

# STANDARD OF PHYSICAL ACTIVITY IN WOMEN WITH EXCESSIVE WEIGHT

## PADRÃO DE ATIVIDADE FÍSICA EM MULHERES COM EXCESSO DE PESO

## ESTÁNDAR DE ACTIVIDAD FÍSICA EN MUJERES CON EXCESO DE PESO

Taise Santos do Nascimento<sup>1</sup>  
Fernanda Carneiro Mussi<sup>2</sup>  
Cátia Suely Palmeira<sup>3</sup>  
Francisco José Godim Pitanga<sup>4</sup>  
Melissa Almeida Santos Paim<sup>5</sup>

**How to cite this article:** Nascimento TS, Mussi FC, Palmeira CS, Pitanga FJG, Paim MAS. Standard of physical activity in women with excessive weight. Rev baiana enferm. 2018;32:e25738.

**Objective:** to describe the level of physical activity of overweight women. **Method:** this is a cross-sectional and descriptive study. One hundred and forty-three women were interviewed, using the International Physical Activity Questionnaire, and were submitted to anthropometric evaluation, from October 2015 to July 2016. Data were analyzed in relative and absolute frequencies, means and standard deviation (SD). **Results:** mean age was 50.66 years (SD=11.55). There was a predominance of black women, with no partner, with education up to high school degree, working, and with low income. The majority was obese (82.5%), with waist circumference not recommended ( $\geq 80$  cm). Regarding the level of global physical activity, 65.4% were active/very active. Considering the level of physical activity per domain, 64.4% were insufficiently active/sedentary at work, 78.1% were on the move and 85.2% were in free time, but 54.2% were active/very active in domestic activities. **Conclusion:** the level of physical activity of overweight women was low in most domains, except at home, and it is necessary to find strategies to optimize the practice of physical activity, especially in leisure.

**Descriptors:** Motor Activity. Women. Obesity.

*Objetivo:* descrever o nível de atividade física de mulheres com excesso de peso. *Método:* estudo transversal, descritivo. Cento e quarenta e três mulheres foram entrevistadas, utilizando-se o International Physical Activity Questionnaire, e submetidas a avaliação antropométrica, no período de outubro de 2015 a julho de 2016. Os dados foram analisados em frequências relativas e absolutas, médias e desvio padrão (DP). *Resultados:* idade média foi 50,66 anos (DP=11,55). Predominaram mulheres negras, sem companheiro, com até o segundo grau, em atividade laboral e baixa renda. Maior proporção era obesa (82,5%), com circunferência da cintura não recomendada ( $\geq 80$  cm). *Referente ao nível de atividade física global, 65,4% eram ativas/muito ativas. Considerando o nível de atividade física por domínio, 64,4% eram insuficientemente ativas/sedentárias no trabalho, 78,1% no deslocamento e 85,2% no tempo livre, mas 54,2% eram ativas/muito ativas nas atividades domésticas. Conclusão:* o nível de atividade física

<sup>1</sup> Nurse. Master in Nursing. Salvador, Bahia, Brazil.

<sup>2</sup> Nurse. PhD in Nursing. Associate Professor IV, School of Nursing. Universidade Federal da Bahia. Salvador, Bahia, Brazil. femussi@uol.com.br

<sup>3</sup> Nurse. PhD in Nursing. Professor of the Escola de Medicina e Saúde Pública da Bahia. Salvador, Bahia, Brazil.

<sup>4</sup> Physical educator. PhD in Public Health. Associate Professor at the Universidade Federal da Bahia. Salvador, Bahia, Brazil.

<sup>5</sup> Nurse. Member of the Interdisciplinary Group on Cardiovascular Health Care. Salvador, Bahia, Brazil.

*de mulheres com excesso de peso foi baixo na maioria dos domínios, exceto no domicílio, sendo necessário encontrar estratégias para otimizar a prática de atividade física sobretudo no lazer.*

*Descritores: Atividade Motora. Mulheres. Obesidade.*

*Objetivo: describir el nivel de actividad física de mujeres con exceso de peso. Método: estudio transversal, descriptivo. Ciento cuarenta y tres mujeres fueron entrevistadas, utilizándose el International Physical Activity Questionnaire, y sometidas a evaluación antropométrica, de octubre de 2015 a julio de 2016. Datos analizados en frecuencias relativas y absolutas, medias y desviaciones estándar (DE). Resultados: edad media de 50,66 años (DE=11,55). Predominaron mujeres negras, sin compañero, con hasta el segundo grado, en actividad laboral y baja renta. Mayor proporción era obesa (82,5%), con circunferencia de la cintura no recomendada ( $\geq 80$  cm). En cuanto al nivel de actividad física global, 65,4% eran activas/muy activas. En cuanto al nivel de actividad física por dominio, 64,4% eran insuficientemente activas/sedentarias en el trabajo, 78,1% en el desplazamiento y 85,2% en el tiempo libre, pero 54,2% eran activas/muy activas en las actividades domésticas. Conclusión: el nivel de actividad física de mujeres con exceso de peso fue bajo en la mayoría de los dominios, excepto en el domicilio, siendo necesario encontrar estrategias para optimizar la práctica de actividad física sobre todo en el ocio.*

*Descritores: Actividad Motora. Mujeres. Obesidad.*

## Introduction

The demographic, epidemiological and nutritional transition in the last decades has favored an increase in the prevalence of chronic noncommunicable diseases (CNCDs), including obesity<sup>(1)</sup>, which is a global public health problem, with increasing prevalence in recent years, reaching both sexes and different age groups. It is estimated that more than half of the Brazilian population is overweight (56.2%), that is, 82 million people present a Body Mass Index (BMI) equal to or greater than 25 kg/m<sup>2</sup>, being higher in males (56.5%) than in females (49,1%). Regarding obesity (BMI > 29.9 kg/m<sup>2</sup>), there was a higher prevalence in females (18.2%) than in males (17,6%)<sup>(2)</sup>.

The etiology of obesity is complex and multifactorial, having, as determinants, historical, ecological, economic, social, psychological, cultural and political factors, and its prevention and control is a challenge in the world scenario. Excess weight stands out as a risk factor associated with increased systemic blood pressure, glucose intolerance and dyslipidemia, type 2 diabetes mellitus and cardiovascular disease<sup>(3)</sup>.

The benefits of regular physical activity for body weight reduction and control are well known<sup>(3)</sup>, bringing physiological contributions,

such as increased basal metabolic rate, better glycemic and lipid control, and sleep quality<sup>(4)</sup>, as well as reducing or preventing some diseases as osteoporosis and deviations of posture. In the psychological sphere it is observed reduction of the levels of anxiety, stress and depression<sup>(5)</sup>. In the social dimension, individuals can obtain better social and cultural integration<sup>(6)</sup>.

Despite these benefits, the twentieth century was marked by the growth of physical inactivity. Higher prevalence of physical inactivity have been found in women, relating to engagement with family issues and roles related to the wife, mother and caregiver, as well as the lack of social support, public safety, and climatic aspects<sup>(7-9)</sup>.

The literature review evidenced that the majority of studies related to the characterization of the physical activity pattern of overweight women come from developed countries<sup>(5,7-8)</sup> and knowing it in the Brazilian contingent shows the vulnerability of women to illness and leads to the creation and implementation of effective programs to minimize this public health problem.

Based on the above, the present study aimed to describe the level of physical activity of overweight women.

## Method

This is a descriptive study, a cut-off of a matrix project called “Nursing Remote Monitoring of Overweight Women”, developed in a referral service for obesity located in the city of Salvador, Bahia, Brazil, in which a multidisciplinary team serves users of the Unified Health System (*Sistema Único de Saúde* – SUS). Currently, about 300 overweight people are attended, most of them women (91%), which is why they were selected as participants in the study.

Data collection took place from October 2015 to July 2016. Through consultation with the medical records, it was identified that 174 overweight women met the eligibility criteria defined for the matrix project. Of these, 143 agreed to participate. Inclusion criteria were: being overweight (BMI  $\geq 25$  kg/m<sup>2</sup>), older than 18 years, attended at least one consultation in the last 12 months and a fixed telephone and/or cell phone. Exclusion criteria were: absence of physical conditions (amputations) to perform weight and height measures, mental confusion and cognitive conditions that prevented responding to the instruments of research and reading written messages, psychiatric disorders already diagnosed, using drugs for losing weight and those submitted to bariatric surgery.

In the data collection, a sociodemographic characterization instrument was used, with closed questions about age, self-declared race/color, marital status, schooling, work situation, monthly family income, with whom she lives, presence of maid and time of attendance in the service.

For the evaluation of the physical activity pattern, the long version of the International Physical Activity Questionnaire (IPAQ), duly validated, was used<sup>(10)</sup>. The instrument contains questions related to the frequency (days per week), duration (time per day) and intensity (light, moderate and vigorous) of the physical activity developed at work, in the displacement, in the domestic activities, and in the free time. This instrument allows classification according to the score obtained in four levels: very active, active,

insufficiently active and sedentary individuals. Individuals were classified as very active when they complied with recommendations for performing vigorous physical activity:  $\geq 5$  days/week and  $\geq 30$  minutes per session or  $\geq 3$  days/week and  $\geq 20$  minutes per session + moderate or walk:  $\geq 5$  days/week and  $\geq 30$  minutes per session. Active individuals complied with the recommendation for vigorous physical activity:  $\geq 3$  days/week and  $\geq 20$  minutes per session; or moderate or walk:  $\geq 5$  days/week and  $\geq 30$  minutes per session; or any added activity:  $\geq 5$  days/week and  $\geq 150$  minutes/week (moderate + vigorous walk). Insufficiently active were those individuals who performed physical activity, but insufficiently to be classified as active, as they did not comply with the recommendations regarding frequency or duration. Those who did not perform any physical activity for at least 10 continuous minutes during the week were classified as sedentary.

To verify the anthropometric measures, the participants were barefoot, wearing light clothes with Kami fabric, without props. The weight (kilograms) was verified using a scale, model TEC 30 of the brand Techline<sup>®</sup>, with variation of 0,1 kg. The height (meters) was defined using a portable stadiometer (graduated every 0.5 cm).

In order to measure the weight, the women were asked to stand with their arms along the body and stare at the horizon. After weighing, they remained standing for height verification, with head and back against the stadiometer ruler, below the horizontal rod, arms stretched, shoulders, shoulder blades, buttocks, heels leaning against the wall and feet flat on the floor. Then they were asked to look forward, take a deep breath, and hold the air.

The verification of these variables (weight and height) was used to determine body mass index (BMI), whose formula is the ratio of the weight in kilograms to the square of the height in meters (BMI=weight/height<sup>2</sup>). The women were classified according to World Health Organization criteria<sup>(11)</sup> as follows: overweight (BMI 25 to 29.9 kg/m<sup>2</sup>); obesity Grade I (30 to

34.9 kg/m<sup>2</sup>); Obesity Grade II (35 to 39.9 kg/m<sup>2</sup>) and obesity Grade III (IMC≥40 kg/m<sup>2</sup>).

Waist circumference was measured at the midpoint between the last rib and the anterosuperior iliac crest at the mid-axillary line, right side. Participants stood, abdomen relaxed, breathing normally, arms outstretched, weight evenly distributed between legs, feet near and in parallel position. The waist was stripped of clothing. The tape measure used was flexible, inelastic with a precision of 0.1 cm.

The parameter used for evaluation and classification for waist circumference (WC) was that of the International Diabetes Federation (IDF), which proposes a cut-off point that differs between ethnicities, and the adopted parameter is the one that was assigned to the South-Central and American ethnic group ( $\leq 80$  cm for women)<sup>(12)</sup>.

For hip circumference, the examiner remained in the sitting position in front of the participant, whose back was to a mirror, and the measurement was performed with a metric measuring the maximum protrusion of the hip muscles. The waist-hip ratio was determined by dividing the waist circumference (cm) by the hip circumference (cm), and it was considered elevated if  $\geq 0.85$  cm<sup>(13)</sup>.

The research project was approved by the Research Ethics Committee (CEP), process number 1,152,259 and complied with Resolution no. 466/2012 of the National Health Council. Eligible women received information about the

research objectives and procedures, risks and benefits, ensuring the right of withdrawal and secrecy of information. They signed the Free and Informed Consent Term (IC) in two ways, one way for the participant and another one for the researchers.

The data constituted a bank in the software Statistical Package for Social Science (IBM SPSS version 18.0), where they were processed and analyzed. The categorical variables were analyzed in absolute and relative frequencies and the continuous variables, in means and standard deviation.

## Results

Regarding the sociodemographic characteristics, it was observed a mean age of 50.66 years (SD = 11.59), a minimum age of 21 and a maximum of 81 years. Self-reported predominance was of black race/color (93.7%), with complete or incomplete primary education (62.4%) and stable/married union (55.9%). The majority lived in the company of someone (86.0%), had no maid (95.1%) and had a current paid employment situation (51.05%) because they were autonomous, retired with activity or had an employment relationship. The majority worked less than eight hours a day (65.7%) and had a family income of 1 to 3 minimum wages (39.1%), of which three people on average depended (SD = 1.32) (Table 1).

**Table 1** – Socio-demographic characteristics of overweight women. Salvador, Bahia, Brazil – 2016 (N=143) (continued)

| Sociodemographic Characteristics                                 | n (%)      |
|--|------------|
| <b>Age</b>   |            |
| 18 to 39 years   | 25 (17,4)  |
| 40 to 59 years   | 90 (62,9)  |
| ≥60 anos   | 28 (19,5)  |
| <b>Race/Color</b>  |            |
| White  | 9 (6,3)    |
| Black (brown and black)  | 134 (93,7) |
| <b>Marital status</b>  |            |
| Married / with partner   | 80 (55,9)  |
| Without partner  | 63 (44,0)  |
| <b>Education</b>   |            |
| Up to Incomplete Elementary School                               | 48 (33,5)  |
| Incomplete and complete secondary education and higher education | 95 (66,4)  |

**Table 1** – Socio-demographic characteristics of overweight women. Salvador, Bahia, Brazil – 2016 (N=143) (conclusion)

| <b>Sociodemographic Characteristics</b> | <b>n (%)</b> |
|---|--------------|
| <b>Lives in someone's company</b>       | 123 (86)     |
| <b>Paid work situation</b>              | 75 (51,05)   |
| <b>Hours of work/day</b>                |              |
| ≤ 8 h/day                               | 46 (65,7)    |
| > 8 h/day                               | 24 (34,3)    |
| <b>Monthly Family Income</b>            |              |
| ≥ 3 minimum wages                       | 37 (25,8)    |
| 1 a 3 minimum wages                     | 56 (39,1)    |
| ≤ 1 minimum wage                        | 50 (34,7)    |
| <b>Has no maid</b>                      | 136 (95,1)   |
| <b>Dependents at home</b>               | 44 (30,8)    |

Source: Created by the authors.

The mean BMI was 36,29 kg/m<sup>2</sup> (DP=6,23), minimum value of 25,0 kg/m<sup>2</sup> and maximum of 50,4 kg/m<sup>2</sup>. There was a predominance of obese women (82.5%), of which 31.5% had degree III obesity, 29.37% with degree I obesity and 21.7% with degree II obesity. 17.5% of them presented overweight.

Regarding waist circumference, 98.6% of the women had WC ≥ 80 cm. The mean WC was 105.28 cm (SD=11.97), minimum value of 74 cm and maximum of 133 cm. For the waist ratio, evaluated in 141 women, it was observed that 69.9% had increased values (>0.85 cm), with a mean of 0.89 cm, a minimum value of 0.56 cm, and a maximum of 1,23 m (DP=0,08).

Regarding the overall activity level assessed by the IPAQ (Table 2), that is, the evaluation of the four domains together (work, displacement, domestic environment and free time), 65.5% of the women were considered active/very active, because they reached the recommendation in terms of physical activity practice of ≥150 min/week; 34.51% were classified as irregularly active/sedentary, that is, they did not reach the specified recommendation.

When assessing the level of physical activity per IPAQ field, it was verified that more than half of the women were insufficiently active or sedentary in the work (64.4%), displacement (78.1%), leisure time (85.2% %) and domestic activities (54,3%).

**Table 2** – Characterization of the overall physical activity level of women and by IPAQ domains and time spent sitting. Salvador, Bahia, Brazil – 2016 (N=143) (continued)

| <b>Physical Activity Level – IPAQ</b> | <b>n (%)</b> |
|---------------------------------------|--------------|
| <b>Global IPAQ</b>                    |              |
| Active/Very active                    | 93 (65,4)    |
| Inactive/Sedentary                    | 49 (34,5)    |
| <b>Work Domain (n=59*)</b>            |              |
| Very active                           | 4 (6,8)      |
| Active                                | 17 (28,8)    |
| Irregular active                      | 21 (35,6)    |
| Sedentary                             | 17 (28,8)    |
| <b>Displacement Domain</b>            |              |
| Very active                           | -            |
| Active                                | 31 (21,8)    |
| Irregular active                      | 77 (54,2)    |
| Sedentary                             | 34 (23,9)    |

**Table 2** – Characterization of the overall physical activity level of women and by IPAQ domains and time spent sitting. Salvador, Bahia, Brazil – 2016 (N=143) (conclusion)

| <b>Physical Activity Level – IPAQ</b> | <b>n (%)</b> |
|---------------------------------------|--------------|
| <b>Free Time Domain</b>               |              |
| Very active                           | 3 (2,1)      |
| Active                                | 18 (12,7)    |
| Irregular active                      | 34 (23,9)    |
| Sedentary                             | 87 (61,3)    |
| <b>Household Activities Domain</b>    |              |
| Very active                           | 1 (0,7)      |
| Active                                | 64 (45,1)    |
| Irregular active                      | 61 (43,0)    |
| Sedentary                             | 16 (11,3)    |

Source: Created by the authors.

\* Although 55 women had paid employment status, only 46 of them worked outside the home.

Note: Conventional signal used:

- Numerical data equal to zero not resulting from rounding up.

## Discussion

In this study, women with obesity grade I to III and lower proportion with overweight predominated. VIGITEL data confirm higher prevalence of obesity in women and overweight in men<sup>(2)</sup>. All had waist circumference above the recommended and more than two-thirds with high waist hip ratio (WHR), leading to an increased risk for cardiovascular events. Considering that the majority was in follow-up in the service for more than 3 years, the permanence of the excess of weight indicates the difficulty faced in its control. This problem evidences the challenge of the multidisciplinary team in reaching the control of this complex phenomenon, especially in women with a high degree of obesity, as evidenced in this study, since the amount of attempts for weight loss is directly proportional to the BMI, that is, the higher the BMI, the greater the frequency of attempts<sup>(14)</sup>.

When analyzing the work, displacement and free time domains separately, a greater proportion of the women were sedentary/insufficiently active. However, they were active/very active in domestic activities, a fact that contributed to the classification of most of them as active/very active at the global level of physical activity (65,4%).

The majority were characterized by low monthly family income, lower level of schooling, and lack of maids, justifying the best level of physical activity in the domicile domain. People with a higher educational level share more domestic activities and are less active in these tasks and those with lower educational level are more active at home and less at work. These results are in agreement with another study carried out in the city of Salvador (BA), in which women, black, with low schooling, and more active in the home were also predominant in relation to work and displacement<sup>(15)</sup>.

In this study, less than a third of the women reached the level of recommended physical activity in the displacement domain, despite the low income<sup>(16)</sup>. This fact may be associated to the uninvestigated variables that influence the level of physical activity in the displacement, such as environmental factors, including safety on public roads, availability of bicycle paths, presence of sidewalks, and distance from home to work. The findings of this study corroborate the findings of research conducted in 100 municipalities in 23 Brazilian states, with 12,402 adults and 6,624 elderly, showing that 66.6% of adults and 73.9% of the elderly were insufficiently active in the displacement<sup>(17)</sup>. Since physical activity in this area is considered a strategy to improve the level

of physical activity of the general population<sup>(17)</sup>, developing countries have invested in the quality of transport, accessibility, and safety<sup>(18)</sup>. The stimulus to active displacement can improve traffic and is associated with a total reduction of 11% in cardiovascular risk, besides having a strong protective effect for women<sup>(19)</sup>.

Regarding the leisure time domain, most of the studied women were sedentary/insufficiently active, in agreement with a Brazilian study with 2,691 adults, in the city of São Paulo. In addition, the study showed that black race/color, lower family income and schooling, older age group, and presence of obesity were associated with physical inactivity, characteristics prevalent in this study<sup>(20)</sup>. The low level of leisure time physical activity may be associated with social and historical vulnerability, causing inequalities in several health variables, including behavior in relation to physical activity practice<sup>(15)</sup>. It is worth mentioning that individuals with higher schooling and income have more opportunities and ease of access to the practice of physical activity in leisure and greater social support to assimilate the recommendations and benefits of this habit<sup>(20)</sup>.

In addition, the fact that most women work for more than six hours a day, being active in household chores, and being dependent on their care may also have contributed to less availability of time and opportunities for physical activities during leisure time. These factors are also present in the study carried out with 2,050 adults in the city of São Paulo<sup>(21)</sup>.

Regarding the gender, it is important to note that women, since childhood, play with dolls and household chores, practice physical activity due to health, and medical or aesthetic orientation, as well as they are responsible for domestic work, facing double working hours, which may decrease the level of physical activity in the context of leisure<sup>(18,22)</sup>.

Faced with the physical inactivity scenario in most of the areas of IPAQ, it is necessary to create measures directed at the most vulnerable groups, so that they can accumulate more time of physical activity in the different domains<sup>(19)</sup>. In

this sense, the multiprofessional team presents fundamental importance to develop actions that stimulate the valorization of the behavior modification. Nurses can suggest strategies for overcoming barriers that impede the practice of physical activity, since obesity and sedentary lifestyle are considered multifactorial conditions that require multiprofessional action, aiming at reducing these problems and taking into account the particularities of each individual and the project of each one in their own care<sup>(23)</sup>.

From this perspective, nursing must be articulated with support networks, providing the necessary support for weight loss. Health education among women should enhance their knowledge of the ills associated with obesity and the benefits of physical activity to reduce it. It must share knowledge and knowhow through a sensitive and effective communication, stimulating the practice of autonomy and self-care in a reflexive and dynamic way<sup>(23)</sup>.

The results of this research point to the importance of policies and programs for health promotion, prevention and reduction of diseases through the encouragement of regular physical activity, as well as shared health projects between health professionals and women.

Regarding study limitations, sample size and cross-sectional study, in which exposure and outcome are collected at a single point in time, should be highlighted, making it difficult to determine causal relationships. However, cross-sectional studies consist of a tool of great utility for the description of population characteristics, for the identification of risk groups and for health action and planning.

## Conclusion

The majority of overweight women are active in the overall physical activity score, mainly because they are active in the domestic activity domain. However, when the other domains (leisure, work and displacement) were analyzed individually, a greater proportion of them were sedentary / insufficiently active. Thus, it

is necessary to find strategies to optimize the practice of physical activity, especially in leisure.

### Collaborations:

1. conception, design, and data analysis and interpretation: Taise Santos do Nascimento, Fernanda Carneiro Mussi, Cátia Suely Palmeira, Francisco José Godim Pitanga and Melissa Almeida Santos Paim;

2. article writing and critical review of intellectual content: Taise Santos do Nascimento, Fernanda Carneiro Mussi, Cátia Suely Palmeira and Francisco José Godim Pitanga;

3. final approval of the version to be published: Taise Santos do Nascimento, Fernanda Carneiro Mussi and Melissa Almeida Santos Paim.

### References

1. Brasil. Ministério da Saúde. Secretaria de Atenção à Saúde. Departamento de Atenção Básica. Estratégias para o cuidado da pessoa com doença crônica: Obesidade [Internet]. Brasília; 2014 [cited 2016 June 20]. Available from: [http://bvsmms.saude.gov.br/bvs/publicacoes/estrategias\\_cuidado\\_doenca\\_cronica\\_obesidade\\_cab38.pdf](http://bvsmms.saude.gov.br/bvs/publicacoes/estrategias_cuidado_doenca_cronica_obesidade_cab38.pdf)
2. Brasil. Ministério da Saúde. Secretaria de Vigilância em Saúde. Vigilância de fatores de risco e proteção para doenças crônicas por inquérito telefônico [Internet]. Brasília; 2015 [cited 2016 June 20]. Available from: [https://www.ans.gov.br/images/stories/Materiais\\_para\\_pesquisa/Materiais\\_por\\_assunto/2015\\_vigitel.pdf](https://www.ans.gov.br/images/stories/Materiais_para_pesquisa/Materiais_por_assunto/2015_vigitel.pdf)
3. Matsudo VKR, Matsudo SMM. Atividade física no tratamento da obesidade. *Einstein*. 2006;Supl 1:S29-S43.
4. Silva RC, Diniz MFHS, Alvim S, Vidigal PG, Fedeli LMG, Barreto SM. Atividade física e perfil lipídico no estudo longitudinal de saúde do adulto (ELSA-Brasil). *Arq Bras Cardiol*. 2016;107(1):10-9.
5. Joshi S, Mooney SJ, Kennedy GJ, Benjamin EO, Ompad D, Undle AGR, et al. Beyond METs: types of physical activity and depression among older adults. *Age Ageing* [Internet]. 2016 Jan [cited 2016 Apr 15];45:103-9. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4711656/>
6. Argento RSV. Benefícios da atividade física na saúde e qualidade de vida do idoso [trabalho de conclusão de curso]. Campinas (SP): Universidade Estadual de Campinas; 2010 [cited 2016 Apr 16]. Available from: [file:///C:/Users/ribei\\_000/Downloads/ArgentoRenedeSouzaVianello\\_TCC.pdf](file:///C:/Users/ribei_000/Downloads/ArgentoRenedeSouzaVianello_TCC.pdf)
7. Joseph RP, Ainsworth BE, Keller C, Dodgson JE. Barriers to physical activity among African American women: an integrative review of the literature. *Women Health*. 2015;55(6):679-99.
8. Welch N, McNaughton SA, Hunter W, Hume C, Crawford D. Is the perception of time pressure a barrier to healthy eating and physical activity among women? *Public Health Nutr* [Internet]. 2009 Jul 23 [cited 2015 June 20];12(7):888-95. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/18647424>
9. Tribess S, Virtuoso Júnior JS, Oliveira RJ. Atividade física como preditor da ausência de fragilidade em idosos. *Rev Assoc Med Bras*. 2012;58(3):341-7.
10. Matsudo S, Araujo T, Matsudo V, Andrade D, Andrade E, Oliveira LC, et al. Questionário internacional de atividade física (IPAQ): estudo de validade e reprodutibilidade no Brasil. *Rev Bras Ativid Física Saúde* [Internet]. 2001 [cited 2015 Aug 20];6(2):5-18. Available from: <http://rbafs.org.br/RBAFS/article/view/931>
11. WorldHealthOrganization. Obesity:adultes[Internet]. Geneva; 2018 [cited 2018 Sep 9]. Available from: <http://www.who.int/en/news-room/fact-sheets/detail/obesity-and-overweight>
12. Heyward VH, Stolarczyk LM. Applied body composition assessment. Champaign (IL): Human Kinetics; 1996.
13. Andrade SC. Prevalência de comportamentos voltados à perda de peso e suas associações com índice de massa corporal e autopercepção [dissertação]. [Internet]. Porto Alegre (RS): Faculdade de Medicina, Pontifícia Universidade Católica do Rio Grande do Sul; 2016 [cited 2017 May 15]. Available from: [http://tede2.pucrs.br/tede2/bitstream/tede/6686/2/DIS\\_SABRINA\\_CHAPUIS\\_DE\\_ANDRADE\\_COMPLETO.pdf](http://tede2.pucrs.br/tede2/bitstream/tede/6686/2/DIS_SABRINA_CHAPUIS_DE_ANDRADE_COMPLETO.pdf)
14. Pitanga FJG, Lessa I, Barbosa PJB, Barbosa SJO, Costa MC, Lopes AS. Fatores sociodemográficos associados aos diferentes domínios da atividade física em adultos de etnia negra. *Rev bras epidemiol*. 2014;15(2):363-75.
15. Hardman CM, Barros SSH, Oliveira ESA, Nahas MV, Barros MVG. Inatividade nos deslocamentos para o trabalho e fatores associados em industriários.

- Saude soc [Internet]. 2013 set [cited 2018 Sep 8];22(3):760-72. Available from: [http://www.scielo.br/scielo.php?script=sci\\_arttext&pid=S0104-12902013000300010&lng=en](http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0104-12902013000300010&lng=en)
16. Madeira MC, Siqueira FCV, Facchini LA, Silveira DS, Tomasi E, Thumé E, et al. Atividade física no deslocamento em adultos e idosos do Brasil: prevalências e fatores associados. *Cad Saúde Pública*. 2013 jan;29(1):165-74.
  17. Malta DC, Andrade SSA, Santos MAS, Rodrigues GBA, Mielke GI. Tendências dos indicadores de atividade física em adultos: conjunto de capitais do Brasil 2006-2013. *Rev Bras Ativ Fís Saúde* [Internet]. 2015 mar [cited 2018 Sep 8];21(4):141-51. Available from: <http://www.scielo.br/pdf/csc/v21n4/1413-8123-csc-21-04-1061.pdf>
  18. Mielke GI, Hallal PC, Rodrigues GBA, Szwarcwald CL, Santos FV, Malta DC. Prática de atividade física e hábito de assistir à televisão entre adultos no Brasil: Pesquisa Nacional de Saúde 2013. *Epidemiol Serv Saúde*. 2015 abr-jun;24(2):277-86.
  19. Sousa CA, César CLG, Barros MBA, Carandina L, Goldbaum M, Marchioni DML, et al. Prevalência de atividade física no lazer e fatores associados: estudo de base populacional em São Paulo, Brasil, 2008-2009. *Cad Saúde Pública* [Internet]. 2013 fev [cited 2018 Sep 8];29(2):270-82. Available from: [http://www.scielo.br/scielo.php?script=sci\\_arttext&pid=S0102-311X2013000200014&lng=en](http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0102-311X2013000200014&lng=en)
  20. Sá-Silva SP, Yokoo EM, Salles-Costa R. Fatores demográficos e hábitos de vida relacionados com a inatividade física de lazer entre gêneros *Rev Nutr*. 2013 nov/dez;26(6):633-45.
  21. Zanchetta LM, Barros MBA, César CLG, Carandina L, Goldbaum M, Alves MCGP. Inatividade física e fatores associados em adultos, São Paulo, Brasil. *Rev bras epidemiol* [Internet]. 2010 set [cited 2018 Sep 8];13(3):387-99. Available from: [http://www.scielo.br/scielo.php?script=sci\\_arttext&pid=S1415-790X2010000300003&lng=en](http://www.scielo.br/scielo.php?script=sci_arttext&pid=S1415-790X2010000300003&lng=en)
  22. Pires CG, Mussi FC, Cerqueira BB, Pitanga FJ, Silva DO. Prática de atividade física entre estudantes de graduação em enfermagem. *Acta Paul Enferm* [Internet]. 2013 [cited 2018 Sep 8];26(5):436-43. Available from: [http://www.scielo.br/scielo.php?script=sci\\_arttext&pid=S0103-21002013000500006&lng=en](http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0103-21002013000500006&lng=en)
  23. Moura PC, Braga LM, Domingos CS, Rodrigues NV, Correia MDL, Oliveira LVA. Diagnósticos e intervenções de enfermagem em indivíduos hipertensos e diabéticos à luz de Orem. *Rev Rene*. 2014 dez;15(6):1039-46.

Recived: March 8, 2018

Approved: September 25, 2018

Published: December 13, 2018



The *Revista Baiana de Enfermagem* use the Creative Commons license – Attribution -NonComercial 4.0 International.

<https://creativecommons.org/licenses/by-nc/4.0/>

This article is an Open Access distributed under the terms of the Creative Commons (CC BY-NC). This license lets others remix, adapt and create upon your work to non-commercial use, and although new works must give its due credit and can not be for comercial purposes, the users do not have to license such derivative works under the same terms.