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Physical Activity Status And Sleep Quality In Peruvian Parents At A School

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Summary

Introduction: Changes in physical activity have been modified over time, due to the limitation in the participation of outdoor activities, trips to workplaces, public and academic entities, etc.; reducing the time dedicated to physical activity; favoring the appearance of negative effects on health, risks of altered sleep quality and even loss of physical capacity.
Objective: To find out the correlation between physical activity and sleep quality among parents, and to be aware of the degree of physical activity and the degree of sleep quality in a population consisting of parents in a school in Lima.
Methods: Cross-sectional and analytical study of 88 parents, 62.5 percent of them were female. The International Physical Activity Questionnaire (IPAQ) and the Pittsburgh Quality Index were applied, the aim of which is to determine the quality and the challenges of people when going to bed quickly and accurately. Statistical analysis was conducted with the help of the SPSS v.26 program.
Results: The parents showed a direct correlation between physical activity and the quality of sleep with a significance value of 0.03. The women had low sleep quality (57.95%), low physical activity, 54.54% and 30.7% work more than 41 h/s and 57.9% are professional parents.
Conclusions: The study variables show a significant relationship and parents who engage in physical activity on a regular basis are more likely to sleep better than those who are less active.

Keywords: Physical activity, insomnia, daytime sleepiness, sleep quality, adults.

INTRODUCTION

Sleep is a necessary physiological need as part of development from birth; in recent decades indicate the importance of sleep in the life of the human being, especially in older adults that influences daily functioning and can even determine quality of life, with the arrival of COVID-19 the population felt forced to live differently, work at home and as a consequence decrease movement, Preventive mandatory necessary measures that led to a sedentary lifestyle and reduction of physical activity, therefore, no one stops the time of life without movement and aging (1,2).

The aging of the population has increased globally in the last 10 years, a process characterized by a progressive loss of homeostatic reserves in various systems, generating changes in physical and mental health, which influences the delay in falling asleep, difficulty in maintaining it, and the efficiency of this process (3). Not sleeping will lead to poor work and even physical responses.

Conversely, the WHO states that 31 percent of adults and 80 percent of adolescents fail to adhere to physical activity recommendations (3), which demonstrates that sleep is complicated and influences nearly all body systems, including those that are involved in the synthesis of hormones and chemical compounds. That control sleep and wakefulness and therefore sleep is related to many aspects of emotional, mental and physical health and conclude that sleep deprivation and stress is the combination that affects the body to develop properly; besides this, the Pan American Health Organization (PAHO) believes that one in four adults in the world does not achieve the recommended level of physical activity, being Women are less active than men (32% vs. 23%), as

well as people with low economic incomes and in Latin America and the Caribbean, physical inactivity rose from 33% to 39% (4).

In Peru, according to the Ministry of Health (MINSA), between 2019 and 2021, only one in three Peruvians performs some type of physical activity, being a factor that influences the increase in overweight from 20.5% to 24%, while obesity from 7.2% to 14%, in the capital of Peru, which generates a concern for the health of this population (5), even continuing with the fact of working sitting from home due to work post-pandemic remote work, a concern with a view to the future of Peruvians, understanding that they must necessarily comply with 37.5 hours per week as a work indication (6,7).

It continues to be reaffirmed that physical activity is extremely necessary and important to maintain, improve and modify health for a better quality of life, which reduces stress, anxiety and depression, so increasing physical activity, in addition to increasing the experience of feeling better, reduces the risk of diseases and even improves the quality of sleep (8), taking into account that sleep disorders in the world range between 10% and 60% of their quality and insomnia between 9 and 15% throughout life (9), likewise, about 35% have difficulties falling asleep, staying asleep and even waking up during the night (10).

The Pittsburgh Quality Index evaluates the quality of sleep by considering behavioural factors and identifying seven components (quality, latency, duration, efficiency and sleep disturbance, use of sleep medication, and daytime dysfunction). The International Physical Activity Questionnaire (IPAQ) can be used to determine the behavior of physical activity because it is simple to apply to physical activity (11).

As a result, the objective is to understand the correlation between physical activity and sleep quality in parents of a school in Lima, and to determine the number of hours per week of sitting and designing work activities at home.

MATERIAL AND METHODS

This study is cross-sectional, descriptive-correlational, and uses quantitative analysis and non-probabilistic sampling, a sample made up of 88 parents who agreed to carry out the evaluations, being those who provided the main sources of economic income and complied with the signing of the informed consent, excluding those who did not complete the questionnaires or did not sign the requested document. The Pittsburgh Quality Index and the International Physical Activity Questionnaire (IPAQ) served as evaluation tools. The SPSS v.26 software was utilized for statistical analysis, and Spearman Rho was employed as a significant statistic.

RESULTS

Table 1: Sociodemographic Characteristics of the Parents

		Mean	Standard Dev.
Age		45,57	±9,18
		Frequency	Percentage
Age Groups	30 to 39 years old	20	22,7%
	40 to 49 years old	36	40,9%
	50 to 59 years old	27	30,7%
	over 60 years old	5	5,7%
Sex	Male	33	37.5%
	Female	55	62.5%
Sitting working hours	0 a 10 h/s	9	10,2%
	11 a 20 h/s	13	14,8%
	21 a 30 h/s	19	21,6%
	31 a 40 h/s	20	22,7%
	more than 41h/s	27	30,7%
Educational level	Technician	21	23,8
	University	51	57,9
	Housewife	16	18,1

Table 1 shows age 45.57± 9.18; The predominant group in the study was 40 to 49 years old (40.9%), 62.5% female, and 30.7% working more than 41 hours/s.

Table 2: Sleep Quality and Physical Activity Level

			Quality of Sleep
Rho de Spearman	Physical activity	Correlation coefficient	,816
		Sig. (bilateral)	,003
		N	88

**. At the 0.01 level, the association is significant (bilateral).

The relationship between physical activity and sleep quality obtained a significance value equal to 0.003 and a correlation coefficient of .816.

Table 3: Sleep Quality and Physical Activity Level

		Physical activity			**Quality of sleep**	
		High	Moderate	Low	Good	Suitcase
Age	30 - 39	5	4	10	8	11
	40 - 49	8	14	14	15	21
	50 -> 60	1	3	29	4	29
Sex	M	13	15	5	23	10
	F	1	6	48	4	51
Working hours	0 - 10	5	7	24	9	27
	11 - 20	4	13	16	7	26
	21 - 40	5	1	13	11	8

DISCUSSION

In our research, we aimed to analyze the significant relationship between physical activity and sleep quality in parents of a school in the city of Lima, with which a value p=0.03 was obtained, and a correlation coefficient of .816 using Spearman's R test, therefore, the relationship between these variables implies considering various aspects; among them considering the benefits that physical activity can generate to change habits in improving sleep quality, an imperative need that demonstrates the implication in this study population. In their study, Gubelmann et al. discovered a correlation between appropriate physical exercise and gradual improvements in sleep characteristics (12). Conversely, Canhin et al. (13), discovered that people who exercised as children had a 49% lower chance of having poor sleep quality (p =.009). In contrast, moderate-intensity exercise appeared to improve sleep quality, according to Zhao et al., but high-intensity exercise failed to have the anticipated impact on sleep quality (14).

Evidence suggests that regular exercise can promote better quality sleep, which in turn contributes to greater overall health and well-being, incorporating physical activity as part of a healthy lifestyle can be an effective strategy to improve sleep quality and promote an active and balanced life, in Croatia, a finding was obtained that poor sleep quality is linked to low physical activity in the adult population (15).

About sex, women presented poor sleep quality with 57.95% compared to men, as did Kredlow et al. (16), who found 78.04%, while about physical activity women considered a low level with 54.54%, even understanding that exercise is a non-pharmacological alternative that improves sleep quality and even manifests an inverse relationship between sedentary lifestyle and quality of life (17). Improves anxiety and sleep latency (18).

Regarding working hours, the results showed that 30.7% of people work more than 41 hours a week, and the length of work might have a substantial impact on regular physical activity, which in turn affects the structure and quality of adults' sleep (19). Numerous factors, such as the nature of the work, demands on the job, and personal requirements, might affect the complicated link between the amount of physical activity and sleep quality in relation to working hours. These factors should be taken into account when examining how work can impact an individual's physical activity and sleep quality. For example, Lecca et al. (20), research found that employees who worked day and night shifts with an interval of more than 40 hours per week had better sleep quality, while Canhin et al. found that high physical activity improved sleep quality. Additionally, during the COVID-19

pandemic in Peru, it was found that 74.5% of teaching staff spent eight hours or more sitting. (16) Because of them, it is necessary to consider that physical activity should be incorporated into the day's routine to improve the quality of sleep, making it more restful.

Additionally, it was found that parents between the ages of 40 and 49 had worse sleep quality than parents between the ages of 30 and 39. In fact, parents who work more than 41 hours per week are more likely to have poorer sleep quality than parents who work 0–10 hours per week. Finally, compared to high levels of physical activity, low levels of physical activity are shown to be more likely to exhibit poor sleep quality.

According to our research, there is a substantial correlation between the amount of physical activity and sleep quality among parents of students at a Lima school. Additionally, their sleep quality is better than that of those who are less active, and those who regularly exercise also have superior sleep quality.

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