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Essays

All physical activity matters... to whom?

Toda atividade física importa... para quem?

Toda actividad física importa… ¿a quién?

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Keywords:
Physical activity;
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ABSTRACT
The aim of this essay is to discuss the discourses on the relationship between physical activity (PA), in its different domains, and the reduction in disease prevalence. The benefits of PA for disease prevention have been associated with total energy expenditure. Thus, the practice of all domains of PA would be important for disease prevention. However, unlike what occurs with leisure-time PA, some studies indicate that those who perform the majority of PA in other domains belong to socially vulnerable groups. Therefore, who is the target of leisure-time PA and occupational, domestic, and commuting activities? When it is agreed that people need to add a few minutes of PA per week, regardless of the domain, perhaps a right is being denied to the individual and a process of exploitation of the other's body is being reinforced.

Palavras-chave:
Atividade física;
Desigualdades de saúde;
Exercício;
Problemas sociais.

RESUMO
O objetivo deste ensaio é debater os discursos sobre as relações entre atividade física (AF), em seus diferentes domínios e a prevenção de doenças. Os benefícios da AF para a prevenção de doenças têm sido associados ao gasto energético total. Assim, a prática de todos os domínios seria importante para a prevenção de doenças. Contudo, diferente do que ocorre com a AF no tempo livre, alguns estudos indicam que aqueles que mais realizam a AF nos outros domínios fazem parte de grupos socialmente vulneráveis. Portanto, a quem se destina a AF no tempo livre e nos outros domínios? Quando se aceita que as pessoas precisam adicionar alguns minutos de AFs por semana, independente do domínio, talvez, se esteja negando um direito e reforçando um processo de exploração do corpo do outro.

Palabras clave:
Actividad física;
Inequidades en salud;
Ejercicio físico;
Problemas sociales.

RESUMEN
El objetivo de este ensayo es analizar los debates sobre la relación entre la actividad física (AF), en sus diferentes ámbitos, y la reducción de la prevalencia de enfermedades. Los beneficios de la AF para la prevención de enfermedades se han asociado con el gasto energético total. Por lo tanto, la práctica de todos los ámbitos de la AF sería importante para la prevención de enfermedades. Sin embargo, a diferencia de lo que ocurre con la AF en el tiempo libre, algunos estudios indican que quienes realizan la mayor parte de su AF en otros ámbitos pertenecen a grupos socialmente vulnerables. Por consiguiente, ¿a quién va dirigida la AF en el tiempo libre y en las actividades laborales, domésticas y de desplazamiento? Cuando se acepta que las personas deben añadir unos minutos de AF por semana, independientemente del ámbito, tal vez se esté negando un derecho a la persona y reforzando un proceso de explotación del cuerpo ajeno.

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INTRODUCTION

The protective benefits of physical activity for disease prevention have been well studied and reported in the scientific literature. Thus, it has been considered that the performance of physical activities can be an important aspect to help the prevention of numerous diseases (Ekelund et al., 2016; Kyu et al., 2016; WHO, 2018, 2020).

One assumption is that the total daily energy expenditure may help this prevention, in such a way that the increase in this expenditure would result in a lower prevalence of diseases, although the dose response is not necessarily verified (Kyu et al., 2016; Mok et al., 2019).

Based on this foundation, the World Health Organization (WHO) published, in 2018, a new Global Action Plan on Physical Activity, in which it suggested a new global goal to reduce, by 15%, the prevalence of physical inactivity worldwide until 20303 and, in 2020, guidelines on physical activity and sedentary behavior (WHO, 2020). Such guidelines (WHO, 2020) provide recommendations on the amount (duration, intensity and frequency) and types or domains of physical activity that can contribute to the prevention of different diseases.

These documents have suggested, then, that any and all physical activities, regardless of the domain, would be important for increasing daily energy expenditure and, thus, would contribute to improving health. There are, however, in this understanding, some questions that have not been put up for debate.

The aim in this essay is, therefore, to debate the association between physical activity, in its different domains, and the reduction of the prevalence of diseases, presenting some aspects that have not deserved the due attention of researchers.

THE DOMAINS OF PHYSICAL ACTIVITY: BRIEF CONCEPTUAL ANALYSES

According to Caspersen et al. (1985), physical activity can be conceptualized as any bodily movement produced by skeletal muscles that results in energy expenditure. Furthermore, the authors assume that the amount of energy needed to perform an activity can be measured in kilojoules or kilocalories.

For the authors (Caspersen et al., 1985), exercise refers to planned, structured, repetitive and intentional physical activity with the objective of improving or maintaining one or more components of physical fitness. On the other hand, leisure-time physical activity refers to activity performed during exercise, recreation, or other times that are not linked to work, housework, or transportation (Itoh et al., 2017).

Occupational physical activity can be understood as all physical activity performed during professional practice, while domestic physical activity can be understood as the totality of physical activities, relevant to domestic tasks, which are carried out in their own residential environment, without the objective of earning financial gains. Finally, commuting physical activity refers to those performed as a means of transport or commuting, such as walking or cycling, for example, to commute to school, work, the market or other places.

Physical inactivity tends to be defined from objective and mathematical criteria. The WHO global recommendations (WHO, 2018, 2020) on physical activity to improve health among adults is 150 to 300 minutes of moderate intensity activity (or equivalent) per week or 75 to 150 minutes of vigorous intensity, considering the different domains (leisure, work, domestic and commuting). Still, it is possible to find slightly different cut-off values. Hallal et al. (2012) considered, in their study, physical inactivity when none of the three criteria were met: i) 30 minutes of moderate-intensity physical activity at least five days a week; ii) 20 minutes of vigorous-intensity physical activity at least three days a week; or iii) a combination that achieves 600 metabolic equivalents (MET)-min per week.

This generic notion of physical activity, presented by Caspersen et al. (1985) and still maintained today, reflects a positivist conception founded on the biomedical and mathematical sciences.

It is from this perspective that some authors tried to operate with other notions and broke with the dominant conception. Piggin (2020) understands that physical activity involves people moving and acting in culturally specific spaces and contexts and are influenced by a unique range of interests, emotions, ideas, intentions and relationships. Therefore, one could not or should not, in order to understand what physical activity is, be imprisoned by biomedical characterization.

In Brasil (2013), a little while before Piggin (2020), the perception of what is presented as "body practices" had already broken with the hegemonic assumptions. Body practices are individual or collective expressions of body movement, arising from knowledge and experience around the game, dance, sport, fight, gymnastics, built systematically (at school) or non-systematically (free time/ leisure). It should also be noted that body practices are manifestations of the body culture of a certain group that carry meanings that people attribute to them, and must include ludic and cultural organization experiences.

These notions, which break with the hegemonic concept of Caspersen et al. (1985), assume a position beyond biomedical/epidemiological rationality, seek to work with the idea of complexity that involves the phenomenon, in addition to trying to incorporate political, social, cultural and emotional aspects. On the other hand, the formulation by Caspersen et al. (1985) establishes a physiological parameter, based on energy expenditure, which can be measured. Thus, failure to comply with the recommended values, in short, would imply "physical inactivity" or "sedentary behaviour".

It is in this way, therefore, that the relationship between physical activities and health has been exhaustively investigated. And within this biomedical perspective, the consequence of the aforementioned "sedentary behaviour" is strongly associated with the occurrence of diseases (Ekelund et al., 2016; Kyu et al., 2016; WHO, 2018, 2020).

ALL PHYSICAL ACTIVITY MATTERS... TO WHOM?

The idea that each and every physical activity matters is based on the understanding that the sum of energy expended, with the accomplishment of the different domains, could positively impact people's health.

However, we need to debate this idea very carefully. VIGITEL (Brasil, 2023) is an important epidemiological survey on the surveillance of risk and protection factors for chronic diseases, by telephone, carried out annually in Brazil since 2006, with people aged 18 and over; residents in Brazilian state capitals, in addition to the Federal District.

Taking the year 2023 (Brasil, 2023) as an example, it appears that 40.6% of the participants reported practicing physical activities in their free time (an amount equivalent to at least 150 minutes a week of moderate intensity or 75 minutes a week of vigorous intensity).

Furthermore, it is noted that the rates differ considerably between males and females (45.8% and 36.2%, respectively), evidencing a relevant difference between genders. In addition to this, it is possible to observe that the higher the level of education, the higher the rates of physical activity in free time, both among men and among women. However, when using the intersectionality tool for data analysis, it appears that women with schooling time between 0 and 8 years have a rate of 24.8%; between 9 and 11 years old, 34.2%; and with 12 or more years of schooling, 47.0%. Among men, respectively with the same education groups, there is 28.7%; 47.2% and 58.1% (Brasil, 2023).

A possible explanation for this difference between the genders is related to the double working hours performed by women (Vieira and Silva, 2021; Paiva and Palma, 2021). The performance of work within their own homes, in Brazil, is still intended for women, as in many other countries around the world. Vieira and Silva (2021), when aiming to investigate the barriers to the practice of physical activities during leisure, observed that the main barriers, among women, were "household chores in their own home" (52.48% of women and 36.73% of men). Other important barriers identified in the study were "family commitments" (40.63% of women and 29.93% of men).

On the other hand, the National Continuous Data Sample Survey (Brasil, 2019), which purpose is to monitor the evolution of the workforce and other information on the socioeconomic development of Brazil, allows us to verify that the rate of carrying out household chores at one's own home or at the residence of relatives, in 2018, was 92.2% among women and 78.2% among men. The rates for white and black women were, respectively, 91.4 and 93.8%, while for white and black men they were 79.5 and 80.0%.

Therefore, patterns of inequities may be associated with a domain of physical activity. In our example, domestic physical activity was more performed by women and, especially, among black women, while leisure-time physical activity was more practiced by men and, especially, among men with longer years of schooling. Accepting these results naturally may mean not seeing the oppressions that are imposed and maintaining them indefinitely.

In another Brazilian study, Del Duca et al. (2013) observed important differences in the involvement with the different domains of physical activities. Likewise, they found that men did more physical activities during leisure time when compared to women. On the other hand, men were less involved with commuting and domestic physical activities. The authors also found that white people performed more physical activities during leisure time and less at work, while black people performed fewer physical activities during leisure time than white people and more at work. Although it was not statistically significant, there was a tendency to verify that black people performed more domestic physical activities than white people. Educational level and income follow a similar condition, in such a way that people with lower educational levels and lower income performed fewer physical activities during leisure time and more at work and domestic work. In addition, those with lower incomes still performed more physical commuting activities.

In an investigation in Argentina, Ballesteros and Freidin (2019) found that household and commuting physical activities were more involved in people with lower educational levels, lower levels of *per capita* of family income and females. Occupational physical activity showed a similar characteristic, with the difference that men perform this type of physical activity much more. On the other hand, in leisure-time physical activity, an absolute predominance of more privileged social categories was identified, such as groups with people with a higher level of education, greater family financial gain *per capita* and male.

A similar analysis was verified in a review carried out by Stalsberg and Pedersen (2018), in such a way that a positive relationship was identified between socioeconomic status and leisure-time physical activity. However, the relationship was non-existent or even opposite for the other domains. This review included studies from 22 countries in Europe, eleven in Asia, nine in North America, eight in South America, five in Oceania, and one in Africa.

Furthermore, although the literature demonstrates, in a more agreed manner, that leisure-time physical activity is associated with the reduction of numerous diseases, there is no consensus that occupational physical activity prevents diseases. On the contrary, and perhaps paradoxically, different studies have demonstrated that physical activity at work can contribute negatively to health, even indicating that high-demand occupational physical activity can increase the risk of mortality (Coenen et al., 2018; Holtermann et al., 2018, 2021). The same can be said in relation to domestic physical activity (Paiva and Palma, 2021; Stamatakis et al., 2007). It is also possible to find studies that show a higher chance of depressive symptoms in people more involved in occupational, domestic, and commuting physical activities (Loch et al., 2024).

Epidemiological analysis, in its traditional perspective, as highlighted by Breilh (2021), has sought to focus on isolated factors and reified in order to be able to manage them and convert them into "causal entities". In sequence, measurements are established and mathematical calculations are performed to demonstrate associations, in such a way that the "variable" assumes the status of a cause. In other words, mathematical calculation has dominated the interpretation of studies, to the detriment of the understanding of social production that can explain low or high levels of physical activity in different domains. On the other hand, it would be time to explain the deeper causes of these inequalities. But for that, as taught by Breilh (2021), it would be necessary to understand the processes of social reproduction. From the apprehension of social reproduction, it is possible to analyse the movement of social life, in a certain historical context, and to facilitate the understanding of the system of contradictions that impact this movement.

There is, therefore, a new question to be asked: to whom are leisure-time physical activity destined, and to whom are those carried out at work, household chores or commuting intended for? Surely, there is something very unequal in society that leads us to these numbers mentioned and it does not seem to be the work of chance. Some bodies have the leisure denied and serve as exploited workers. And then, when it is understood that people need to add a number of minutes of moderate and/or vigorous physical activities per week, regardless of the domain (leisure, work, domestic and commuting), as if all these domains resulted in the same outcome "healthy", perhaps, for most people, the possibility of better health is being denied and/or they are being kept exploited.

It is no coincidence that Nobrega (2022) calls for the need to rethink the fundamental knowledge to design anti-racist and feminist body practices. Researchers and professionals based on the hegemonic paradigm, expressed in studies and intervention policies, do not seem to pay attention to the situations in which black people, women, people with low financial income and other groups in conditions of vulnerability have historically been exposed in different societies. This situation displays a scenario of violence, oppression, submission, discrimination, disrespect, etc., which configures a space and feeling of "not being", "not existing", or "existing in a condition of exhaustion".

The total value of energy expenditure on physical activities in all domains, therefore, may be hiding any and all inequalities. It seems that any domain of physical activity can be considered to be beneficial to health and that all people share the same possibilities of choices and social, economic, political and cultural conditions, which is not true.

These reflections may contribute to rethinking and redirecting the health promotion discourses and strategies formulated through physical activity. In Brazil, the Physical Activity Guidelines for the Brazilian Population (Brasil, 2021, p. 8), following a brief distinction among domains, advises that "Keep in mind that doing any physical activity, whenever and wherever possible, is better than doing nothing [...]". Similarly, the OPAS (2026), on its official website under the "physical activity" section, states that "Regular and adequate physical activity, including any bodily movement that requires energy expenditure, can reduce the risk of many noncommunicable diseases and conditions [...]". Furthermore, its official slogan is "Let's be active: everyone, everywhere, everyday".

Unsurprisingly, the WHO (2024) – the foundational institution behind the aforementioned guidelines – stipulates that "WHO defines physical activity as any bodily movement produced by skeletal muscles that requires energy expenditure. Physical activity refers to all movement including during leisure time, for transport to get to and from places, or as part of a person's work or domestic activities". However, grounded in traditional epidemiology, these perspectives tend to equate the different domains of physical activity under the premise that "every movement counts", thereby disregarding the qualitative differences and the strain associated with each context. This homogenization aligns with the critique by Antunes et al. (2025), who point out that official guidelines in Latin America reproduce a prescriptive and medicalized model imported from the Global North. Through a decolonial lens, the authors argue that such universalist discourses decontextualize practice and conceal social determinants and health inequities.

The question raised in this debate has been established for some time by different authors (Palma, 2000; Rodrigues et al., 2017; Paiva and Palma, 2021; Knuth and Antunes, 2021; Palma et al., 2023; Araújo, 2024; Paiva et al., 2024), although the hegemonic literature has not hesitated to insist on the idea that "all physical activity matters". However, it is worth noting that more recently, some authors linked to traditional epidemiology, who previously defended the idea that "all physical activity counts," have come to understand,

albeit belatedly, the importance of rethinking this notion (Varela and Hallal, 2024; Salvo et al., 2026).

This shift can be understood in light of Breilh (2021), for whom the construction of a scientific object is related to the way a field is organized and to the interests that guide its production of knowledge, also requiring concepts capable of explaining that object. From this perspective, moving from an understanding of physical activity predominantly based on energy expenditure toward one that incorporates context, inequalities, and the conditions under which movement occurs may indicate a transformation in the construction of the object and of the scientific field itself.

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CONFLICTS OF INTEREST

The authors have declared that no competing interests exist.

DATA AVAILABILITY

The entire dataset that supports the results of this study was published in the article itself. However, since this is an essay developed from available scientific literature, it can be found in the references.

AUTHORS' CONTRIBUTION

Alexandre Palma conceived the work, participated in discussions on the topic, wrote the first version of the manuscript, and revised the final text. Mariane Ferreira dos Santos Araújo participated in discussions on the topic, contributed to the drafting of the text, and revised the final text. Giovana Barbosa de Paiva participated in discussions on the topic, contributed to the drafting of the text, and revised the final text. José Augusto Dalmonte Malacarne participated in discussions on the topic, contributed to the drafting of the text, and revised the final text. Phillipe Augusto Ferreira Rodrigues participated in discussions on the topic, contributed to the drafting of the text, and revised the final text.

REFERENCES

Antunes PC, Pasquim HM, Corral-Vázquez MR, Castillo T, Soto-Lagos R, Parreira FR, et al. Physical activity recommendations in South America: a decolonial analysis. Rev Bras Ativ Fis Saúde 2025;30:e0391.

Araújo MFS. Análise do Guia de Atividade Física para a População Brasileira: discursos sobre atividade física e saúde [dissertation]. Rio de Janeiro: Universidade Federal do Rio de Janeiro, Escola de Educação Física e Desportos; 2024.

Ballesteros MS, Freidin B. Desigualdades sociales en la realización de distintas modalidades de actividad física en Argentina. Educ Fís Cienc. 2019;21(1):e067. https://doi.org/10.24215/23142561e067.

Brasil. Glossário temático: promoção da saúde [Internet]. Brasília: Ministério da Saúde; 2013 [cited 2024 Jan 20]. Available from: https://bvsms.saude.gov.br/bvs/publicacoes/glossario_tematico_promocao_saude.pdf

Brasil. Guia de atividade física para a população brasileira [Internet]. Brasília: Ministério da Saúde; 2021 [cited 2026 July 26]. 54 p. Available from: https://www.gov.br/saude/pt-br/assuntos/saude-brasil/eu-quero-me-exercitar/documentos/pdf/guia_atividade_fisica_populacao_brasileira.pdf

Brasil. Pesquisa Nacional por Amostra de Dados Contínua – 2018. Suplemento outras formas de trabalho. Brasília: Instituto Brasileiro de Geografia e Estatística; 2019.

Brasil. Vigitel Brasil 2023: vigilância de fatores de risco e proteção para doenças crônicas por inquérito telefônico: estimativas sobre frequência e distribuição sociodemográfica de fatores de risco e proteção para doenças crônicas nas capitais dos 26 estados brasileiros e no Distrito Federal em 2023 [Internet]. Brasília: Ministério da Saúde; 2023 [cited 2026 July 26]. Available from: https://www.gov.br/saude/pt-br/centrais-de-conteudo/publicacoes/svsa/vigitel/vigitel-brasil-2023-vigilancia-de-fatores-de-risco-e-protecao-para-doencas-cronicas-por-inquerito-telefonico/view

Breilh J. Critical epidemiology and the people's health. New York: Oxford University Press; 2021. https://doi.org/10.1093/med/9780190492786.001.0001.

Caspersen CJ, Powell KE, Christenson GM. Physical activity, exercise, and physical fitness: definitions and distinctions for health-related research. Public Health Rep 1985;100(2):126-31. PMid:3920711.

Coenen P, Huysmans MA, Holtermann A, Krause N, Van Mechelen W, Straker LM, et al. Do highly physically active workers die early? A systematic review with meta-analysis of data from 193696 participants. Br J Sports Med 2018;52(20):1320-6. https://doi.org/10.1136/bjsports-2017-098540. PMid:29760168.

Del Duca GF, Nahas MV, Garcia LMT, Mota J, Hallal PC, Peres MA. Prevalence and sociodemographic correlates of all domains of physical activity in Brazilian adults. Prev Med. 2013;56(2):99-102. https://doi.org/10.1016/j.ypmed.2012.11.007. PMid:23200875.

Ekelund U, Steene-Johannessen J, Brown WJ, Fagerland MW, Owen N, Powell KE, et al. Does physical activity attenuate, or even eliminate, the detrimental association of sitting time with mortality? A harmonised meta-analysis of data from more than 1 million men and women. Lancet 2016;388(10051):1302-10. PMid:27475271.

Hallal PC, Andersen LB, Bull FC, Guthold R, Haskell W, Ekelund U, et al. Global physical activity levels: surveillance progress, pitfalls, and prospects. Lancet. 2012;380(9838):247-57. https://doi.org/10.1016/S0140-6736(12)60646-1. PMid:22818937.

Holtermann A, Krause N, Van der Beek AJ, Straker LM. The physical activity paradox: six reasons why occupational physical activity (OPA) does not confer the cardiovascular health benefits that leisure time physical activity does. Br J Sports Med. 2018;52(3):149-50. https://doi.org/10.1136/bjsports-2017-097965. PMid:28798040.

Holtermann A, Schnohr P, Nordestgaard BG, Marott JL. The physical activity paradox in cardiovascular disease and all-cause mortality: the contemporary Copenhagen General Population Study with 104 046 adults. Eur Heart J. 2021;42(15):1499-511. https://doi.org/10.1093/eurheartj/ehab087. PMid:33831954.

Itoh H, Kitamura F, Hagi N, Mashiko T, Matsukawa T, Yokoyama K. Leisure-time physical activity in youth as a predictor of adult leisure physical activity among Japanese workers: a cross-sectional study. Environ Health Prev Med 2017;22(1):37. https://doi.org/10.1186/s12199-017-0648-1. PMid:29165133.

Knuth AG, Antunes PC. Práticas corporais/atividades físicas demarcadas como privilégio e não escolha: análise à luz das desigualdades brasileiras. Saude Soc 2021;30(2):e200363. https://doi.org/10.1590/s0104-12902021200363.

Kyu HH, Bachman VF, Alexander LT, Mumford JE, Afshin A, Estep K, et al. Physical activity and risk of breast cancer, colon cancer, diabetes, ischemic heart disease, and ischemic stroke events: systematic review and dose-response meta-analysis for the Global Burden of Disease Study 2013. BMJ 2016;354:i3857. https://doi.org/10.1136/bmj.i3857. PMid:27510511.

Loch MR, Augusto NA, Souza BLS, Rufino JV, Carvalho FFB. Association between physical activity domains and depressive symptoms among Brazilian adults: does every move count? Cad Saude Publica 2024;40(3):e00095723. https://doi.org/10.1590/0102-311xpt095723. PMid:38477730.

Mok A, Khaw K-T, Luben R, Wareham N, Brage S. Physical activity trajectories and mortality: population based cohort study. BMJ. 2019;365:l2323. https://doi.org/10.1136/bmj.l2323. PMid:31243014.

Nobrega CCS. Educação "física" feminista: saúde é uma questão política dos corpos exaustos. Rev Bras de Educ Fís Escolar. 2022;3:62-75.

OPAS: Organização Pan-Americana da Saúde. Atividade física [Internet]. Washington: OPAS; 2026 [cited 2026 Aug 17]. Available from: https://www.paho.org/pt/topicos/atividade-fisica

Paiva GB, Araújo MFS, Rodrigues PAF, Carvalho PHM, Oliveira F, Corrêa Neto VG, et al. Associations between intersectional relationships of oppression and domains of physical activity in the Vigitel study (2016-2020). Rev Bras Ciênc Esporte 2024;46:e20240044. https://doi.org/10.1590/rbce.46.e20240044.

Paiva GB, Palma A. O paradoxo da atividade física: esquadrinhando as atividades físicas ocupacionais e domésticas. In: Palma A, Rodrigues P, Reis EC, editors. Práticas corporais & atividades físicas: saúde e sociedade. Curitiba: CRV; 2021. p. 111-32.

Palma A, Araújo MFS, Rodrigues PAF. Pesquisa em atividade física e saúde: a urgência de uma epistemologia decolonial. Rev Bras Ciênc Esporte 2023;45:e20230053. https://doi.org/10.1590/rbce.45.e20230053.

Palma A. Atividade física, processo saúde-doença e condições sócio-econômicas: uma revisão de literatura. Rev Paul Educ Fís 2000;14(1):97-106. https://doi.org/10.11606/issn.2594-5904.rpef.2000.138022.

Piggin J. What is physical activity? A holistic definition for teachers, researchers and policy makers. Front Sports Act Living 2020;2:72. https://doi.org/10.3389/fspor.2020.00072. PMid:33345063.

Rodrigues PAF, Melo MP, Assis MR, Oliveira A. Condições socioeconômicas e prática de atividades físicas em adultos e idosos: uma revisão sistemática. Ativ Fis Saude 2017;22(3):217-32. https://doi.org/10.12820/rbafs.v.22n3p217-232.

Salvo D, Crochemore-Silva I, Wendt A, Tarp J, Shiroma EJ, Simpson RJ, et al. Physical activity for public health in the 21st century. Nat Med 2026;32(4):1479-89. https://doi.org/10.1038/s41591-026-04237-5. PMid:41803342.

Stalsberg R, Pedersen AV. Are Differences in physical activity across socioeconomic groups associated with choice of physical activity variables to report? Int J Environ Res Public Health 2018;15(5):922. https://doi.org/10.3390/ijerph15050922. PMid:29734745.

Stamatakis E, Hillsdon M, Primatesta P. Domestic physical activity in relationship to multiple CVD risk factors. Am J Prev Med 2007;32(4):320-7. https://doi.org/10.1016/j.amepre.2006.12.020. PMid:17383563.

Varela AR, Hallal P. Does every move really count towards better health? Lancet Glob Health 2024;12(8):E1215-6. https://doi.org/10.1016/S2214-109X(24)00173-6. PMid:38942043.

Vieira VR, Silva JVP. Barreiras à prática de atividades físicas no lazer em usuários de transporte público de Campo Grande/MS. Rev Bras Ciênc Esporte 2021;43:e005821. https://doi.org/10.1590/rbce.43.e005821.

WHO: World Health Organization. Global action plan on physical activity 2018-2030: more active people for a healthier world [Internet]. Geneva: WHO; 2018 [cited 2024 Jan 18]. Available from https://apps.who.int/iris/bitstream/handle/10665/272722/9789241514187-eng.pdf

WHO: World Health Organization. Guidelines on physical activity and sedentary behaviour. Geneva: WHO; 2020 [cited 2024 Jan 18]. Available From: https://www.who.int/publications/i/item/9789240015128

WHO: World Health Organization. Physical activity [Internet]. Geneva: WHO; 2024. [cited 2026 July 26]. Available from: https://www.who.int/news-room/fact-sheets/detail/physical-activity