

Importance of Physical Activity in Older Adults in a Community of Tula of Allende

Importancia de la Actividad Física en los Adultos Mayores de una Comunidad de Tula de Allende

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Abstract:

The World Health Organization (WHO) indicates that physical activity is beneficial in older adults, since it decreases mortality and considerably reduces cardiovascular mortality, the objective of this study is to analyze the level of physical activity in older adults in Tula in order to know the relationship of their physical activity with their occupation and sex, based on this analysis, interventions can be made to improve the result; material and methods, the methodology is basic, quantitative, non-experimental, with a descriptive level of scope. The data collection was by convenience, it was carried out on older adults of Tula; during the period January-June 2022. The International Physical Activity Questionnaire (IPAQ) was the instrument used to measure the level of physical activity. This research is based on the adaptation model of Sister Callista Roy. The results obtained indicated that the predominant age range in the participants was 60 to 69 years, with 53.0%; the female gender was greater in the study, representing 52.7% of the sample; with respect to occupation, since the female gender was greater, the occupation with the highest percentage was that of housewife, with 40.2%; the results obtained in the IPAQ indicate that most of the older adults perform moderate physical activity, with a frequency of 180, which is equivalent to a percentage of 49.1%. Conclusion: The predominant level of physical activity among older adults in the Tula region is moderate.

Keywords:

Older adult, occupation, physical activity, benefit, adaptation.

Resumen:

La Organización Mundial de la Salud (OMS) indica que la actividad física es beneficiosa en adultos mayores, ya que disminuye la mortalidad y reduce considerablemente la mortalidad cardiovascular, el objetivo de este estudio es analizar el nivel de actividad física en los adultos mayores de Tula con el fin de saber la relación de su actividad física con su ocupación y sexo, a partir de ese análisis se podrán realizar intervenciones para mejorar el resultado; material y métodos, la metodología es básica, cuantitativa, no experimental, con un nivel de alcance descriptivo. La recolección de datos fue por conveniencia, se realizó a adultos mayores de Tula; durante el periodo enero-junio 2022. El Cuestionario Internacional de Actividad Física (IPAQ) fue el instrumento utilizado para medir el nivel de actividad física. Esta investigación se basa en el modelo de adaptación de Sor Callista Roy. Los resultados obtenidos indicaron que el rango de edad predominante en los participantes fue de 60 a 69 años, con un 53.0%; el género femenino fue mayor en el estudio, representando el 52.7% de la muestra; con respecto a la ocupación, al ser mayor el género femenino, la ocupación con mayor porcentaje fue la de ama de casa, con un 40.2%; los resultados obtenidos en el IPAQ indican que la mayoría de los adultos mayores realizan actividad física de manera moderada, con una frecuencia de 180, lo que equivale a un porcentaje del 49.1%. Conclusión: El nivel predominante de actividad física entre los adultos mayores de la región de Tula es moderado.

Palabras Clave:

Adulto mayor, ocupación, actividad física, beneficio, adaptación

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INTRODUCTION

The World Health Organization (WHO) recommends that older adults accumulate a minimum of 150-300 minutes of moderate-intensity aerobic physical activity, or a minimum of 75-150 minutes of vigorous-intensity aerobic physical activity, or an equivalent combination of moderate- and vigorous-intensity activities, over the course of a week to obtain significant health benefits¹, including: improved self-esteem, control of progressive cognitive decline, and contribution to developing better social integration that prevents symptoms of depression.² In recent years, sedentary lifestyles and physical inactivity have increased among the elderly, becoming one of the main threats to public health and affecting their quality of life.³

According to the Pan American Health Organization (PAHO), worldwide, women are less physically active (32%) than men (23%) and activity decreases at older ages in most countries.⁴ Therefore, the objective of this study is to analyze the level of physical activity in older adults in the Tula region.

López-Nolasco B. and collaborators (2017) in their study "Adaptation level in the physiological mode before and after a physical activation program in the elderly" whose objective was to analyze the adaptation level in the physiological mode before and after a physical activation program in the elderly; they worked with 25 older adults in a low impact physical activation program, in a time of 3 months, with 28 sessions of 1 hour, evaluated with the measurement instrument adaptation level based on the model of Sor Callista Roy. The results in the physical-physiological mode after the application of a physical activation program. After the first measurement, 24 older adults were identified in a "compromised" state and only one older adult in an "integrated" state. After the intervention, a second measurement was applied in which 92% of our population was observed in the "integrated" state and 8% in the "compromised" state, making a final comparison, 23 of the 24 older adults were integrated.⁵

Leiva A. et al. (2017) in their study "Sedentary lifestyle is associated with increased cardiovascular and metabolic risk factors independent of physical activity levels", whose objective was to investigate the association between the level of sedentary lifestyle - measured by accelerometry - with cardiovascular and metabolic risk factors associated with obesity. The cross-sectional analytical observational study evaluated the prevalence of CVD risk factors. The sample consisted of 322 persons, the sample size was estimated according to the difference between ethnic groups, and it was concluded that the very sedentary subjects (> 9.5 h/day) had higher body weight, BMI, body mass, body fat, waist circumference, prevalence of physical inactivity, and lower cardiorespiratory fitness than the less sedentary group (< 8 h/day).⁶

Aguilar-Chasipanta, W. and collaborators (2020) in their study called "The benefits of physical activity in the elderly: Systematic review". It mentions that the aging of the world population is increasing for the 21st century, people aged 60

years or older represent 13% of the population, and it is expected that by the year 2050 this figure will double to 2.1 billion. The aim of this study is to analyze physical activity and its influence on the quality of life of older adults, based on a systematic documentary review. Bibliographic sources were reviewed in a period between 1990-2020, in which studies were selected and analyzed to see if they met the inclusion criteria, with this process 129 documents were selected that underwent an exhaustive analysis, from which the most priority ones were specified.

Some of the benefits of physical activity that are appreciated in this study are: it helps to favor cognitive deterioration throughout life, protects and prevents the development of Alzheimer's disease, reduces the rate of depression and anxiety, reduces the incidence of cardiovascular diseases, among others. These studies showed that older people can engage in moderate physical activity, as long as it is under the guidance and supervision of a professional.⁷

Towan, E., Battaglia, G., Patti, A., et al. (2019) in their study "Physical activity programs for balance and fall prevention in elderly: A systematic review" The aim of this study is to systematically review the scientific literature to identify physical activity programs capable of increasing balance in older people. The review was based on data from Medline-NLM, Pubmed, ScienceDirect, and SPORTDiscuss and includes randomized controlled trials that have examined balance and physical activity in healthy adults over 65 years of age in the last decade. A final number of 8 manuscripts were obtained, comprising 200 older adults with a mean age between 75, 1±4.4 years. The results obtained show that the effects of endurance and physical activity have been investigated. It is concluded that balance is a multifactorial quality that can be effectively increased by different means of exercise training.⁸

Aldas-Vargas, C. and collaborators (2021) in their study "Physical activity in older adults" describe the importance of physical activity in older adults. Their objective is to know the importance of physical activity in older adults, preventing diseases and improving the quality of life. Through a bibliographic search, 28 original articles, review articles and informative guides on physical activity in older adults were selected. The articles were evaluated and their respective analysis was performed. Physical exercise is considered a secret weapon for feeling good, living longer and slowing down the aging process, as well as preventing diabetes and cardiovascular diseases and is part of the treatment of arthritis, anxiety and depression.⁹

MATERIALS AND METHODS

The methodology is basic, quantitative, non-experimental and descriptive in scope. The sample for the research was chosen based on a non-probabilistic intentional or convenience sampling. The finite population sampling formula was applied, obtaining a sample (n) of 366 older adults in the region of Tula de Allende, 10 a municipality located in a mostly rural area. The

questionnaire was applied to older adults from different localities in the region, mostly from rural localities, with basic services and access to health services; during the period January-June 2022. The criteria taken into account for the application of the instrument were: older adults of both sexes, who did not have any medical restriction to perform physical activity, who lived in the region of Tula de Allende¹⁰ and whose participation was consented through informed consent.

The precepts of the Declaration of Helsinki¹¹ were followed, the participants were informed of the basis of the study by means of the informed consent form, which they signed, stipulating the ethical and legal considerations of the research, regulated by the General Law of Research for Health.¹²

This research was approved by the ethics and research committee of the Tlahuelilpan's Higher School, Autonomous University of the Hidalgo State. Code assigned by the committee: 2021-I-XVIII-1.

The instrument used for this research was the International Physical Activity Questionnaire (IPAQ),¹³ which is an instrument suitable for the evaluation of physical activity in adults, considering the four components of physical activity (leisure time, home maintenance, occupational and transportation); It evaluates three characteristics of physical activity (intensity, frequency and duration), and is recorded in METS (Metabolic Equivalent of Task) per minute and week; the METS have a reference value that is multiplied by the time in minutes of activity in a day and by the number of days per week that it is performed. This instrument was validated in the Mexican population of Mexicali, Baja California. It showed an adequate reliability of Cronbach's $\alpha = 0.92$.¹⁴

Data collection was carried out by applying questionnaires directly to older adults, both houses to house and by collecting them at strategic points.

The results obtained in this research were captured and processed in the physical activity database program "SPSS", version 22, for Windows 11, in which the statistical analysis was performed.

The characteristics of our sample were identified by collecting sociodemographic data in a general data form (Table 1).

RESULTS

The results obtained in this research work are presented below. In order to know the sample, certain characteristics of the sample were evaluated through the creation of a sociodemographic data sheet; as we can see in Table 1.¹⁵ "Sociodemographic characteristics of older adults in the Tula region".

Table 1. Sociodemographic characteristics of older adults in the Tula region

Variable	Range	n	%
Age	60-69	194	53.0
	70-79	117	32.0
	80-89	48	13.0
	90-97	7	2.0
Gender	Female	193	52.7
	Male	173	47.3
Occupation	Retired	75	20.5
	Housewife	147	40.2
	Field	62	16.9
	Trade	33	9.0
	Transport	6	1.6
	Worker/Employee	38	10.4
	Practice your career	5	1.4
Source: OCS. Olgúin et al. (2022) ¹⁵			n=366

In the variable "Age", the ages 60 to 69 years predominate with a total of 194 older adults, representing 53%.

In the variable "Gender", it is observed that the female gender predominates with a frequency of 193 with a percentage of 52.7%, which predominates over the male gender.

As for the variable "Occupation", it shows that the predominant occupation is housewife, with a frequency of 147, a percentage of 40.2%.

Table 2. Results of the International Physical Activity Questionnaire (IPAQ) instrument in older adults in the Tula region.¹³

Physical activity level	n	%
Low	140	38.2
Moderate	180	49.1
High	46	12.7
Total	366	100
n=366		

Source: International Physical Activity Questionnaire (2022).¹³

Table 2¹³ presents the results obtained from the application of the instrument "International Physical Activity Questionnaire (IPAQ)¹³ in older adults in the Tula region"; the low level has a

frequency of 140, represented by 38.2%, the most outstanding results show that the majority of older adults in the Tula region perform moderate physical activity, with a frequency of 180, which is equivalent to a percentage of 49.1%, a mean of 1666.35, a median of 778.50 and a mode of 462, the high level has a frequency of 46, which is equivalent to 12.7% of the total sample.

DISCUSSION

This research work allowed us to analyze the level of physical activity in the elderly population of Tula de Allende, where it was found that the most common occupation among the studied population is "housewife," which represents 40.2% of the population.

The results of the instrument called IPAQ13 indicate that 49.1% of the elderly population engages in moderate physical activity, meaning they perform the 4 previously mentioned components and adhere to the characteristics (time) of the physical activity. This shows that the analyzed community has a higher-than-average level of physical activity. These results are consistent with findings published by Aguiar-Chasipanta⁷ and colleagues (2020), which suggest that older adults can engage in moderate-intensity physical activity as long as it is under professional supervision. In our research, it was found that most older adults engaged in moderate-intensity physical activity without supervision, as they are more independent and manage without any problems, in addition to being from a mostly rural community. In a study published by Bull F, Maslin T, Armstrong T.¹⁷ (2009), the reliability coefficients of the Global Physical Activity Questionnaire (GPAQ) and the International Physical Activity Questionnaire (IPAQ) are compared. It concludes that the GPAQ provides reproducible data with a moderate-to-strong positive correlation compared to the IPAQ. However, for the research, the IPAQ questionnaire was chosen because it is easier to understand, significantly simple to apply and respond to since it consists of 7 items, and is a validated instrument in the Mexican population with adequate reliability. Cleland C., Ferguson S., Ellis G., Hunter R.¹⁶ (2018) suggest that the IPAQ is better implemented in broader surveillance studies, and propose that validity scores are strengthened with additional details about the types of activities that older adults perform daily, and with examples of these activities aimed at improving understanding of what is being asked. In our research, the IPAQ instrument was applied verbally to the surveyed older adults, which favored the validity of the responses to be accurate and error-free, improving understanding of each item by the older adults. On the other hand, participants from the community in the Tula de Allende region whose level of physical activity was low are associated with high BMI, similar to the findings of Leiva A. et al.⁶ (2017), where, in addition to high BMI, low levels of activity were related to lower cardiorespiratory fitness. In the present research, the low level of physical activity was the second most frequent in the analyzed population. López-Nolasco and colleagues⁵ (2017) integrated 92% of the sample into physical

activity through an intervention, which differs from the present study since this research only collected data and neither designed nor applied any intervention, which is an opportunity area since if an intervention tailored to the population were designed and applied, it would improve the level of physical activity of the elderly. The fact that it was carried out in a rural community is impactful since the occupation of the elderly is mostly domestic, and it is interesting to observe that they are more independent and have a medium level of physical activity, generally without supervision. The main limitation of this research work was the scarcity of information about physical activity in older adults. This study lays the groundwork for the possibility of conducting an intervention in the same population and carrying out a similar study in an urban population.

CONCLUSION

After analyzing the results of this research, we conclude that the level of physical activity of older adults in the region of Tula de Allende is predominantly moderate.

We consider that this result can be attributed to the area in which the research was conducted and to the occupations of the older adults, Tula de Allende is a rural area with older adults who for the most part have no impediment to perform activities that require moderate vigorous physical effort, and this is reflected in their occupations in which, although housewives and retirees predominate, this does not exempt them from performing physical activities such as riding a bicycle, digging or carrying weights; they are physically active older adults.

It is recommended that this study serve as a basis for other research or studies related to physical activity in older adults. It could be applied to older adults in a rural community, to observe the similarities or contrasts among them. It is proposed to implement interventions to improve the level of physical activity of older adults in Tula de Allende.

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