THE IMPACTS OF OUTDOOR GYMS ON LEISURE PHYSICAL ACTIVITY IN CAMPO GRANDE/MS

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ABSTRACT
Outdoor Gyms (OGs) are spaces adopted in municipal public policies aimed at leisure physical activity. Considering the possible benefits of adopting a physically active lifestyle, this study aimed to assess the impacts of OG on leisure physical activity. Specifically, it aimed to: diagnose the profile of users; investigate the spaces used; evaluate the reasons that lead users to attend; identify the factors which act as barriers. This is a cross-sectional, descriptive/exploratory and field study investigating municipal documents and OG users located in Campo Grande/MS. The sample consisted of 275 subjects. The technique used was document analysis and structured interviews. The results indicate a predominance of females, aged 41-60 years, and married marital status. OGs are the main spaces used for leisure, having a positive impact on adherence to physical activity of 97%. Aspects related to health improvement are the main motivators for use and the absence of guidance is the biggest demotivator. It is concluded that although they positively impact the practice of leisure-time physical activity, the lack of guidance by Physical Education teachers is inhibiting.

KEYWORDS: Public Gyms, Health Promotion, Public Policy

IMPACTOS DE ACADEMIAS AO AR LIVRE NA ATIVIDADE FÍSICA DE LAZER EM CAMPO GRANDE/MS

RESUMO
As Academias ao Ar Livre (AAL) são espaços adotados em políticas públicas municipais voltadas à atividade física de lazer. Considerando os possíveis benefícios na adoção de um estilo de vida fisicamente ativo, a pesquisa teve por objetivo avaliar os impactos das AAL na atividade física de lazer. Especificamente, objetivou diagnosticar o perfil dos usuários; investigar os espaços utilizados; avaliar os motivos que levam os usuários a frequentar; identificar os fatores que atuam como barreiras. Do tipo transversal, descrito/exploratório e levantamento de campo, foram investigados documentos municipais e usuários de AAL localizadas em Campo Grande/MS. A amostra foi composta por 275 sujeitos. A técnica utilizada foi a análise documento e entrevista estruturada. Os resultados indicam predominância do sexo feminino, faixa etária 41-60 anos, estado civil casado. As AAL figuram como principais espaços usados para o lazer, impactando positivamente na adesão da atividade física em 97%. Aspectos relacionados a melhora da saúde são os principais motivadores ao uso e a ausência de orientação, o maior desmotivador. Conclui-se que embora impactem positivamente na prática de atividade física no lazer, a falta de orientação por professores de Educação Física figura inibidor.

INTRODUCTION

Public gyms had their first implantations in Brazil at the beginning of the 21st century, especially in the city of Recife, which created a policy in 2007 aimed at promoting health and including the City Gym Program (PAC) among the initiatives. As the objectives, it established stimulating the practice of regular physical exercise by the citizens of Recife, to develop and stimulate spaces for social inclusion, to carry out actions and events aimed at continuing education in the health of the general public to include regular physical activity as an important factor in the development of public health policies and to promote integrated actions with others developed within the scope of the Municipal Health Secretariat (Prefeitura Municipal de Recife, 2003).

The PAC model was followed by Belo Horizonte (Costa et al., 2013) and Aracajú (Mendonça, Toscano, & Oliveira, 2009) and served as a basis within the scope of the National Healthcare Programming Policy (PNPS) and the National Primary Healthcare Policy (PNAB) for the creation of the Health Gym Program (PAS) and its insertion in the Unified Health System (SUS).

The program characterized public spaces being established with the objective to contribute to promoting health based on establishing centers with infrastructure, equipment and qualified staff to guide body practices and physical and leisure activities and healthy lifestyles Ministério da Saúde do Brasil, 2011a). The program objectives were reformulated in 2013, and expanded to contribute to health promotion and to produce care and healthy lifestyles for the population (Ministério da Saúde do Brasil, 2013), which was a national landmark in the discussions on health promotion actions in primary healthcare, creating new possibilities to meet and approach users (Sa et al., 2016).

In addition to financial transfers to the municipalities for installing equipment and maintenance costs (Ministério da Saúde do Brasil, 2011b), it established the promotion of bodily practices and physical activities and guidance for the practice of physical activities as actions to be developed in its structure (Ministério da Saúde do Brasil, 2011a).

Based on the dissemination of powers and authorities which guide the SUS, the municipal executive established the competence to assign land for construction of the poles close to Basic Health Units (UBS) to complement values exceeding those established for construction and registration in the National Health Agency Fund (Ministério da Saúde do Brasil, 2011c).

Campo Grande - MS did not join the PAS and opted for the OGs as a public leisure space aimed at promoting health. This particular model of public gyms was institutionalized in the state capital in 2006 with the “Viver Legal” Program developed by the Municipal Health Department and in 2010 through the “Movimenta Academia ao Ar Livre” Program, linked to the Municipal Sports Foundation (Prefeitura Municipal de Campo Grande, 2011).

The “Viver Legal” Program aimed to promote an improvement in the population’s quality of life and the “Movimenta Academia ao Ar Livre Program” established the objective of adequately guiding practitioners of leisure-time physical activities on devices so that they can be used efficiently, impacting the possible benefits to the population and monitoring/guiding users for
autonomy in attending these spaces without the presence of a Physical Education instructor (Prefeitura Municipal de Campo Grande, 2011).

Considering the possible contributions that the provision of public spaces can give to the practice of physical activities and social interaction, as well as the benefits to health promotion, the present investigation aimed to assess the impact of OGs on the practice of leisure physical activities. Specifically, it aimed to: diagnose the profile of users; investigate the spaces used to practice physical activities during leisure; evaluate the reasons which lead users to attend; and investigate the factors which act as barriers.

**METHODOLOGY**

This is a cross-sectional, quali-quantitative, descriptive-exploratory and field study (Gil, 1999). The study objects were municipal documents which guide the sport and health policy of Campo Grande - MS and the population and users of OGs existing in the seven regions of the municipality (Anhanduizinho, Bandeira, Centro, Imbirussu, Lagoa, Prosa and Segredo).

The documents were the Municipal Partnership Program Bulletin (Campo Grande City Hall, 2011), the Movimento Program (Prefeitura Municipal de Campo Grande, 2011), Leisure and Citizenship Project (Fundação Municipal de Esportes, 2018) and Mapping of Public Facilities - Outdoor Gyms (Sistema Municipal de Indicadores de Campo Grande, 2019).

The sample of users was composed of 275 subjects from the 7 regions of the municipality selected at random. The inclusion criteria were: a) being an OG user in the city; b) be present at one of the investigated OGs on the data collection day and time; c) accepting to participate in the study by signing the Informed Consent Form (ICF). The exclusion criteria were: a) being under 18; b) not accepting to participate in the study; c) refusing to sign the ICF.

The data collection was structured in two phases using diversified techniques and instruments: 1) Document analysis; 2) Structured interview.

The document analysis took place in the months of August and October 2017. The content analysis technique was adopted for the documents, which enables systematically detailing the body of textual material collected through questionnaires or interviews in order to unveil and quantify the information of words, phrases or themes considered key to solving the problem under study (Coutinho, 2014). The analysis was carried out in three phases: pre-analysis (first contact with the data), material exploration (coding, clipping and choosing recording units; enumeration, choice of counting rules and classification by category; and data processing (interpretation of results) (Gil, 1999). We used absolute and relative frequency analysis and have presented the results in figures and tables.

The interviews with users took place in February, March and April 2018 through visits in the morning, afternoon and evening periods to the 58 OG centers in Campo Grande - MS. Users were selected randomly, and those who met the inclusion criteria and agreed to participate were read the interview questions by the researcher and the responses verbalized by the users were then
registered on the form. The average time of each interview per user was 20 minutes. The data obtained were subjected to analysis of relative and absolute frequency.

We prepared a form composed of open-ended questions for a structured interview which was specifically created for the research objectives, with four questions related to demographic data, two regarding the use of OGs (In addition to OGs, do you do physical leisure activities in other places? If they answered yes, inform the location), and three on the impacts (Does the existence of OGs encourage you to practice physical activities in your leisure time? Why? What factors make it difficult for you to use this space more?). The instrument was tested in a pilot study before applying it to the sample in order to train the researcher and adjust the instrument. The questions were read by the researcher and the answers recorded in a digital voice recorder, Blue, recording up to 4405 minutes.

The study was submitted to evaluation by the Ethics Committee in research with human beings, following the recommendations of Resolution No. 466, of December 12, 2013 and Resolution No. 510, of April 7, 2016, of the National Health Council, with approval by Research Ethics Committee of the Federal University of Mato Grosso do Sul under opinion No. 2,148,816/2017.

RESULTS

The OG users are predominantly female, between 41 and 60 years old and are married (Table 1). Most have been attending the OGs for more than a year (one to three years), two to three days a week, with a stay of 40 to 60 minutes.

<table>
<thead>
<tr>
<th>Gender</th>
<th>Absolute</th>
<th>Relative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>193</td>
<td>70.18%</td>
</tr>
<tr>
<td>Male</td>
<td>82</td>
<td>29.81%</td>
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</table>

<table>
<thead>
<tr>
<th>Age</th>
<th>Absolute</th>
<th>Relative</th>
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</thead>
<tbody>
<tr>
<td>18-40 years</td>
<td>46</td>
<td>16.72%</td>
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<tr>
<td>41-60 years</td>
<td>122</td>
<td>44.31%</td>
</tr>
<tr>
<td>Over 60 years</td>
<td>107</td>
<td>38.96%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Civil status</th>
<th>Absolute</th>
<th>Relative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single</td>
<td>29</td>
<td>10.54%</td>
</tr>
<tr>
<td>Married</td>
<td>137</td>
<td>49.81%</td>
</tr>
<tr>
<td>Divorced</td>
<td>65</td>
<td>23.63%</td>
</tr>
<tr>
<td>Widower</td>
<td>44</td>
<td>16.02%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Usage time</th>
<th>Absolute</th>
<th>Relative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 1 year</td>
<td>91</td>
<td>33.10%</td>
</tr>
<tr>
<td>1 to 3 years</td>
<td>101</td>
<td>36.72%</td>
</tr>
<tr>
<td>4 to 6 years</td>
<td>53</td>
<td>19.27%</td>
</tr>
<tr>
<td>More than 6 years</td>
<td>30</td>
<td>10.91</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Weekly frequency</th>
<th>Absolute</th>
<th>Relative</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 day</td>
<td>2</td>
<td>0.72%</td>
</tr>
<tr>
<td>2 to 3 days</td>
<td>134</td>
<td>48.72%</td>
</tr>
<tr>
<td>4 to 5 days</td>
<td>121</td>
<td>44.01%</td>
</tr>
</tbody>
</table>
6 to 7 days 18 6.55%

Average time spent

Up to 10 minutes 2 0.72
11 to 30 minutes 101 36.72%
31 to 39 minutes 3 1.09%
40 to 60 minutes 155 56.38%
Over 60 minutes 14 5.09%

Source: Research data.

The predominance of females among users contradicts national surveys which observed a greater participation of men (Brasil, 2019) or international studies which showed similarity among users of fitness centers (Estrada-Marcén, Sanz-Gonzalo, Simón-Grima, Casterad-Seral, & Roso-Moliner, 2019).

However, when considering the specificity of the research locations in our study (OGs), the greater adherence of women in Campo Grande, MS, corroborates studies developed with users of this same type of gym (Costa, Freitas, & Silva, 2016, Souza, Fermino, Añez, & Reis, 2014), as well as other public gyms - PAC (Fernandes et al., 2017, Hallal et al., 2010, Lemos, Bastos, Silva, Luna, & Gouveia, 2016).

The greater involvement of women in the practice of physical activity in public gyms may be related to cultural constructions which typify specific actions for women and men, and thus stigmatize social functions and activities, with leisure activities among them.

In particular regarding leisure experiences (games, games, sports and physical activities), female participation was historically restricted to the residential space, while boys enjoyed games in the streets and neighborhood. Sports activities which require greater physical vigor were encouraged for men. However, only the lightest and most aesthetic were in turn encouraged for women. According to Vera et al. (2018), childhood perceptions that competitive physical activities and contact (boxing, rugby, karate) are more appropriate for boys are established, which corroborates maintaining stereotypes.

In spite of small advances occurring against this theme in Brazil, gender issues still act strongly on leisure experiences, with more female participation in dance and ballet practice, rhythmic and artistic gymnastics, walking and fitness, while football, cycling, fighting and martial arts and athletics are more male activities. Fitness/gym is the most, with percentages of adherence in this type of physical activity higher than those found among men (IBGE, 2017).

OGs are the main space for users to practice physical activities. However, a considerable percentage also use conventional parks and gyms. Regarding the importance of the OGs, 97% indicated that they positively impact their adherence to leisure-time physical activity (Figure 1).
The implementation of policies aimed at promoting physical activities in OGs is configured as an enhancement strategy within the scope of the municipal administration to face physical inactivity and health promotion in Campo Grande, MS, as it has good adherence and its existence had a positive impact on the population’s decision to practice physical exercises using the equipment which are at the OGs.

The strategy of using public gyms as a promoter of physical activities has also been evidenced at the regional and national levels. Belo Horizonte has developed PAC together with PAS units since 2005. It had 76 centers in 2016 (Fernandes et al., 2017). Pernambuco had 276 hubs located in 146 municipalities in 2014 (Lemos, Bastos, Silva, Luna, & Gouveia, 2015). OG totals 7,500 installations in Brazil, present in 2,000 municipalities (Souza et al., 2014). PAS is present in 2,678 cities, with 3,821 installed centers (Brasil, 2018).

The implantation of spaces is appreciated by the population, since most of them indicated attending OGs from one to three years. The permanent use of public gyms has shown an average of 25 months (Lemos et al., 2016), 27.5 months (Mathias et al., 2019) and 36 months (Fernandes et al., 2017), which indicates user satisfaction, because according to Pascual, Aiguacil e Garcia (2020), user loyalty is statistically related to the satisfaction promoted by the space.

The positive impacts and user satisfaction indicate how necessary the social policies aimed at democratizing access to public spaces for leisure and health promotion, especially for populations with less economic power. The Brazilian population with no income or income below one minimum monthly salary are those who least practice sports and physical activities (IBGE, 2017), which is related to environmental factors such as the lack of public spaces (Vieira & Silva, 2019).

Despite the advances which have occurred with the creation of the “Movimenta Academia ao Ar Livre” and “Viver Legal” Program and implementation of OG, the performance of the municipal
management is still insufficient, since Campo Grande, MS has 53 hubs for 73 neighborhoods. Such a reality signaled the importance of expanding the centers of public academies in order to include those neighborhoods which do not yet have them.

The market becomes the main promoter of the practice of physical activities aimed at health promotion in the absence or insufficient action of the State, which is only available to a portion of the population. Demographic data indicate private sports facilities as the main places used by Brazilians for sports (IBGE, 2017), with the value of the monthly fee varying in the choice (Welter, Neves, & Saavedra, 2017). Subjects of socioeconomic level D/E were 80% less likely to have practiced or go to practice physical activities in private gyms (Silva, Rombaldi, Azevedo, & Hallal, 2008).

If there is no State intervention, which the main level responsible via positive law for promoting public policies (Dye, 2010), part of the population is not assisted in having the constitutional rights to health and leisure ensured, which is contradictory as they are precisely people in the lower socioeconomic class who are the main users of programs created to practice physical activities (Ferreira et al., 2019).

Health-related issues (improving health and maintaining health) are the main factors that motivate users to attend OGs. They particularly use these spaces to enjoy health benefits (Table 2).

Table 2: Reasons for joining the OGs to practice leisure-time physical activities in Campo Grande – MS - 2018 (n=275).

<table>
<thead>
<tr>
<th>Reasons</th>
<th>Frequency Absolute</th>
<th>Relative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improve health</td>
<td>61</td>
<td>22.76%</td>
</tr>
<tr>
<td>Maintain health</td>
<td>50</td>
<td>18.65%</td>
</tr>
<tr>
<td>Proximity</td>
<td>34</td>
<td>12.68%</td>
</tr>
<tr>
<td>Ease of access</td>
<td>28</td>
<td>10.44%</td>
</tr>
<tr>
<td>Socialization</td>
<td>25</td>
<td>9.32%</td>
</tr>
<tr>
<td>Financial accessibility</td>
<td>24</td>
<td>8.95%</td>
</tr>
<tr>
<td>Being outdoors</td>
<td>22</td>
<td>8.20%</td>
</tr>
<tr>
<td>Stimulation by third parties</td>
<td>9</td>
<td>3.35%</td>
</tr>
<tr>
<td>The idea of the OG</td>
<td>6</td>
<td>2.23%</td>
</tr>
<tr>
<td>Stimulus for existence</td>
<td>5</td>
<td>1.86%</td>
</tr>
<tr>
<td>Receive guidance</td>
<td>4</td>
<td>1.49%</td>
</tr>
</tbody>
</table>

Source: Research data.

The democratization of access to OGs is relevant to health promotion, as this was the main reason for users to attend them. Health promotion (adopting a healthy lifestyle) was also highlighted as the main reason for using the PAC in Recife (Lemos et al., 2016) and OGs in Paranaguá – PR (Mathias et al., 2019).

There is evidence that the use of public gyms motivated by health improvement has obtained positive results when considering the international recommendations for practicing physical activities. As in the example observed in Campo Grande, the frequency and duration are higher than three times a week and to 60 minutes per day (Hallal et al., 2010; Lopes et al., 2016; Mathias et al.,
2019), which meets the minimum parameters (150 minutes per week, at a moderate level) established as being necessary for promoting health (Who, 2014).

Practicing leisure-time physical activities mediated by regular attendance can result in improvements in physical and psychological aspects ranging from decreasing physical pain to increasing self-esteem and disposition. It promotes stress reduction and recurrent anxiety due to the increase in endorphins, as well as improvement in blood vessel dilation and strengthening, resulting in blood pressure regulation (Warbuton, Nicol, & Bredin, 2006).

However, the benefits of policies for spaces for experiencing physical activities go beyond those resulting from energy expenditure. Based on an expanded understanding of health, we believe that the importance of these spaces as health promoters overflows to benefits in other dimensions, since they also corroborate socialization and collective coexistence.

This reality was evidenced with the participants in the present research who pointed out socialization as one of the main reasons for use. In Curitiba, PR, OG users pointed out that they always met people they knew or made new friends (Souza et al., 2014). In addition to becoming more physically active and showing health improvements when compared to non-users, it became evident in Belo Horizonte, MG, that participation in the program increased social contact with neighbors (Fernandes et al., 2017).

The creation of cities for people and promoting social relations for all means providing adequate, quality and inviting conditions for the population to remain in the place, which only occurs if the space is beautiful, significant or pleasant (Gehl, 2013). The public space must appear as a mechanism for social redistribution, community cohesion, a space for political formation, for the expression of collective wills and conflicts (Borja, 2010).

As observed with OG users in Campo Grande, a positive relationship between proximity of spaces to residential areas has been evidenced in Brazilian literature (Hallal et al., 2010), with a statistically significant relationship with leisure walking when two spaces are within 500 meters of the residence (Florindo et al., 2017). On the other hand, uneven distribution which often favors central regions to the detriment of the periphery corroborates that the opportunities for access are lower (Marcellino, Barbosa, Mariano, Silva, & Fernandes, 2007).

Despite the majority of the results indicating adherence to practicing physical activities motivated by improvements in health and even knowing the importance of a physically active lifestyle, part of society has possibilities to enjoy leisure living spaces due to the negative effects of factors which act as barriers; barriers which are complex and manifest in several domains, including the social by which a lack of guidance is inserted, and figured as the main demotivator to users to attend OGs in Campo Grande in the present study.
It is noted that in addition to the equipment construction, public policies aimed at health promotion must also pay attention to the importance of providing professionals with specific training to guide users, as this was pointed out by users as the main barrier.

The presence of Physical Education teachers in OGs who are part of the “Movimento Academia Ao Livre” Program in order to better serve and guide users is essential for the program’s effectiveness and efficiency, as the outlined objective is to properly guide practitioners of leisure-time physical activities on the devices so that they can be used efficiently, impacting the population with possible benefits and accompanying/guiding users towards autonomy in attending these spaces without the presence of the Physical Education teacher, which in turn would indicate that the program at least partly did not adequately achieve the objectives it proposed.

A deficient performance of Physical Education teachers has been evidenced in municipal OG programs in other Brazilian locations. For example, only 23% received instruction during practice in Florianópolis, SC, while 31.3% did not know how to use the devices and 69% need guidance (Costa et al., 2016). In the extreme south of Brazil, only 16.11% used physical education services. Of those who used it, access was through private services (78%), especially fitness centers (73%) (Oliv, Dumith, & Knuth, 2020). A different condition is evident in the PAS (Silva et al., 2016; Florindo et al., 2016), in which there is a predominance of Physical Education teachers among professionals.

This stems from the mandatory availability of human resources in the PAS being regulated by article 12 of Ordinance No. 2,681, of November 2013, which establishes that professionals in Primary Healthcare who work in the Family Health Strategy and Family Health Support Centers are those who should be responsible for developing activities in the PAS (Ministério da Saúde do Brasil, 2013).
Despite advances and contributions from standardizing Physical Education professionals in the PAS, the limitations of municipal resources to fund trained professionals, among others, have figured as one of the main barriers to implementing and maintaining the system (Mota, Viana, & Bousquat, 2016).

The absence of Physical Education professionals to provide guidance on the use of OG devices with which users then perform the exercises on their own and may make mistakes, thereby resulting in negative effects such as injuries. Understanding through guidance which muscle group each device works reflects in conscious practice, in which the individuals themselves can track their limitations regarding their body, corroborating the autonomy to practice physical activities at leisure. Still, the presence of the professional promotes well-being to users to perform the exercises safely, as well as motivation through encouraging them and creating an environment close to health promotion from an expanded perspective, which in addition to the objective effects of physical activity to functional aspects, also adds subjective elements related to emotional, social and environmental aspects.

It is necessary to expand municipal public policies to advance health promotion, as well as greater scope of PAS policy in Brazil as public gyms are a unique opportunity for democratizing access to spaces to practice physical activities, which can in turn lead to an increase in the number of people who choose to occupy their available time with this type of activity, especially those of low socioeconomic class and who cannot afford a private gym.

CONCLUSIONS

It is concluded that OGs positively impact the leisure activity of users in the evaluated spaces. Health promotion is the main factor which motivates the use of these spaces. However, they are insufficient since users also resort to other spaces, especially squares and parks. A lack of Physical Education teachers to provide guidance on the use of devices is the main barrier to greater use.

It is important to expand municipal public policies, as well as to expand the scope of PAS policy in Brazil, as public academies are a unique opportunity to democratize access to physical activity spaces, which may corroborate with the expansion the number of people who choose to occupy their available time with this type of activity, especially those of low socioeconomic class and who are unable to afford a private gym.

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