

Incidental physical activity update: A scoping review of experimental, non-experimental studies, and reviews

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ADMINISTRATIVE INFORMATION**Support** - National Doctoral Scholarships.**Review Stage at time of this submission** - Preliminary searches.**Conflicts of interest** - None declared.**INPLASY registration number:** INPLASY202370089**Amendments** - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 22 July 2023 and was last updated on 22 July 2023.**INTRODUCTION**

Review question / Objective The purpose of this review of the scope is: 1) To delimit conceptually and operationally the definition of incidental physical activity; 2) Identify the behaviors that are part of the incidental physical activity; and 3) Synthesize the results of incidental physical activity on the overall health of the population.

Background The latest update of the World Health Organization (WHO) guidelines on physical activity and sedentary lifestyle emphasizes that "every movement counts" (Bull et al., 2020), highlighting that the interruption of sedentary lifestyle with all kinds of Physical activity, regardless of its intensity and duration, has the ability to counteract its negative health effects (Bull et al., 2020). In this way, the recommendation that physical activity should accumulate in at least 10 continuous minutes to improve health, is modified by messages such as "Any amount of physical activity is better than none, and the more, the better" (Bull et al., 2020; Piercy et al., 2018). This is due to growing evidence of the association

between physical activity of any duration and better health outcomes, including all-cause mortality (Jakicic et al., 2019; Murphy et al., 2019). This new guideline proposes a change towards an integrated and multidimensional physical activity paradigm (Thompson et al., 2015; Thompson & Batterham, 2013), where incidental physical activity becomes relevant in improving the health of the population. In the same direction, the Global Action Plan on Physical Activity 2018-2030 points out that reducing sedentary behavior by promoting incidental physical activity can help people gradually increase their levels of physical activity towards levels recommended for healthy optimum (Pan American Health Organization [PAHO], 2019). In this regard, there is growing evidence of the association between the practice of incidental physical activity with physical health and well-being in various populations, based mainly on cross-sectional and longitudinal studies (Koch et al., 2020; Sanchez-Lopez et al., 2018; Tonello et al., 2016). In addition, a recent seven-year prospective study in a sample of 25,241 UK adults reported an association between one to two minutes of incidental physical activity, performed at vigorous intensity, with reduced risk of mortality.

from all causes, from cancer, and from cardiovascular diseases (Stamatakis et al., 2022). Although the evidence reported on incidental physical activity is growing, one of the reasons for the scarcity of studies on the effects on health may be the difficulty in conceptualizing it precisely, as well as identifying the behaviors it includes (physical activity associated) (Reynolds et al. 2014).

Rationale In practical terms, the review of the definition and behaviors associated with incidental physical activity will provide a solid foundation for the design of effective interventions. By understanding precisely what activities are considered incidental physical activity, health professionals and policy makers will be able to develop more effective strategies to promote active lifestyles in the population. This may include interventions in the work, educational, and community settings that encourage the incorporation of incidental physical activity into people's daily routines.

In addition, the synthesis of the effects of incidental physical activity on overall health will allow the identification of the specific benefits associated with this form of activity. This will not only support evidence-based decision-making, but will also inform the importance of including incidental physical activity in public health recommendations and physical activity guidelines. It will also help identify potential gaps in current research and guide future studies in areas where further understanding is required.

This scholarly article also seeks to address theoretical gaps in the field of incidental physical activity. Although there is evidence of its association with physical health and well-being, there are still challenges in the precise definition and identification of the behaviors that comprise it. By conceptually and operationally delimiting the definition of incidental physical activity, this review will help to overcome these theoretical gaps and provide a more solid foundation for future research, in particular, it will contribute to the objective measurement of this physical activity. Likewise, by synthesizing the effects of incidental physical activity on overall health in different population groups, it will be possible to identify areas for future research and strengthen existing knowledge.

METHODS

Search strategy The scope review will be carried out in accordance with the guidelines established by the PRISMA statement (Tricco et al., 2018). The search strategy will follow the guidelines of the Peer Review of Electronic Search Strategies

(PRESS) (McGowan et al., 2016). A systematic search will be carried out in the CINAHL databases by EBSCOhost, Cochrane Library, Pubmed, ScienceDirect, Scopus, and Web of Science. General search syntax will be limited by title, abstract, and keywords: ("incidental physical activity"[Title/Abstract] OR "incidental movement"[Title/Abstract] OR "vigorous intermittent lifestyle physical activity"[Title/Abstract] OR "VILPA"[Title/Abstract] OR "physical activity of daily living"[Title/Abstract]). Systematic reviews on incidental physical activity will also be reviewed in search of references that can be included. The objective will be to identify studies that have had as a result variable the level of incidental physical activity in various groups of the population, without discriminating by age, gender, or health condition. The search will cover all studies published up to July 2023.

Eligibility criteria All those articles that meet the search phrase will be considered, to then select only those articles that meet the following inclusion criteria: a) Study objective: incidental physical activity, incidental movement, vigorous intermittent lifestyle physical activity; b) Outcome variables: incidental physical activity level and its results in overall health indicators; c) Sample: boys and girls, adolescents, adults, older people with or without physical or mental health pathology; d) Methodological design: empirical studies and reviews.

Source of evidence screening and selection

Data extraction in this scoping review will take place in three stages. First, duplicate records obtained from the CINAHL databases by EBSCOhost, Cochrane Library, Pubmed, ScienceDirect, Scopus, and Web of Science will be removed using the Mendeley software. Second, two reviewers will select the records that meet the inclusion criteria by reading the titles and abstracts of the articles. Third, when decisions cannot be made from the title and abstract alone, full text documents will be retrieved. Subsequently, the Kappa reliability measure will be calculated to report the degree of agreement between the reviewers in the selection of the articles.

Data management For the selection process, the Rayyan platform (<https://rayyan.ai/>) will be used, a tool widely recognized and used in the scientific community for the review and selection of studies in systematic reviews. Selected articles will be reviewed independently by two reviewers, and any discrepancies will be discussed with a third reviewer until agreement is reached.

To extract data from the included studies and synthesize the evidence, a standardized questionnaire previously tested by the investigators will be used. During this stage of data extraction, as in the two rounds of study selection, the degree of agreement between the reviewers will be assessed.

A first table will perform a general characterization of the selected studies, reporting information such as the authors, year of publication, country, study design, population, sample size, and objective of the study. A second table will include the authors, the concept of incidental physical activity per study, and the behaviors considered as incidental physical activity in each of the selected articles. Finally, a third table will contain the authors, the results on incidental physical activity in general health indicators, the characteristics of the incidental physical activity observed by study (level, intensity, frequency) and the measurement instruments used to assess the incidental physical activity.

Reporting results / Analysis of the evidence To achieve the first research objective, an index entitled "Concept and behaviors of incidental physical activity" will be created. In this index, a table will be presented that reports both the definitions or meanings attributed to incidental physical activity in each selected article, as well as the behaviors observed and reported in said articles. Through this table, a narrative analysis will be carried out with the purpose of identifying similarities and divergences in the concepts of incidental physical activity presented in the articles.

The objective of the narrative analysis is to clarify and specify the definition of incidental physical activity, in order to achieve an integrated concept. Upon completion of the study, a robust and well-supported definition of incidental physical activity will be provided, improving understanding of its scope in research and scientific literature. In addition, the generation of a detailed and systematic list of behaviors considered as part of incidental physical activity, based on the selected articles, will contribute to the conceptual and operational definition of this type of activity.

Finally, through a second index entitled "Physical activity and its results in general health indicators", the relationship between incidental physical activity and general health indicators will be reported, based on the observations of the selected articles. With this, it will seek to contribute to a holistic vision of the possible health benefits of incidental physical activity. The data obtained will be very useful for future interventions and health promotion policies in various fields.

Language restriction English and Spanish.

Country(ies) involved Chile, Spain, Scotland.

Keywords incidental physical activity; health; definition; behaviors; scope review.

Contributions of each author

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