

Perceived barriers to physical activity practice in undergraduate students

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Abstract— This systematic review without meta-analysis aimed to examine the available scientific evidence on the perceived barriers hindering the physical activity practice in the undergraduate population. The 10 articles of this review were identified through the search in the following databases: Dialnet, SciELO, PubMed and Redalyc. The review was carried out between the months of January and July 2018. It was found that among university students, external barriers prevail over internal ones. Among them the lack of time stands out, this due to the overload of work or study. Other perceived barriers that occur to a lesser extent and that hinder the practice of physical activity among university students are stress and fatigue triggered by overload of work or study, not having facilities nearby or suitable for the practice of physical activities and lack of social support.

Keywords— Perceived barriers, physical activity, physical exercise, university students.

I. INTRODUCTION

THE theme that develops throughout this article of a systematic review without meta-analysis, exposes the available scientific evidence on perceived barriers that hinder the practice of physical activity in the population that was undergraduate.

In spite of the evidences demonstrating all the benefits that come with the regular practice of physical exercise, the National Survey of the Nutritional Situation in Colombia (ENSIN, in its Spanish acronym, 2010), led by the Ministry of Health and Social Protection, the National Institute of Health (INS, in its Spanish acronym), the National Department for Social Prosperity and the Colombian Family Welfare Institute (ICBF, in its Spanish acronym), with the support of the Pan American Health Organization (PAHO), has revealed that:

Only 21% of the population from 18 to 64 years old performed at least 150 minutes per week of physical activity (PA) in free time; 34.3% of the population met the criteria of PA as a means of transport and 54.8% did so for global PA (PA in free time and PA as a means of transport), these being lower prevalences in women in relation to men [1].

According Rangel y Sánchez [2], “at the regional level, Santander, 70.6% of the population between 15 and 64 years old, show a low level of physical activity” (p. 282).

In 2014, 23% of 18-year-old adults or older were not active enough. Women were less active than men and older people were less active than men. Globally, 81% of adolescents aged 11 to 17 did not have enough physical activity in 2014 [3].

Regarding the levels of PA in university students, studies such as the one conducted by Rodríguez *et al* [4], have found insufficient levels of PA in 42.1% of the students surveyed at a university in Bogotá.

Varela *et al* [5], found that 75.3% of young people surveyed from four universities in Colombia (Bogotá, Cali, Manizales and Tuluá), rarely or never, practice some sport with competitive aims, being women, the ones who do least this practice; 40.9% seldom or never do any exercise or body practice, at least 30 minutes three times a week, women being the least performing it; 50.1% never or rarely walk or ride a bicycle instead of using another means of transport if they must travel to a nearby place.

In the study conducted by Ramírez-Vélez *et al* [6], carried out in university students in Colombia, it was found that the barriers that limit the practice of PA are: lack of time, social influence and the lack of skills.

For Contreras *et al.* [7], la physical inactivity in medical students obeys lack of time and fatigue. However, 70% show lack of development of sports habits.

In the research by Rubio *et al* [8] that sought to identify the level of physical activity in university students and its relationship with perceived barriers to perform it, it was found that: 57% presented a high level of physical activity, 18% a moderate level and 25% a low level. These levels of physical activity were statistically different according to sex, so that there was a higher proportion of women at low and moderate levels, while a higher proportion of men was at the high level

($p= 0.005$). No differences were found according to age ($p= 6,636$). It was found that the main barriers in those who registered a low level of physical activity were lack of time and willingness.

At present, the study of barriers to the practice of physical activity has become more relevant since the first report submitted in 2010 by the World Health Organization (WHO) [9]. Regarding noncommunicable diseases NCDs, which describes a worrying situation, which has not changed, since the recent report on the global situation of WHO NCDs 2014 reveals that NCDs remain the leading cause of death in the world, causing 38 million of the 56 million deaths recorded in 2012 [3].

According to the WHO (2014), NCDs are largely due to behavioral risk factors, among which physical inactivity (PI) stands out as the fourth risk factor for mortality worldwide, since it causes 6% of all deaths [3].

It should be noted Hernando [10], who argues that modern person does not mind physical activity, due, in part, to a marked interest in technology, which displaces the need to remain active as part of the human condition. This position has consequences referred to by the author, as mentioned below:

“He/she suffers functional and capacity disorders. This absence of exercise is accentuated more every day at an early age, which is surely the product of the social changes of the industrial age, together with the transformations in leisure habits” (p. 69).

In order to understand this worrying situation of physical inactivity in university students, the following research question has been posed: what are the perceived barriers to the practice of physical activity in undergraduate students? which is intended to respond through a systematic review without meta-analysis that accounts for the available scientific evidence on perceived barriers hindering the practice of physical activity in the undergraduate population.

II. METHODOLOGY

A. Design

Systematic review without meta-analysis of the available scientific evidence on perceived barriers hindering the practice of physical activity in the undergraduate population.

Selection of studies and search strategy:

The 10 articles of this review were identified through the search in the following databases: Dialnet, SciELO, PubMed and Redalyc. The review was carried out between the months of January and July 2018.

The descriptors or keywords of the search that were used were the following: *barreras percibidas*, *actividad física*, *ejercicio físico*, *universitarios* (initially in Spanish). These terms were also used in English: perceived barriers, physical activity, physical exercise, university students.

For the search of bibliography, the following methods were used:

-Document analysis, which allowed extracting the most relevant information and separating it into its constituent elements.

-Synthesis of the existing data, which made possible the organization and combination of the extracted information, as well as a comparative evaluation.

B. Inclusion criteria

- Articles with full text link.

- Articles of free access.

- Original articles.

- Articles including in the title the descriptors: barriers, physical activity or physical exercise, university students.

- Articles with internal validity. Which was related to the design and measurement procedures of variables and methods of analysis.

- Articles published in the last ten years.

III. RESULTS

Table 1.
Summary of the studies on the perceived barriers hindering the practice of physical activity in undergraduate population.

Study	Population	Design	Measurements	Results
Rubio and Varela [8].	University students aged 18 to 27 (\bar{X} = 20.3 \pm 2.1 years old) n=155	Cross-sectional.	BBAQ (Barriers to Being Active Quiz).	50% of the sample perceived as the main barrier the lack of time, this variable obtained (\bar{X} = 4.41 \pm 2.8), followed by the lack of energy (38%); (\bar{X} = 3.84 \pm 2.52) and lack of willingness (36%); (\bar{X} = 3.29 \pm 2.59). When comparing the lack of time as a barrier between men and women, significant differences were statistically observed and the perception of this barrier in women was greater ($p= 0.025$)
Fernández and Ropero [11]	University students 17 to 44 years old (M_e = 20 years old) n=258	Cross-sectional.	Scale of benefits and barriers of Pender and Pender.	The most perceived barriers were the physical ones, since the range of percentage of response between agreement and strongly agreed was between 27.1% - 60.4% with an average of 42.1%. Of these perceived barriers the most frequent were: "the exercise tires me" strongly agree 17.4% and agree 43.0%, "Exercise exhausts me" strongly agree 15.1% and agree 32.6% and "Places to exercise are far away" strongly agree 17.1% and agree 28.3%.

Source: authors

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Table 1.
Summary of the studies on the perceived barriers hindering the practice of physical activity in undergraduate population.

Study	Population	Design	Measurements	Results
Ramírez-Vélez, <i>et al</i> [12]	University students aged 18 to 30 (\bar{X} = 20.5 \pm 2.6 years old) n=5663	Cross-sectional.	BBAQ (Barriers to Being Active Quiz).	The main reason given for temporarily or permanently leaving physical activity for 4247 of the students surveyed (89.5% of the sample) was "fear of injury", followed by "lack of ability" (82.1%) and then "lack of resources" (66.0%) and "social influence" (65.5%). Other frequently mentioned barriers to justify such abandonment were "lack of willingness" (50.5%), "lack of energy" (40.2%) and "lack of time" (30.1%).
Awadalla, <i>et al</i> [13]	University students aged 18 to 30 (\bar{X} = 20.1 \pm 1.4 years old) n=1257	Cross-sectional.	Gilany <i>et al.</i> Questionnaire, (2011)	The presence of at least one perceived barrier to physical activity was reported by 74.9% of physically inactive students. The average perceived barriers was significantly higher 4.36 \pm 4.66. The significant barriers among physically inactive students were: time limitations (51.3%); lack of accessible and adequate sports facilities (31.1%); they have other important priorities (28.1%); lack of friends to encourage (27.8%); lack of support and encouragement from others (23.2%); lack of safe sports venues (22.8%); lack of motivation (19.6%); high cost (17.7%); not interested in sports (18.5%); lack of sports skills (17.8%); feeling of fatigue in physical activity (15.8%) and ignorance about the benefits of sports (9.3%).

Source: authors

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Table 1.
Summary of the studies on the perceived barriers hindering the practice of physical activity in undergraduate population

Study	Population	Design	Measurements	Results
Olivares <i>et al</i> [14]	University students aged 19 to 24 n=449	Cross-sectional.	For the development and validation of the questionnaire's questions, Eikenberry, <i>et al</i> ; Borra, <i>et al</i> ; O'Dea, <i>et al</i> .s proposals were used.	The main barrier perceived by students to perform physical activity is the lack of time according to 67.9% of respondents. This barrier is perceived in greater proportion in women with 70.1% compared to 64.9% of men. 35% express feeling very tired after arriving from the university to perform physical activity.
Arzu <i>et al</i> [15]	University students aged 17 to 27 (\bar{X} = 20.50 \pm 1.78 years old) n=303	Cross-sectional.	12 item questionnaire. The content was partially based on those used in previous studies among young adults (Cheng <i>et al.</i> , 2003, Kenneth <i>et al.</i> , 1999, 2005). These items were classified on a Likert scale of 5 points (Ware, 1993).	The total score of the external barriers (18.32) was significantly higher than the score of the internal barriers (14.79). The lack of time (7.26) was the most important external barrier. The lack of energy (5.95) was the most important internal barrier.
Gómez-López <i>et al</i> [16]	University students n=323	Cross-sectional.	Standardized questionnaire <i>CHDEV</i> (Questionnaire for the Analysis of Sports Habits and Lifestyles).	External barriers prevail over internal ones. The lack of time, stress and fatigue generated by overload of work or study, not having facilities near/or apt for the practice of physical activities and lack of social support stand out among them.

Source: authors

Continues

Table 1.
Summary of the studies on the perceived barriers hindering the practice of physical activity in undergraduate population.

Study	Population	Design	Measurements	Results
Sousa <i>et al</i> [17]	University students aged 17 to 52 (\bar{X} = 23.5 ± 5.2 years old) (M_e = 22 años) n= 1084	Cross-sectional.	The information was obtained through the Isaq-A (Health Indicators of University Students and Quality of Life).	The situational barriers 56.7% (uncomfortable environment, overwork, family obligations and study) and personal 30.3% (fatigue, lack of desire, lack of motor skills and lack of physical conditions) were the perceived barriers most cited by the university students.
Saadan <i>et al</i> [18]	University students aged 18 to 25 (\bar{X} = 20.7 ± 1.78 years old) n=600	Cross-sectional.	Questionnaires on the "Perceived barriers to physical activity among university students" which was based on the study (Daskapan <i>et al.</i> , 2006).	The total score of the external barriers (\bar{X} = 13.09; ± 5.92) was significantly higher than the internal barrier score (\bar{X} = 12.73; ± 6.87). The lack of support was the most important external barrier (\bar{X} = 4.44, ± 2.02). The highest value was observed in question 10 (\bar{X} = 2.30; ± 1.02), which indicated the lack of support from parents who prioritized academic success compared to exercise.
Martínez-Lemos <i>et al</i> [19]	University students aged 17 to 39 (\bar{X} = 20.6 ± 3.0 years old) n=772	Cross-sectional.	Validated survey for the university student population with an alpha value of 0.856 Cronbach based on the test-retest after 12 months. "Self-perceived barriers to physical activity".	The perceived barriers that presented the highest scores corresponded to: overwork-lack of time for the exercise with a \bar{X} = 5.3 ± 2.3; and fatigue-laziness \bar{X} = 2.9 ± 2.0. The external barriers \bar{X} = 7.2 ± 3.3 presented a higher value than the internal barriers \bar{X} = 4.0 ± 3.2.

Source: authors

IV. DISCUSSION

This review examined the existing evidence in the scientific literature about the perceived barriers hindering the practice of physical activity in the undergraduate population. This is a review carried out on studies published between 2008 and 2018.

It was found that, among university students, external barriers prevail over internal ones. The lack of time, this due to the overload of work or study stand out among them. Other perceived barriers occurring to a lesser extent and hindering the practice of physical activity among university students are stress and fatigue triggered by overload of work or study, not having facilities nearby or suitable for the practice of physical activities and lack of social support.

With regard to the relationship between lack of time and gender, Tuero del Prado and Márquez [20] indicate that women perceive as a barrier to physical exercise the lack of time, which agrees with the findings of Rubio *et al.* [8] They compared the lack of time as a barrier between men and women, finding statistically significant differences ($p=0.025$), as the perception of this barrier was greater in women. Similarly, Olivares, Lera and Bustos, (2008) found that this barrier is perceived in a greater proportion in women with 70.1% compared to 64.9% of men.

Tuero del Prado *et al* [20] recognize that barriers to the practice of physical activity differ in relation to variables such as gender and age. Age seems to have a negative influence, according to US Department of Health and Human Services (as cited in Tuero del Prado and Márquez Rosa, 2010) levels of participation in physical activities decrease as the age increases.

Another barrier that university students perceive for the practice of physical activity is the lack of energy. Rubio *et al* [8] found that university students feel very tired during the week and consider that they do not get enough sleep, so that the time that is not allocated to academic or social activities, they occupy it in rest and recuperation. On the contrary, Weinberg and Gould [21] affirm that many people have an agenda so busy that fatigue becomes an excuse for not doing physical activity. And in fact, 59% of those who do not do physical exercise says that the lack of energy is an important barrier to relegate physical activity. To conclude, Weinberg and Gould [21] emphasize that fatigue is, in general, more mental than physical, and it is often related to stress.

V. CONCLUSION

The results show that, among university students, external barriers prevail over internal ones. Among them, the lack of time stands out, this due to the overload of work or study. However, it is clear that the physical activity practice should

be encouraged and strategies promoted to increase motivation and adherence to the initiation and maintenance of active behavior. It can not be forgotten that the university is a transitory period that must offer conditions for the acquisition of healthy lifestyles that last throughout life.

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