Journal of Exercise Physiologyonline

December 2018
Volume 21 Number 6

Official Research Journal of the American Society of Exercise Physiologists

ISSN 1097-9751

JEPonline

Physical Activity in Brazilian Environmental Parks: A Brief Review

Iransé Oliveira-Silva[1], Ricardo José Gomes de Oliveira[1], Sandro Dutra e Silva[1,2], Anderson Dutra e Silva[1] Carlos Christian Giustina[1]

[1]University Center of Anápolis (UniEVANGÉLICA), Anápolis, Brazil, [2]State University of Goiás (UEG), Anápolis, Brazil

ABSTRACT

Oliveira-Silva I, Oliveira, RJG, Dutra e Silva, S, Dutra e Silva A, Giustina, CC. Physical Activity in Brazilian Environmental Parks: A Brief Review. **JEPonline** 2018;21(6):92-98. The purpose of this study was to provide a brief historical review of physical activity (PA) in the Brazilian environmental parks. For this research, we used a literature review following a specific methodology. The parks are used for the most diverse types of physical activities, although the evidence regarding the benefits of physical activity in the existing population remains low. This historical review study demonstrates that while physical activity has been incorporated into the Brazilian environmental parks, collective actions may be necessary to maximize the use of the parks and to provide users with the physiological and psychological benefits that come from the combination of physical activity and nature. It is necessary to develop a task force throughout the country to identify the specific needs of each environmental park disseminating data that can guide public administration in the construction of park improvement with emphasis on safety, peculiar differences to users, proximity to residential areas, and environmental characteristics that might be better suited to the practice of physical activity in order to improve the quality of life of the residents.

Key Words: Health, Leisure, Nature, Physical Activity

INTRODUCTION

The contemporary phenomenon of physical activity in Brazilian urban parks leads us to reflect on the history and conceptual construction of public spaces for leisure recreation and sports practice in the Western world and, in particular, from the eighteenth and nineteenth centuries when we were driven by the industrial revolution that resulted in significant urban growth. In this context of accelerated urbanization there was concern about the rationalization of urban spaces and associated social problems such as the precarious housing of workers the accumulation of garbage and sewage on urban ground and the great distances traveled to the workplace. All these variables exposed the problems that arose as a result of the disordered urban occupation. Among the pre-urbanists we can highlight the so-called progressive model that saw the empty spaces of the city as suitable opportunities for the development of green areas and gardens that could be used by the inhabitants of the cities for leisure time and for sports practice (3,4).

The relationship between the industrial phenomenon and the rationalization of space has been seen in a consensual way. Though, an interesting study by the North American environmental historian (22) points out that the concern with the presence of parks and green areas was an urban model that originated in the Calvinist cities of New England between the eighteenth and nineteenth centuries. The parks had a broader function than merely aesthetically representing the rationalization of urban social life. It was seen as an important "moralizing" element in the sense of bringing citizens closer to the natural world. The preservation of nature was an important moralizing factor of life and social order. Heir to the New England Calvinist tradition, Frederick Law Olmsted (1822-1903) regarded by many as the most prominent name in urban landscaping and who was involved in works such as the Central Park and the Brooklin Prospect Park (both in New York) believed in green spaces as a solution against the problems created by urban growth. As to the New York's Central Park, Olmsted (14, p. 495) wrote:

> No one who has closely observed the conduct of the people who visit the Park, can doubt that it exercises a distinctly harmonizing and refining influence upon the most unfortunate and most lawless classes of the city, an influence favorable to courtesy, self-control, and temperance.

Olmsted (14) reinforces, in this short passage quoted, the vision of the US environmentalists, who believed that nature would have the capacity to "moralize" society, opposing the problems caused by urban growth.

The first parks created in Brazil were the Passeio Público and the Campo de Santana Park in Rio de Janeiro in 1783 (16,19). The Campo de Santana Park was later reformulated in 1875 by the French engineer, August François Glazious. According to Oliveira (13), it was an important urban center of the country. São Paulo city began to sketch its first park from the mid-nineteenth century for adopting the idea of green areas as a way to create pleasant and healthy spaces for the wealthier people. The best-known park called the Ibirapuera Park was

opened in 1954 (2). In this first moment, it is noted in Brazil the French influence in the creation of urban parks in the two main cities of the country (16).

In the 1930s, the Brazilian architect and urban planner Attilio Corrêa Lima graduated in town planning in Paris. He highlighted the importance of springs and green areas in his project for the new capital of the state of Goiás. According to him empty spaces and the tree-lined streets would guarantee the city good air quality and climate. He points out that in his project green areas would have almost 35% of the total area of the city. Along the waterways, park ways should be created that would offer bucolic scenery evoking the beauty of nature in the midst of the emerging metropolis (5). Nevertheless, the process of rapid growth that has taken place in Brazil since the 1960s and the lack of public planning in the country have caused the urban voids to become abandoned or irregularly occupied areas.

As to the use of these spaces for the development of the most diverse types of physical activities, Parra and colleagues (15) indicate that the parks provide a suitable place for this purpose. Even with the evidence that supports the benefits of physical activity, the involvement of the population with these spaces is still low (7).

Unfortunately, there are still few studies on physical activity in Brazilian environmental parks and especially in the countryside. Hence, the purpose of this study was to provide a brief historical review of the physical activity (PA) in green areas and the urban environmental parks in Brazil.

METHODS

A review of the available physical activity studies in the Brazilian environmental parks was developed with the purpose of summarizing the history of physical activity in the Brazilian environmental parks. For the development of this study, physical activity professionals, relevant history, and geology were pulled together to review the subject. The data were collected in September of 2018.

The search for related research articles was conducted in the Medline, Pubmed, Google Scholar, Scopus, and Web of Science databases. The following terms and key phrases in English were searched: "physical activity" AND "environmental park" combined with the "Brazil" and "Brazilain" keywords (e.g., "physical activity"), and its analogues in Portuguese.

The articles had to be available in the full version that were published in national or international scientific journals between 2005 and 2018 in Portuguese or English, which also included in the title the descriptors previously cited. In addition to the database searches, references to selected articles were revised to identify any potentially relevant studies that were not previously identified in the online search.

In total, 84 articles were identified for consideration. Thirty-nine articles were excluded after reading the titles, and 21 articles were excluded after reading the content. These steps resulted in the inclusion of 24 studies that were analyzed.

RESULTS

Physical Activity in Environmental Parks

Environmental parks play an important role in promoting the practice of physical activity for the world population, especially since the parks are an attractive place, free of charge, and provide appropriate physical structures (23) for physical activities. Also, in addition to the importance of the space in promoting socialization and contemplation (11), the parks are likely to have a positive impact on the user's lifestyle (8).

The environmental parks are public spaces with remarkable potential for preventing different types of disease, especially through the interaction of human movement and nature (8). In particular, regular movement and exposure to nature provide physiological, cognitive, social cohesion, mental health, and other positive and long-lasting psychological benefits (4) that help to contribute to the change in the population's behavior relative to exercise as medicine (6). In fact, Sallis et al. (20) show that one way to achieve UN goals of reducing non-communicable diseases is by ensuring people's access to environmental parks where they can exercise in an attractive and supportive setting.

Physical Activity in Brazilian Environmental Parks

Initially, the parks in Brazil served primarily the elites of the time (21), which was boosted by the arrival of the Portuguese royal family to Brazil in 1808 (10). At that time, green areas were proposed to beautify urban centers. From the last quarter of the twentieth century the parks became key elements in urban planning. Also, the possibility of doing some kind of physical activity began to be considered in the planning of the spaces (13). According to Nucci (12), parks provided moments of leisure and mental relaxation. Several researchers (10,13,21) published papers regarding the value of leisure time and physical activity and the relationship of both to health and quality of life of the population (9).

In the 21st century parks took on a new connotation and function (19). Previously (i.e., until the twentieth century) they could be classified as ecological parks, leisure parks, and theme parks. Today, however, with the issue of sustainable and ecologically balanced cities, sustainable parks are increasingly required. They are characterized by the materials used for construction, operation, physical and social aspects, maintenance costs, recycling (19), and varied types of activities that allow for meeting the expectations of the population in different stages of life.

Urban parks are suitable for walking, running, and other types of physical activities, especially if they have the facilities for specific sports exercise and other vigorous activities (1,17). Other considerations according to Arana and Xavier (1) point out to the users of the parks and additional factors that need to be considered, such as local beauty, parking, proximity to the users' home, equipment, and safety.

The study by Reis et al. (17) carried out with adolescents from the city of Curitiba found that the parks should be better equipped to meet the users' expectations since they have different interests, particularly with respect to sports and health concerns. Also, there is the concern

about appropriate security for women, and the need for supervisory staff to promote specific types of activities.

Another important aspect of park development is the role of age, distance, and the interest in PA in environments equipped for this purpose. For example, Rossi et al. (18) analyzed the use and distance that adolescents in southern Brazil were from the parks and their associations with body mass index (BMI). The greater the distance from homes to the parks the greater the BMI, which is a major public health problem.

With respect to the age group, an action plan can be developed to increase the use of the parks. A good example comes from the study by Xavier and Arana (24), who showed among other important findings that the elderly chose to use the parks in the morning while the adolescents and children attended the parks in the afternoon and adults in the evening (24).

CONCLUSION

This brief historical review demonstrates that physical activity has been incorporated into Brazilian environmental parks and that collective actions may be taken to maximize the use and provide the users with the physiological and psychological benefits that come from the combination of physical activity and nature. It is necessary to develop a task force throughout the country to identify the specific needs of each environmental park disseminating data that can guide public administration in the construction of park improvement with emphasis on the participants' safety, the peculiar differences of the users, the parks proximity to residential areas, analysis of the environmental characteristics to determine the those better suited to the practice of physical activity in order to improve the quality of life of the residents.

ACKNOWLEDGMENTS

This study was financed in part by the Coordenação de Aperfeiçoamento de Pessoal de Nível Superior – Brasil (CAPES) – Finance Code 001. The author Sandro Dutra e Silva would like to thank the National Council for Scientific and Technological Development (CNPq) for his research grant. We would like to thank to UniEVANGÉLICA for the support in carrying out this study.

Address for correspondence: Iransé Oliveira-Silva, PhD, University Center of Anapolis - UniEVANGÉLICA, Anápolis, Goiás, Brazil, 75075754, Email: iranse.silva@unievangelica.edu.br

REFERENCES

1. Arana ARA, Xavier FB. Qualidade ambiental e promoção de saúde: O que determina a realização de atividades físicas em parques urbanos? ***Geosul*****.** 2017;32(63):201-228.

2. Barone ACC. A oposição aos pavilhões do parque Ibirapuera (1950-1954). ***Anais do Museu Paulista: História e Cultura Material.*** 2009;17(2):295-316.

3. Choay F. ***O Urbanismo: Utopias E Realidades, Uma Antologia.*** (7th Edition). São Paulo: Perspectiva, 2015.

4. Cohen DA, McKenzie TL, Sehgal A, Williamson S, Golinelli D, Lurie N. Contribution of public parks to physical activity. ***Am J Public Health.*** 2007;97(3):509-514.

5. Corrêa Lima A. "Goiânia: A nova capital de goiás." ***Arquitetura E Urbanismo.*** 1937.

6. Felix DF. Turismo desportivo no concelho de Évora (Master's thesis, Universidade de Évora), 2016.

7. Hallal PC, Andersen LB, Bull FC, Guthold R, Haskell W, Ekelund U; Lancet physical activity series working group. Global physical activity levels: Surveillance progress, pitfalls, and prospects. ***Lancet.*** 2012;380(9838):247-257.

8. Larson LR, Jennings V, Cloutier SA. Public parks and wellbeing in urban areas of the United States. ***PLoS One.*** 2014;11(4):e0153211.

9. Londe PR, Mendes PC. A influência das áreas verdes na qualidade de vida urbana. ***Hygeia.*** 2014;10(18):264-272.

10. Macedo SS, Sakata FG. Parques Urbanos no Brasil – (2nd Edition). São Paulo: Editora da Universidade de São Paulo: Imprensa Oficial da Universidade de São Paulo, 2003.

11. McCormack GR, Rock M, Swanson K, Burton L, Massolo A. Physical activity patterns in urban neighbourhood parks: Insights from a multiple case study. ***BMC Public Health.*** 2014;14:962.

12. Nucci TC. Qualidade Ambiental e Adensamento Urbano: Um estudo de ecologia e planejamento da paisagem aplicada ao distrito de Santa Cecília (MSP). Curitiba: (2nd Edition), 2008.

13. Oliveira FL. O nascimento da ideia de parque urbano e do urbanismo modernos em São Paulo. ***Arquitextos***, São Paulo, 10.120, Vitruvius, 2010.

14. Olmsted FL. ***Olmsted: Writings on Landscape, Culture, and Society.*** New York: The Library of America**.** 2015.

15. Parra DC, McKenzie TL, Ribeiro IC, Ferreira Hino AA, Dreisinger M, Coniglio K, Simoes EJ. Assessing physical activity in public parks in Brazil using systematic observation. ***Am J Public Health.*** 2010;100(8):1420-1426.

16. RBMA. "Romantismo Eclético." Portal da Reserva da Biosfera da Mata Atlântica. 2018. http://www.rbma.org.br/rbma/pdf/05_Romantismo ecl%E9tico.pdf.

17. Reis RS, Hino AA, Florindo AA, Añez CR, Domingues MR. Association between physical activity in parks and perceived environment: A study with adolescents. ***J Phys Act Health*****.** 2009;6(4):503-509.

18. Rossi CE, Patrícia de Fragas H, Corrêa EN, das Neves J, de Vasconcelos FAG. Association between food, physical activity, and social assistance environments and the body mass index of schoolchildren from different socioeconomic strata. ***J Public Health (Oxf)*****.** 2018.

19. Silva JB, Pasqualetto A. O Caminho dos Parques Urbanos Brasileiros: da origem ao século XXI. ***Estudos*****.** 2013;40(3):287-298.

20. Sallis JF, Bull F, Burdett R, Frank LD, Griffiths P, Giles-Corti B, et al. Use of science to guide city planning policy and practice: How to achieve healthy and sustainable future cities. ***Lancet.*** 2016;388(10062):2936-2947.

21. Scocuglia JBC. O Parc de La Tête d'Or: Patrimônio, referência espacial e lugar de sociabilidade. Arquitextos, São Paulo, 113.03, Vitruvius, out 2009.

22. Stoll M. ***Inherit the Holy Moutain - Religion and the Rise of American Environmentalism.*** New York, NY: Oxford, 2015.

23. Veitch J, Carver A, Abbott G, et al. How active are people in metropolitan parks? An observational study of park visitation in Australia. ***BMC Public Health*****.** 2015;15:610.

24. Xavier FB, Felipe J, Arana ARA. The green urban park: Characteristics of use through systematic observation. ***Revista Brasileira de Gestão Urbana*****.** 2018. Epub August 27.

Disclaimer
The opinions expressed in **JEPonline** are those of the authors and are not attributable to **JEPonline**, the editorial staff or the ASEP organization.