Physical Activity Guidelines for the Brazilian Population: Recommendations Report

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Background: This article presents the recommendations from the Physical Activity Guidelines for the Brazilian Population. Methods: A steering committee composed of a chair, 6 experts in physical activity, and representatives from the Ministry of Health/Brazil, Pan American Health Organization, Brazilian Society of Physical Activity and Health designed the guidelines, which was implemented by 8 working groups, as follows: (1) understanding physical activity, (2) children up to 5 years old, (3) children and youth from 6 to 17 years old, (4) adults, (5) older adults (60 years and above), (6) physical education at school, (7) pregnant and postpartum women, and (8) people with disabilities. The methodological steps included evidence syntheses, hearings with key stakeholders, and public consultation. Results: Across 8 chapters, the guidelines provide definitions of physical activity and sedentary behavior, informing target groups on types of physical activity, dosage (frequency, intensity, and duration), benefits, and supporting network for physical activity adoption. The guidelines are openly available in Portuguese, Spanish, English, and Braille and in audio versions, with a supplementary guide for health professionals and decision makers, and a report about the preparation and references. Conclusions: The Physical Activity Guidelines for the Brazilian Population provide evidence-based recommendations, being a public-directed resource to contribute to the physical activity promotion in Brazil.

Keywords: guidelines and recommendations, public health, exercise, sports, health promotion

Physical activity is a human right, being essential to human development, promoting healthy lives, and contributing to disease prevention. As addressed by the United Nations, sport and physical activity are platforms that enable 2030 Sustainable Development Goals by enhancing health, fostering structural society values (eg, tolerance, cooperation, fairness), and triggering progress with the involvement of multiple stakeholders, sectors, and communities.¹,² In addition, the World Health Organization (WHO) provides specific recommendations for physical activity across the lifespan.³ Nevertheless, personal, social, and environmental factors affect the opportunities for populations to engage in regular physical activity. Worldwide trends have consistently indicated that nearly 1 out of 4 adults and 4 out of 5 adolescents do not reach the recommended levels of physical activity.⁴–⁶ To tackle the pandemic of physical activity, WHO advises countries to develop and implement national physical activity guidelines, policies, and programs for individuals of all ages and abilities to become active.

In Brazil, the National Health Promotion Policy constitutes the primary guidelines for priorities and strategies seeking a comprehensive health care approach across the country.⁷ The National Health Promotion Policy pioneered to highlight physical activity as one of 8 core themes for health promotion, partly seeding the Academia da Saúde Program (Health Academy Program),⁸ which is a national strategy that funds public sites implementing health promotion actions, especially physical activity, in several municipalities. Although such mechanisms have strengthened the physical activity agenda in Brazil, there is a need to reduce levels of physical inactivity and sedentary behavior. As of 2019, nationwide estimates indicated that 40% of adults did not achieve recommended levels of physical activity (150 min/wk, or more) and 22% of the adults reported watching television for 3 or more hours per day.⁹ In schoolers from 13 to 17 years old, trends were worrisome with nearly 62% not achieving recommended levels of physical activity (300 min/wk, or more) and 36% reporting to watch television for 2 or more hours per day.⁹ These numbers underscore the challenge to continue and amplify strategies for physical activity. Convening a task force to summarize evidence applied to the national context and resources in Brazil can promote the participation of key stakeholders so that recommendations are

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better tailored for the Brazilian population. In addition, this approach facilitates the discussion of physical activity promotion in light of the infrastructure and routines of the Unified Health System in Brazil, coupled with existing national policies, cultural values, and practices in such a diverse country. Therefore, this article presents the conceptual definitions used for the development of the Physical Activity Guidelines for the Brazilian Population, as well as recommendations elaborated for 7 target groups in our population.

Methods

The Physical Activity Guidelines for the Brazilian Population was requested and funded by the Ministry of Health of Brazil. In 2019, the guidelines’ scientific committee was convened, being composed of the committee’s chair, 5 researchers representing the Brazilian regions, 4 representatives from the Ministry of Health of Brazil, 1 representative from the Brazilian Society for Physical Activity and Health, 1 representative from the Pan American Health Organization, and 1 Brazilian researcher based in the United Kingdom who took part in the development of WHO guidelines for physical activity and sedentary behavior. In October 2019, a prediscussion with professional and academic stakeholders took place at the Brazilian Congress on Physical Activity and Health (Bonito, MS, Brazil), mostly based on the general conceptualization from the Ministry of Health of Brazil and on a preliminary survey carried out by Brazilian Society for Physical Activity and Health 10 regarding guidelines for physical activity in Brazil. In early 2020, the scientific committee established the full workforce, totaling 75 Brazilian researchers distributed in 8 thematic working groups, according to the guidelines’ sections, namely: understanding physical activity, children up to 0–5 years old, children and youth 6–17 years old, adults, older adults (60 y old or older), physical education at school, pregnant and postpartum women, and people with disability.

The detailed methods used in developing these guidelines are discussed in the methodological report. Briefly, the development comprised a 4-phase process: (1) evidence syntheses from systematic reviews, primary studies and guidelines for physical activity; (2) with key stakeholders, carried out through online meetings, in which stakeholders discussed barriers, facilitators, and ways to make the guidelines more sensible for cultural and socioeconomic aspects in Brazil; (3) a public consultation so that any citizen could read the proposed document and submit revisions; and (4) closure of the final text and approval by the Primary Health Care Secretariat, Executive Secretariat, and the Minister of Health. The evidence base was mostly that used in the WHO physical activity guidelines 2020, without the use of established methods such as AGREE or GRADE.

Under the assumption of insufficient levels of physical activity by the general population, the guidelines planning prioritized nontechnical guidance to maximize the engagement with the target audience. Therefore, the working groups operated and elaborated recommendations under a public health perspective to primarily build up knowledge about physical activity and orient Brazilian citizens regarding the opportunities to identify suitable ways to practice physical activity.

Results

The Physical Activity Guidelines for the Brazilian Population 11 targeted the overall public, which required that its contents were didactically organized to facilitate the understanding by citizens of varied backgrounds. The dissemination included electronic versions available in Portuguese, English, and Spanish, as well as audio (https://aps.saude.gov.br/ape/gaf/) and braille formats. Regarding the specific contents, the introduction presents a message from the Ministry of Health of Brazil to the Brazilian population. The first chapter, “Understanding Physical Activity,” presents terminology and key concepts related to physical activity and sedentary behavior, followed by 7 additional chapters related to life cycle or specific groups. Such structure was intended to allow one to read the “Understanding Physical Activity” chapter to achieve basic knowledge and a given following chapter (eg, adults) to consult specific contents. The recommendations presented below follow the chapter-based structure. The list of references reviewed to develop the guidelines can be found at the Supplementary Material (available online) 14 and detailed reports from the working groups. 15–22

Definitions of Physical Activity for a Comprehensive Understanding

Because of the vast audience for these recommendations, the first chapter presents definitions of physical activity and concepts, including the domains of physical activity, sedentary behavior, components of physical fitness, and level of physical activity intensity (Table 1). We deemed that such contents would serve as a general basis for the remaining sections and facilitate the understanding of additional recommendations. Notably, this chapter also introduced the context for the practice of physical activity, highlighting that physical activity is not only a personal choice. Rather, several individual, collective, environmental, cultural, economic, and political factors may serve as facilitators or barriers for a more physically active life.

Recommendations for Children up to 0–5 Years Old

In the early years of age, physical activity mostly benefits children’s growth and development. However, several other additional effects are likely to occur in different outcomes. In the physical domain, physical activity is expected to improve motor coordination, muscle, and bone health, and may contribute to body weight control and reduce the risk for obesity. Physical activity may also enhance cognitive function and learning readiness (cognitive domain) while also promoting cooperation and social integration (social domain).

Because children up to 0–5 years old undergo rapid development, this chapter subdivides recommendations into 3 age ranges (Table 2), displaying specific recommendations and examples that mainly indicate ludic activities with increasing levels of coordination requirement, attention, and level of intensity. In addition, support resources are listed so that parents or children’s caregivers may seek documents, public or community programs, or public health units to provide further guidance regarding children health and well-being.

Recommendations for Children and Youth From 6 to 17 Years Old

In children and adolescents between 6–17 years of age, physical activity promotes visible physical benefits related to motor skills, body weight control, cardiovascular health, and neuromuscular function. Importantly, adolescence is often accompanied by a substantial psychological burden that derives from the transition to adult life. In this regard, physical activity may enhance psychosocial factors by facilitating social interactions and reducing anxiety- and depression-related symptoms.
Although older children and adolescents are expected to actively discuss the opportunities and choice of physical activity, the guidelines underscore specific recommendations on physical activity, and sedentary behavior directly for this group (Table 3), with additional advice for parents, caregivers, and physical education teachers. Further guidance is given to address conditions (eg, diabetes, asthma) that require adult or professional support for a safe practice of physical activity.
**Recommendations for Adults**

Adults regularly engaged in physical activity may derive many beneficial effects on quality of life and well-being, sleep, mental health, control of risk factors, and disease control for several conditions. Because adults may achieve more opportunities to engage in physical activity, the recommendations provided for this group may be applicable to several types of physical activity or structured exercise (Table 4). In addition, as the built environment and labor duties have increasingly led to lower levels of physical activity, we emphasize the recommendations to reduce sedentary time, such as inserting 5-minute breaks or shortening the time using electronic devices. Since an increasing prevalence of risk factors and diseases is expected in this age range, the guidelines describe additional information so that people with abnormal discomfort (eg, chest pain or dizziness) are oriented to seek for assistance in public health units.

**Recommendations for Older Adults**

Physical activity is a cornerstone practice to promote the health of older adults. When regularly engaging in physical activity, older adults are expected to achieve similar health benefits as those applicable for adults, including effects on quality of life and well-being, sleep, mental health, control of risk factors and disease control for several conditions. In addition, some contributions of physical activity during a lifetime are more evident at older ages. In this context, being physically active in previous decades is associated with a reduced risk for Alzheimer’s disease, cardiovascular events, and some types of cancer.

Since a higher prevalence of chronic diseases is expected in older adults, we reinforced that referral to public health units is necessary for further clarifications about physical activity for people with chronic disease. Because older adults may need further clarifications about the physical activity recommendations (Table 5), or experience more barriers to engage in physical activity, their access to supporting networks such as public health units and community programs is of foremost importance.

**Recommendations Regarding Physical Education at School**

Physical education at school may substantially improve the development and health aspects of students. Some motor, physical, and psychosocial benefits expected in children and adolescents in school ages were previously mentioned in specific recommendations for children up to 5 years of age, and for children and youth. However, additional reasons to warrant that all students can effectively participate in school physical education classes include the direct contribution to the accumulation of physical activity throughout a school day, and potential benefits in health, social, and cognitive dimensions.

This chapter directly presents recommendations for physical education at school (Table 6) and includes advice for students to contribute to an inclusive environment by respecting all their classmates regardless of motor skills, disabilities, or preferences. In addition, students are stimulated to actively engage in physical education classes by talking to their teachers about preferences for specific physical activities.

**Recommendations for Pregnant and Postpartum Women**

Physical activity during pregnancy or postpartum is, in general, safe and beneficial for women, and the baby. Physical activity during pregnancy is likely to comprise relaxation, increased readiness for daily activities, lower intensity of back pain, body weight control, and risk reduction for elevated blood pressure, gestational diabetes, and depression. For babies, mothers physical activity during pregnancy is associated with a reduced risk of premature birth and contributes to normal birth weight (Table 7).

To clarify some misconceptions on physical activity for pregnant or the postpartum women, this chapter also informs that physical activity does not increase risks regarding fetal malformation, membrane rupture, abortion, or death after birth. In addition, physical activity does not alter the composition, quantity, and taste of breast milk.

**Recommendation for People With Disabilities**

People with disabilities are highly encouraged to engage in physical activity to the extent of their opportunities and capabilities. Both individual and group activities may be largely beneficial, promoting benefits such as: human development, well-being, strengthened social relationships, autonomy for daily activities, relaxation, muscle conditioning, and reduced risk for cognitive decline. Notably, the guidelines comprise specific recommendations for children, youths, adults, and older adults with disabilities, therefore tailoring the guidance across the life cycle. Because people with disabilities may still face more personal and environmental barriers to practice physical activity, there are also recommendations for stakeholders to take action to reduce barriers and work toward making physical activity more accessible for people with disabilities (Table 8).

**Dedicated Subsections and Common Recommendations**

Except for the chapter “Understanding Physical Activity,” all chapters present dedicated subsections addressing some types of physical activity that could be done in leisure time, during

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**Table 4 Physical Activity Recommendations for Adults**

<table>
<thead>
<tr>
<th>Key recommendations for adults (18–59 y old)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adults should engage in at least 150 min/wk of physical activity at moderate intensity, or 75 min/wk of vigorous-intensity physical activity, or an equivalent combination from both intensities.</td>
</tr>
<tr>
<td>Activities that promote bone and muscle strengthening should compose the physical activity routine at least 2 d/wk. Examples include activities such as jumping, pushing and pulling, or most sport modalities (assuming safety is warranted).</td>
</tr>
<tr>
<td>The physical activity can be completed at once or fractionated into short periods.</td>
</tr>
<tr>
<td>Adults who cannot reach the recommended weekly amount of physical activity should engage in physical activity to the possible amount. Every hour while sitting, 5-min breaks at light intensity (eg, standing up, stretching, going to the bathroom) are recommended.</td>
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</tbody>
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**Note:** All recommendations provided throughout the book are applicable for adults, including effects on quality of life and well-being, sleep, mental health, control of risk factors, and disease control for several conditions. Because adults may achieve more opportunities to engage in physical activity, the recommendations provided for this group may be applicable to several types of physical activity or structured exercise. In addition, as the built environment and labor duties have increasingly led to lower levels of physical activity, we emphasize the recommendations to reduce sedentary time, such as inserting 5-minute breaks or shortening the time using electronic devices. Since an increasing prevalence of risk factors and diseases is expected in this age range, the guidelines describe additional information so that people with abnormal discomfort (eg, chest pain or dizziness) are oriented to seek for assistance in public health units.
Table 5  Physical Activity Recommendations for Older Adults

<table>
<thead>
<tr>
<th>Key recommendations for older adults (60 y old or older)</th>
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<tbody>
<tr>
<td>Older adults should engage in at least 150 min/wk of physical activity at moderate intensity, 75 min/wk of vigorous-intensity physical activity, or an equivalent combination from both intensities.</td>
</tr>
<tr>
<td>Activities that promote bone and muscle strengthening should compose the physical activity routine at least 2 d/wk. Examples include activities such as jumping, pushing and pulling, or most sport modalities (assuming safety is warranted).</td>
</tr>
<tr>
<td>The physical activity can be completed at once or fractionated into short time periods.</td>
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<tr>
<td>Older adults who cannot reach the recommended weekly amount of physical activity should engage in physical activity to the possible amount. Every hour while sitting, 5-min breaks at light intensity (eg, standing up, stretching, going to the bathroom) are recommended.</td>
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Table 6  Physical Activity Recommendations Regarding Physical Education at School

<table>
<thead>
<tr>
<th>Key recommendations for physical education at school</th>
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<tbody>
<tr>
<td>Physical education should be compulsory throughout basic education, including kindergarten (preschool), primary school, and secondary school (middle and high school). The weekly amount should consist of at least 3 classes of physical education, each lasting at least 50 min.</td>
</tr>
<tr>
<td>The content of each class should be primarily based on positive experiences emphasizing an open and respectful environment regarding the differences in students’ preferences, barriers, and skills.</td>
</tr>
<tr>
<td>The priority should be given to interactive, diversified, and stimulating pedagogical approaches that facilitate students to be engaged and physically active during most parts of each class should be prioritized.</td>
</tr>
<tr>
<td>Continuing education and positive acknowledgment of physical education teachers are important aspects regarding the adoption of these recommendations.</td>
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</table>

Table 7  Physical Activity Recommendations for Pregnant and Postpartum Women

<table>
<thead>
<tr>
<th>Key recommendations for pregnant and postpartum women</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pregnant and postpartum women without contraindications should engage in at least 150 min/wk of physical activity at moderate intensity.</td>
</tr>
<tr>
<td>Pregnant women without contraindications and who were physically active before pregnancy could engage in at least 75 min/wk of vigorous-intensity physical activity.</td>
</tr>
<tr>
<td>Women who were physically active before pregnancy can also combine moderate and vigorous activities to meet the recommended amount of physical activity per week.</td>
</tr>
<tr>
<td>The physical activity can be completed at once or fractionated into short periods.</td>
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<tr>
<td>There is an indication for pelvic floor exercises during and after the pregnancy.</td>
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<tr>
<td>Pregnant women should avoid activities in which there is risk of physical collision with other people (eg, soccer, basketball, martial arts) and those causing increased abdominal pressure.</td>
</tr>
<tr>
<td>Pregnant and postpartum women who cannot reach the recommended weekly amount of physical activity should engage in physical activity to the possible amount. Every hour while sitting, 5-min breaks at light intensity (eg, standing up, stretching, going to the bathroom) are recommended.</td>
</tr>
</tbody>
</table>

Discussion

The Physical Activity Guidelines for the Brazilian Population provides population-targeted, comprehensive recommendations for people living in Brazil to gain knowledge and increase opportunities to be engaged in physical activity. The document was elaborated through the involvement of several stakeholders (ie, the public, researchers, and professionals), with equitable gender representation regarding academics from the 5 macro-geographic regions of the country. Even in face of the COVID-19 pandemic, online public hearings were convened and made it possible to involve citizens, contributing to the development of the guidelines’ contents and language. The Physical Activity Guidelines for the Brazilian Population presents innovative aspects both in terms of some recommendations and ways of dissemination. Notably, these guidelines formally address physical education at school, which is expected to increase physical activity opportunities within school curricula, and trigger policy discussion at the national level. In addition, the guidelines offer innovative approaches to improve ...

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and sedentary behavior. Although previous recommendations in Latin America, and the WHO 2020 guidelines on physical activity for people with chronic diseases are rarely addressed in specific subgroups. However, subgroups were generated from varied methodological approaches, their recommendations present why, how, and how much to engage in physical activity, while also informing about the management of time spent in sedentary behavior, with subsequent monitoring of any implemented changes. Since many physical activity opportunities (or lack thereof) take place in the school environment, these recommendations may be valuable for physical activity promotion in the youth. More recently, a comprehensive analysis of ten national physical activity guidelines in the Americas indicated a considerable heterogeneity in topics addressed across the documents, highlighting contents (eg, infrastructure and built environment for physical activity) that have been poorly addressed in national guidelines in the American continent.

Several future developments may be triggered by The Physical Activity Guidelines for the Brazilian Population. In the implementation setting, the use of national public platforms (eg, ConecteSUS) has been employed to disseminate messages from the guidelines to the public with access to these technologies. Furthermore, these resources could serve as a tool to foster the creation or advancement of networks, receive feedback, and cover physical activity monitoring. Although the guidelines are deliberately planned to the population, some research gaps have also arisen from different chapters. Therefore, we reason that research is needed to better describe how regional specificities may influence the adoption of recommendations and practices of physical activity, especially in a country of continental dimensions such as Brazil. In addition, previous experiences with physical activity, age, level of scholarly, and other contextual or individual factors may influence the level of understanding of the recommendations in different groups. Hence, studies that investigate the use of language, narratives, and format in guidelines of physical activity may be informative.

In summary, The Physical Activity Guidelines for the Brazilian Population were elaborated by collective efforts from the Ministry of Health, academics, and citizens in Brazil. The recommendations present why, how, and how much to engage in physical activity, while also informing about the management of time spent in sedentary behavior. These guidelines are not the final step, but rather an initial milestone to increasingly involve the Brazilian population, decision makers, and professionals from the health and other sectors in further actions of promotion, diffusion, dissemination, and implementation of physical activity across the country.
Acknowledgments

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References

10. Sociedade Brasileira de Atividade Física e Saúde, Grupo de Trabalho em Políticas Públicas. Resultados da Consulta Aberta sobre um Guia de Atividade Física para a População Brasileira. [Internet]. Available from: https://drive.google.com/file/d/1c38FVcFgou06RkWzF52dWV2Uz5af0rKm/view


