

EVALUATION OF THE LEVELS OF PHYSICAL ACTIVITY AND MENTAL HEALTH IN UNIVERSITY STUDENTS DURING THE SARS-COV2 PANDEMIC

EVALUACIÓN DE LOS NIVELES DE ACTIVIDAD FÍSICA Y SALUD MENTAL EN UNIVERSITARIOS DURANTE LA PANDEMIA SARS-COV2

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ABSTRACT

The pandemic caused by SARS-COV2, worldwide caused a sedentary lifestyle and damage to mental health in the general population, including university students, a sector that did not escape these adverse effects due to the pandemic. Therefore, the main aim of this research is to evaluate the levels of physical activity (PA) and mental health in university students during the COVID-19 coronavirus (SARS-COV2) pandemic. The DASS-21 scale, the Global Physical Activity Questionnaire (GPAQ) and the SF-36 Health Questionnaire were applied to 63 university students from the State of Veracruz, Mexico, aged 18 to 24 years. The data treatment was carried out in the statistical software SPSS v.25, the results showed that 76.2% of the sample was found in physically active levels, likewise the correlation coefficients made between physical activity (PA) and anxiety ($r = -.41$) physical activity (PA) and stress ($r = -.42$) showed negative correlations with moderate to intense magnitudes, respectively. Therefore, it is

concluded that performing physical activity during the pandemic was shown to significantly reduce problems related to mental health in university students.

KEY WORDS

physical activity, mental health, sars-cov2.

RESUMEN

La pandemia provocada por el SARS-COV2, a nivel mundial provocó sedentarismo y daños a la salud mental en la población en general, incluyendo a los jóvenes universitarios, un sector que no escapó de estos efectos adversos a causa de la pandemia. Por tanto, el objetivo principal de esta investigación, es evaluar los niveles de actividad física (AF) y salud mental en universitarios durante la pandemia del coronavirus COVID-19 (SARS-COV2). Se aplicó la escala DASS-21, el Cuestionario Mundial sobre Actividad Física (GPAQ) y el Cuestionario de Salud SF-36 a 63 jóvenes universitarios originarios del Estado de Veracruz, México, de 18 a 24 años. El tratamiento de datos se realizó en el software estadístico SPSS v.25, los resultados arrojaron que el 76.2% de la muestra se encontró en niveles físicamente activos, así mismo los coeficientes de correlación realizadas entre actividad física (AF) y ansiedad ($r=-.41$) actividad física (AF) y estrés ($r=-.42$) mostraron correlaciones negativas con magnitudes moderadas a intensas respectivamente. Por lo anterior se concluye que la realización actividad física durante la pandemia demostró reducir significativamente los problemas relacionados a la salud mental en jóvenes universitarios.

PALABRAS CLAVE

actividad física, salud mental, sars-cov2.

INTRODUCTION

At present, in a general way in various developed, underdeveloped and developing countries, low levels of physical activity and sedentary lifestyle prevail because of; the decrease in the use of physical force in work activities, transportation systems, the consumption of high-calorie foods, drug abuse and the use of new technologies, which causes the development of non-communicable and chronic degenerative diseases^{1,2}, two. Being the practice of physical activity, one of the most determining and essential factors for an adequate quality of life³. Today it is fully scientifically supported that the practice of physical activity at moderate levels is located within the determining factors in the prevention of physical and psychological pathologies, for which it is reiterated that it is a key and substantial element in a healthy life^{4,40}. Likewise, social entities and societies have to adapt to increasingly numerous populations where quality of life must prevail, with quality of life defined by the World Health Organization

(WHO) as "the individual perception of one's own position in life within the context of the cultural and value system in which one lives and in relation to its goals, hopes, norms and concerns"^{6,41}.

It is well known that performing physical activity in university students at mild-moderate intensities significantly favors the maintenance of cognitive functions and is directly associated in most cases with adequate mental health⁵, in addition to being able to better satisfy their psychological requirements and the perception of well-being being physically active^{7,8}.

In addition to the social health problems, in December 2019, in Wuhan, China, the authorities identified a virus called SARS-COV2 (COVID 19), subsequently the WHO declared a state of global pandemic and the entire world, progressively, I make decisions of social confinement⁹, taking people to scenarios little known today, causing physical and mental health problems. The COVID-19 pandemic generated social distancing in all sectors of the population, which in turn caused distancing, isolation and quarantine, bringing with it problems corresponding to public health, directly related to sedentary lifestyle and psychological problems, associated with states of stress and uncertainty^{10,11,30}.

On the other hand, the mental health of university students due to COVID-19 was threatened due to the social confinement caused by the pandemic¹². Various studies carried out in Asia have revealed that the mental health of university students was significantly affected due to the pandemic, with the main stressors being delays in academic activities, causing high levels of anxiety, along with the economic deficiencies presented by the most families due to COVID-19^{13,14}. The emerging evidence on mental health during the pandemic significantly points out that the damage has been directly towards women and young people^{15,24,31}.

The DASS-21 scale (Depression, Anxiety and Stress) has been widely used throughout the pandemic to measure the aforementioned mental health factors, this scale in the emerging literature has managed to position itself consistently^{16,17}. Likewise, the Global Physical Activity Questionnaire (GPAQ) was used extensively to measure physical activity levels during the pandemic, being an extremely valuable instrument during confinement, since it allowed us to demonstrate the reality of states of physical inactivity in the general population^{18,22,23}.

Subsequently, an important prerogative during the pandemic and social isolation was to determine the well-being of the population due to the ravages of COVID-19, understanding quality of life as the perception of well-being that the person has regarding their physical, psychological health. And social. To evaluate this section, the SF-36 Health Questionnaire (36-item Medical Outcomes Study Short-Form General Health Survey) was used, playing an extremely important role because it is one of the Health-Related Quality of Life instruments (HRQoL) most used and evaluated worldwide ^{19,20,21}.

The emerging literature during the pandemic in studies carried out mainly in Ibero-American countries has shown that confinement in citizenship could

generate fear, panic, anxiety and states of depression, which in turn the direct effect of isolation caused sedentary lifestyles^{25,26,27,29}.

Given the current and exceptional situation caused by COVID-19, it is extremely important to know and evaluate the psychological state of the population, as well as the levels of physical activity, specifically in the context of university students during confinement^{28,41,42}. Therefore, the objective of this research is to evaluate the levels of physical activity and mental health in university students during the COVID-19 coronavirus (SARS-COV2) pandemic.

MATERIAL AND METHOD

This cross-sectional correlational study, with a sample of 63 university students from the State of Veracruz, Mexico, aged 18 to 24 years, 29 male subjects (46%) and 34 female subjects (54%), to these the following instruments were applied; Depression, Anxiety and Stress Scales (DASS-21), which consists of 21 items and has 3 sub-scales, is used to detect university students at risk of mental health problems. The Global Physical Activity Questionnaire (GPAQ), which is designed primarily for physical activity surveillance, and the SF-36 Health Questionnaire, which provides a generalized perspective of the quality of life of university students during confinement for COVID-19 (SARS-CoV-2). For the treatment and analysis of statistical data, the statistical software IBM SPSS v.25 (IBM, Armonk, NY, USA) was used.

RESULTS

The results obtained after data analysis have shown that men (75.9%) show similarity in high levels of physical activity, compared to women (75.6%) during confinement by COVID-19 (Table 1).

Table 1. Level of physical activity by gender

		AF level		
Gender			Frequency	Percentage
Men	Valid	Tall	22	75.9
		Low	7	24.1
		Total	29	100.0
Woman	Valid	Tall	26	76.5
		Moderate	3	8.8
		low	5	14.7
		Total	34	100.0

Table 2 shows the results of the Student's t-test, carried out for the comparison of male and female gender groups, regarding the levels of physical activity during confinement, in which it was shown that there is no statistically significant difference between groups, ($p. > 0.622$), in the same way equal variances are assumed between the groups.

Table 2. Comparison of groups on levels of PA and test of equality of variances.

Group comparison							
Gender	N	Means		Deviation			
Men	29	1.4828		.870			
Woman	34	1.3824		.739			
Independent samples test							
		Levene's test for equality of variances		t-test for equality of means			
		F	Sig.	t	Sig. (bilateral)	Mean difference	Standard error difference
Level AF	Equal variances are assumed	1.723	.194	.495	.622	.100	.202
	Equal variances are not assumed			.489	.627	.100	.205

Table 3 shows the levels of physical activity and anxiety, a correlation analysis was performed, the result being a negative correlation coefficient $-.74$, with a moderate to strong magnitude, which means that, between higher levels of physical activity, the lower the degree of anxiety in university students.

Table 3. Correlation of levels of physical activity and anxiety.

AF & Anxiety correlation			
		Level AF	Anxiety DASS-21
Level AF	Pearson correlation	1	-.74
	N	63	63
Anxiety DASS	Pearson correlation	-.074	1
	N	63	63

Table 4 shows the correlation analysis carried out between the variables physical activity and stress, resulting in a negative correlation coefficient of $-.42$,

with a moderate magnitude, which means that high levels of physical activity will lower the levels of stress.

Table 4. Correlation of levels of physical activity and stress.

AF & Stress correlation			
		Level AF	Stress DASS-21
Level AF	Pearson correlation	1	-.42
	N	63	63
Stress DASS	Pearson correlation	-.042	1
	N	63	63

The following table (Table 5) shows the data produced by the comparison between men and women in regard to mental health, with the male gender having the best mental health score, with 72.2% high score, while that in the female gender it was found that up to 35.3% have low score levels.

Table 5. Comparison of mental health by gender.

SF-36 Mental Health				
Gender		Frequency	Percentage	
Men	Valid	Low Score	8	27.6
		High Score	21	72.4
		Total	29	100.0
Woman	Valid	Low Score	12	35.3
		High Score	22	64.7
		Total	34	100.0

DISCUSSION

A large-scale pandemic such as COVID-19 implies a great mental and psychosocial disturbance in people³². A large number of studies point to negative effects on the mental health of the population, both during and after the pandemic and as a method to mitigate certain psychological effects, physical activity appears to overcome boredom, stress and promote the maintenance of health³³.

During confinement, 76.2% of the sample remained physically active, and 23.8% entered sedentary states. Similarly, in the results of the present study, no statistically significant differences were found in the levels of physical activity between groups of men and women (p. >0.622). Therefore, the university students of the sample of this investigation who were in ideal states of physical activity, maintained a favorable immune system, likewise had fewer emotional problems, related to depression, anxiety and stress³⁴. Performing physical activity of moderate-intensity intensity, in the male gender during the period of confinement, implied important preventive benefits, such as psychological and physical^{35,36}.

The results of the SF-36 questionnaire showed that moderate-intense levels of physical activity (PA) present a better quality of life in the population, in the mental health dimensions (see table 5), this is consistent with what is shown in the emerging literature on PA during confinement in relation to mental health^{37,40}.

Therefore, to the data that showed subjects with physical inactivity during confinement, they presented high levels of depression, anxiety and stress, as well as their perception of their general health, well-being and quality of life compared to the year before the pandemic^{38,39,41}.

CONCLUSION

The practice of physical activity during the pandemic caused by COVID-19 (SARS-COV2), was a determining factor in the general population, but especially for the university student sector, which was not only affected by the pathology of the virus, but also due to the stressors caused by social confinement, in this way physical activity was an incentive for sedentary lifestyle and mental health problems of university students due to confinement. Because and conclusively, university students who performed physical activity, at moderate to intense intensities, benefited in their perception of quality of life and well-being in general, showing low levels of depression, anxiety and stress. Quite the contrary, it was recorded in people with low levels of physical activity or sedentary lifestyle, who were the ones who showed alarming data, positioning themselves at severe levels of depressive states, anxiety and extreme stress. Therefore, physical activity during the pandemic was shown to significantly reduce mental health-related problems.

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