LINE) with a capacity of up to 180 kg and a division of 100 g was used to measure body weight. The students were weighed in a single measurement, one at a time, each evaluated with minimal clothing and shoes, standing on the scale with his back straight facing the scale meter, legs and heels joined, arms along the body and looking forward (COSTA, 2001).

To verify stature, a stadiometer (compact 2.1 m mod. 210 - wiso) was used, its measurement is done in a simple and fast way, only if the person is positioned below the stadiometer, in a vertical and erect posture. By correctly positioning the body in front of the height meter, the indicator bracket will accurately mark the value corresponding to the height of the volunteer.

The stadiometer was fixed to the wall, each evaluated standing, barefoot, with heels united, back straight and arms extended along the body and looking forward (COSTA, 2001).

Assessment of the level of physical activity

The evaluation occurred on 05/30/2018 at ADESAI in two periods, one was held from 08:00 to 10:00 hours and the other from 14:00 to 16:00 hours, both periods were supervised by the same two evaluators, one responsible for the orientation and explaining to the volunteers how to respond and another responsible for the data entry on the computer.

To evaluate the level of physical activity of the volunteers, the International Physical Activity Questionnaire (IPAQ), short version, was used. This procedure contains questions related to frequency (days per week) and duration (time per day) of moderate, vigorous and passive physical activities validated for studies in children and adolescents (PARDINI et al, 2001).

RESULTS

The results of analyzes of physical activity level and body composition (table 1 and 2) are presented below.

It was found that the overall mean age of the volunteers was 18.9 ± 0.92 years, the overall mean height was 1.61 ± 0.05 cm, and the overall mean weight was 58.3 ± 9.85 kg, according to table 1.

TABLE 1: Mean, standard deviation and statistical analysis of anthropometric variables.

N=14	MINIMUM VALUE	MAXIMUM VALUE	AVERAGE	DP
AGE	18,0	21,0	18,9	0,92
BODY MASS (kg)	45,6	79,7	58,3	9,85
STATURE (m)	1,55	1,68	1,61	0,05
BMI (kg / m ²)	17,6	28,7	22,6	3,54

BMI - body mass index, kg - kilogram, m - meter; kg / m² - kg per square meter; cm - centimeter.

Still when the BMI was analyzed, a satisfactory number was found regarding the classification of adequate weight, with 10 volunteers (72%), 1 volunteer was underweight (7%), 3 volunteers were overweight (21%) and there was no presence of obesity as shown in table 2.

When physical activity levels were verified, there was no presence of physical inactivity, irregularly active B, and irregularly active A. 29% of the volunteers are physically active (4 volunteers) and 71% are physically active (10 volunteers), as shown in table 2.

TABLE 2: Percentage comparison of body mass index and physical activity level.

VARIABLES	VOLUNTARY	% (VALUE)
BMI	UNDER WEIGHT	1 7%
	ADEQUATE WEIGHT	10 72%
	OVERWEIGHT	3 21%
	OBESITY	0 0%
PHYSICAL ACTIVITY	ACTIVE	10 71%
	VERY ACTIVE	4 29%
	IRREGULARLY ACTIVE A	0 0%
	IRREGULARLY ACTIVE B	0 0%

DISCUSSION

Physical inactivity associated with irregular eating habits favors the development of obesity (OLIVEIRA et al, 2004). For Vespasiano et al. (2012), obesity is a problem that affects several populations at any stage of their life, or even in their social condition.

A study by Marcondes et al. (2003) points out that in some Brazilian cities overweight and obesity already reach more than 20%, a percentage that worries and, consequently, can have a great impact on hospitalizations and increase costs with public health.

When the BMI classification was analyzed, a large number of volunteers had an adequate weight of 72%, a result corroborated by the study by Vespasiano et al. (2013) with public and private high school students from the municipality of Itapeva - SP, between 15 and 17 years, where the study carried out evaluations through the International Physical Activity Questionnaire (IPAQ) short version of the three day food registry Classification criteria and body mass index (BMI). The authors point out that in the private school 68% of the students are with the right weight, already in the public school 60% are with the appropriate weight.

Mota et al. (2015) in a study with a sample of 120 adolescents between 12 and 15 years of age at a public school in the city of Nova Campina, São Paulo, Brazil, with the objective of analyzing the anthropometric profile and level of physical activity of schoolchildren. short version of the International Physical Activity Questionnaire (IPAQ) and assessment of body composition by anthropometry. Among the 120 adolescents, 23.3% were overweight and 2.5% of the respondents were underweight. Regarding the level of physical activity assessed through the questionnaire, 61.6% of the students were considered active, there was no index and 21% were underweight, and 71% were considered physically active and there was no onset of sedentary lifestyle, emphasizing importance to stimulate this practice. teens are likely to be active adults.

Noting that BMI indices may vary, it should be noted that the high value of body mass index (BMI) does not necessarily represent obesity, characterized by excess body fat. They may reflect changes in body composition related to both lean body mass and fat mass, characteristics of puberty (MOTA et al, 2015 apud CONTI et al, 2005).

Several questionnaires have been used to measure the level of physical activity among adolescents, the present study used the International Physical Activity Questionnaire (IPAQ) short version, this questionnaire corroborates with the study of Lima et al, (2018) a review systematic study that aims to verify different questionnaires used to measure the level of physical activity in Brazilian adolescents between 2007 and 2012, adolescents between 10 and 19 years old. The authors point out that from the search criteria used in the review, 26 articles were retrieved, 10 types of questionnaires were found, and the IPAQ questionnaire was the most used.

In a more recent study, Silva et al. (2018) with the objective of evaluating the level of physical activity in adolescents of the school network of the municipality of Rio Verde-Goiás, 1229 adolescents from 15 to 17 years of age, the international questionnaire of physical activity (IPAQ) short version. The authors found that 77.7% of the individuals evaluated were physically active, data very close to those found in the present study.

Differently from the present study, Castro et al. (2018) in a study with the objective of verifying the prevalence of overweight and obesity and the associated risk factors in adolescents, through the International Physical Activity Questionnaire (IPAQ) short version, and the body mass index (BMI), observed that 22.9% were considered overweight and 1.4% obese and in relation to the level of physical activity found 2.9% sedentary. In relation to the present research it is possible to verify that the results regarding the BMI and the level of physical activity are divergent.

CONCLUSION

When the BMI was analyzed, it was verified that the majority of the volunteers presented the weight within normal, the level of physical activity was satisfactory indexes compared to the inactive ones, there was no sedentary presence, inhibiting the appearance of obesity.

The habits and recommendations of the practice of physical exercise should always be emphasized, since we know that the increase of overweight is associated to the sedentary lifestyle. It is important that the knowledge acquired be transformed into actions by all, and that allows healthy habits.

It is suggested that programs of physical activity / physical exercises be recommended for professionals working in rotating parking in the municipality of Itapeva - SP, in order to maintain regular habits of exercise and nutrition in order to prevent obesity and related diseases.

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ABSTRACT

It is known that regularly practiced physical activity can bring several benefits among them: weight maintenance, bone and functional strengthening, blood pressure reduction and control and diabetes. The objective of this study was to analyze the level of physical activity and body composition of adolescents working in the rotary parking lot in the city of Itapeva, SP. After the invitation, 14 young women with a mean age of 18.9 ± 0.92 years accepted to participate in the study. They were submitted to anthropometric assessments and physical activity level. The body composition was evaluated by BMI, it was calculated dividing body mass in kilograms by height in square meter squared. The BMI classification was performed by four strata: underweight, adequate weight, overweight and obesity, and the level of physical activity by the IPAQ questionnaire (short version). The results indicate that 72% present within normal, 21% with excess weight. The level of physical activity indicated that 71% are physically active, 29% are very physically active, there was no presence of physical inactivity. It is suggested that the volunteers studied showed levels of body composition within normality and level of regular physical activity. Strategies that encourage adolescents to practice regular physical activity contribute to maintenance of fat percentage and physical activity level at normal levels.

Key words: Physical activity; Obesity; PE.

SOMMAIRE

On sait qu'une activité physique régulièrement pratiquée peut avoir plusieurs avantages: maintien du poids, renforcement des os et des fonctions, réduction et contrôle de la pression artérielle et diabète. L'objectif de cette étude était d'analyser le niveau d'activité physique et la composition corporelle d'adolescents travaillant dans le parc de stationnement rotatif de la ville d'Itapeva, dans le Massachusetts. Après l'invitation, 14 jeunes femmes d'un âge moyen de $18,9 \pm 0,92$ ans ont accepté de participer à l'étude. Ils ont été soumis à des évaluations anthropométriques et à un niveau d'activité physique. La composition corporelle a été évaluée par l'IMC. Elle a été calculée en divisant la masse corporelle en kilogrammes par la hauteur en mètres carrés. La classification de l'IMC a été réalisée selon quatre strates: poids insuffisant, poids adéquat, surpoids et obésité, et niveau d'activité physique à l'aide du questionnaire IPAQ (version abrégée). Les résultats indiquent que 72% sont présents dans la normale, 21% avec un excès de poids. Le niveau d'activité physique indiquait que 71% étaient actifs physiquement, 29% étaient très actifs physiquement et qu'il n'y avait pas d'inactivité physique. Il est suggéré que les volontaires étudiés ont montré des niveaux de composition corporelle normaux et un niveau d'activité physique régulière. Les stratégies qui encouragent les adolescents à pratiquer une activité physique régulière contribuent à maintenir le pourcentage de graisse et le niveau d'activité physique à des niveaux normaux.

Mots-clés: Activité physique; L'obésité; Éducation physique.

RESUMEN

Se sabe que la actividad física practicada con regularidad puede traer varios beneficios entre ellos: mantenimiento del peso, fortalecimiento óseo y funcional, reducción y control de la presión arterial y diabetes. El objetivo del trabajo fue analizar el nivel de actividad física y la composición corporal de adolescentes que trabajan en el estacionamiento rotativo en el municipio de Itapeva-SP. Después de la invitación, 14 jóvenes con una edad promedio de $18,9 \pm 0,92$ años aceptaron participar en el estudio. Las mismas fueron sometidas a evaluaciones antropométricas y nivel de actividad física. La composición corporal fue evaluada por IMC, fue calculado dividiendo la masa corporal en kilogramos por la estatura en metro elevada al cuadrado. La clasificación del IMC fue realizada por cuatro estratos: por debajo del peso, peso adecuado, sobrepeso y obesidad y el nivel de actividad física por el cuestionario referente al IPAQ (versión corta). Los resultados indican que el 72% presenta dentro de la normalidad, el 21% con sobrepeso. El nivel de actividad física apuntó que el 71% se encuentra activo físicamente, el 29% se encuentra muy activo físicamente, no hubo la presencia del sedentarismo. Se sugiere que las voluntarias estudiadas presentaron niveles de composición corporal dentro de la normalidad y nivel de actividad física regular. Las estrategias que incentiven a los adolescentes a practicar actividad física regular contribuyen a mantener los porcentajes de grasa y nivel de actividad física a niveles normales.

Palabra clave: Actividad física; la obesidad; Educación Física.

RESUMO

Sabe-se que a atividade física practicada com regularidade pode trazer vários benefícios dentre eles: manutenção do peso, fortalecimento ósseo e funcional, redução e controle da pressão arterial e diabetes. O objetivo do trabalho foi analisar o nível de atividade física e a composição corporal de adolescentes que trabalham no estacionamento rotativo no município de Itapeva- SP. Após convite, 14 jovens do sexo feminino com idade média de $18,9 \pm 0,92$ anos aceitaram a participar do estudo. As mesmas foram submetidas a avaliações antropométricas e nível de atividade física. A composição corporal foi avaliada por IMC, foi calculado dividindo a massa corporal em quilogramas pela estatura em metro elevada ao quadrado. A classificação do IMC foi realizada por quatro estratos: abaixo do peso, peso adequado, sobrepeso e obesidade e o nível de atividade física pelo questionário referente ao IPAQ (versão curta). Os resultados indicam que 72% apresentam dentro da normalidade, 21% com excesso de peso. O nível de atividade física apontou que 71% se encontram ativos fisicamente, 29% se encontram muito ativos fisicamente, não houve a presença do sedentarismo. Sugere - se que as voluntárias estudadas apresentaram níveis de composição corporal dentro da normalidade e nível de atividade física regular. Estratégias que incentivem os adolescentes a praticarem atividade física regular contribuem para manutenção dos percentuais de gordura e nível de atividade física em níveis normais.

Palavra-chave: Atividade Física; Obesidade; Educação Física.