

ORIGINAL

Unraveling the global pandemic's impact on physical activity, nutrition, hydration, sleep and self-care of educators

Desentrañar el impacto de la pandemia mundial en la actividad física, la nutrición, la hidratación, el sueño y el autocuidado de los educadores

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Cite as: Peralta EM, Ebardo G, Ebardo GN, Ebardo GJ, Ebardo AM, Ebardo GV, et al. Unraveling the global pandemic's impact on physical activity, nutrition, hydration, sleep and self-care of educators. Salud, Ciencia y Tecnología - Serie de Conferencias. 2025; 4:1562. <https://doi.org/10.56294/sctconf20251562>

Submitted: 10-09-2024

Revised: 20-12-2024

Accepted: 25-02-2025

Published: 26-02-2025

Editor: Prof. Dr. William Castillo González 

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ABSTRACT

Introduction: the pandemic has profoundly altered the educational landscape, forcing a rapid shift from traditional face-to-face instruction to remote learning.

Objective: this study examines the health behaviors and mental well-being of educators in Marawi City, focusing on physical activity, nutrition, hydration, sleep, and self-care.

Method: this study used a quantitative research method that integrates descriptive correlational research designs to analyze the relationship between mental health and physical health habits among educators.

Results: the findings reveal that most participants maintain moderate-to-high levels of physical health, with 83,7 % engaging in regular physical activity, 94,6 % maintaining proper hydration, and 64,9 % practicing self-care at mild-to-moderate levels. However, 22,6 % reported poor-to-very-poor sleep quality, highlighting the need for institutional intervention. A strong negative correlation was found between poor mental health and low engagement in health behaviors, with self-care emerging as the strongest predictor of mental well-being ($r = -0,369$). Despite the challenges posed by the global pandemic, educators demonstrated remarkable resilience.

Conclusions: the results underscore the necessity of health and wellness programs, flexible workplace policies, and long-term monitoring of educator well-being. Future research should explore post-pandemic health trends, burnout risks, and sustainable mental health interventions to ensure continued resilience among educators.

Keywords: Pandemic Impact; Educator Wellbeing; Nutrition; Hydration; Lifestyle; Mental Health.

RESUMEN

Introducción: la pandemia ha alterado profundamente el panorama educativo, forzando un rápido cambio de la enseñanza tradicional presencial al aprendizaje a distancia.

Objetivo: este estudio examina los comportamientos en materia de salud y el bienestar mental de los educadores de la ciudad de Marawi, centrándose en la actividad física, la nutrición, la hidratación, el sueño y el autocuidado.

Método: este estudio utilizó un método de investigación cuantitativo que integra diseños de investigación

descriptivos correlacionales para analizar la relación entre los hábitos de salud mental y de salud física entre los educadores.

Resultados: los resultados revelan que la mayoría de los participantes mantienen niveles de salud física de moderados a altos: el 83,7 % practica actividad física con regularidad, el 94,6 % mantiene una hidratación adecuada y el 64,9 % practica el autocuidado en niveles de leves a moderados. Sin embargo, el 22,6 % declaró una calidad del sueño de mala a muy mala, lo que pone de manifiesto la necesidad de una intervención institucional. Se observó una fuerte correlación negativa entre la mala salud mental y la escasa participación en conductas sanitarias, siendo el autocuidado el factor que mejor predice el bienestar mental ($r = -0,369$). A pesar de los retos planteados por la pandemia mundial, los educadores demostraron una notable capacidad de recuperación.

Conclusiones: los resultados subrayan la necesidad de programas de salud y bienestar, políticas flexibles en el lugar de trabajo y un seguimiento a largo plazo del bienestar de los educadores. Las investigaciones futuras deberían explorar las tendencias de salud tras la pandemia, los riesgos de agotamiento y las intervenciones sostenibles en materia de salud mental para garantizar una resiliencia continuada entre los educadores.

Palabras clave: Impacto de la Pandemia; Bienestar de los Educadores; Nutrición; Hidratación; Estilo de Vida; Salud Mental.

INTRODUCTION

As COVID-19 continues to affect individuals and communities, people grapple with multiple challenges, including fear of infection, grief from losing loved ones, financial instability, and uncertainty about the future. Social distancing has been a key preventive measure recommended by WHO to slow transmission and prevent healthcare systems from becoming overwhelmed.^(1,2) emphasize the importance of social distancing in reducing fatalities, reinforcing⁽³⁾ assertion that such measures are critical in mitigating the pandemic's impact. Despite ongoing efforts to develop vaccines and treatments, the world has endured significant physical, mental, and psychological consequences due to prolonged exposure to the crisis.⁽⁴⁾

In the Philippines, the pandemic has resulted in over 200 000 reported COVID-19 cases and more than 3 000 deaths within the first five months.^(5,6) Beyond its direct health impact, the crisis has led to rising cases of depression and suicide, alarming the National Task Force Against COVID-19. Factors such as job loss, financial instability, fear of illness, prolonged isolation, and diminished hopes of returning to pre-pandemic normalcy have exacerbated mental health struggles.⁽⁷⁾ Recognizing these challenges, the Department of Education launched psychosocial support programs for students and teachers before the October 2020 school reopening to address the growing mental health crisis.^(8,9,10)

The pandemic has profoundly altered the educational landscape, forcing a rapid shift from traditional face-to-face instruction to remote learning. This transition demanded extensive preparation, training, and adjustments, placing immense pressure on educators.⁽¹¹⁾ Teachers faced significant challenges in adapting to new teaching modalities, while students struggled with the absence of physical interaction and engagement. As⁽¹²⁾ highlights, these changes introduced obstacles that outweighed the benefits of online learning. Similarly⁽¹³⁾ notes that the lack of direct teacher-student interaction has negatively impacted educational quality and student well-being.

Several studies conducted during the pandemic have shed light on the psychological toll of these disruptions, primarily focusing on students. Research by⁽¹⁴⁾ indicates that students have experienced heightened levels of stress, anxiety, and depression. Additionally,⁽¹⁵⁾ report an increase in negative emotions such as fear, worry, and boredom among students. Stress has been linked to adverse academic outcomes and various psychosomatic symptoms, including restlessness, concentration difficulties, and sleep disturbances. While these studies provide valuable insights, they primarily focus on students and tend to be descriptive in nature. There is a growing need for more comprehensive research employing scientific methodologies to examine the broader implications of the pandemic on education.

Given that teaching and learning are inherently interconnected,⁽¹⁶⁾ it is equally important to investigate the pandemic's impact on educators.⁽¹⁷⁾ Teachers serve as key facilitators of learning, yet their experiences and well-being during this crisis have been less explored. Addressing this gap, particularly in unique settings such as Marawi City, Philippines—an area previously affected by armed conflict—offers valuable insights into how external stressors influence teacher resilience and mental health.

Physical activity is essential for reducing stress and improving mental health, yet many people have become increasingly sedentary due to gym closures and mobility restrictions.⁽¹⁸⁾ Aquino et al.⁽¹⁾ studies indicate that physical inactivity exacerbates mental health issues such as anxiety and depression. Teachers, in particular, have faced additional burdens, balancing remote learning responsibilities with their own health concerns.⁽¹⁹⁾

Hydration, an often-overlooked aspect of health, has also been affected.⁽²⁰⁾ Remote work and altered routines have led to inconsistent fluid intake, while prolonged mask use has increased dehydration risks, impacting cognitive function and stress levels.⁽²¹⁾ Similarly, sleep disturbances have become widespread, with many experiencing insomnia due to stress, increased screen time, and disrupted routines. Poor sleep quality is closely linked to heightened anxiety and reduced resilience, posing significant challenges for educators managing heavy workloads.⁽²²⁾

Self-care has emerged as a vital strategy for maintaining well-being. Many individuals have adopted mindfulness and relaxation techniques, but barriers such as stress and uncertainty have hindered consistent self-care practices.^(23,24) While much research focuses on students and healthcare workers, there is a gap in understanding how educators, particularly in conflict-affected areas like Marawi City, have coped with these challenges. Examining the connection between physical health habits and mental well-being is crucial for developing targeted interventions to support teachers during and beyond the pandemic. This study aims to bridge this gap by examining the impact of the pandemic on physical activity, nutrition, hydration, sleep, and self-care among selected educators in Marawi City, Philippines. By employing a scientific approach, the research seeks to provide insights into effective strategies for enhancing well-being and fostering resilience in the face of adversity.

METHOD

This study is quantitative research using integrated descriptive correlational research designs to analyze the relationship between mental health and physical health habits among educators. Descriptive research gives a broad picture of important variables, while Pearson's correlation coefficient is used in a correlational approach to look at the strength and direction of relationships. The predictive design further evaluates how well factors like sleep, self-care, physical activity, nutrition, and hydration influence mental health outcomes. We purposefully chose the respondents for this study, using a questionnaire as the main research tool. Most of the questions are based on a Likert scale (from 1 to 5). The study focused on 115 elementary and secondary school teachers from the MSU-Integrated Laboratory School (ILS), with 111 valid responses (96,52 % retrieval rate). Data collection followed a complete enumeration approach, ensuring comprehensive participation. We used standardized self-report tools—the Maintaining Physical Health questionnaire and DASS-21—to assess physical health behaviors and mental health conditions, such as depression, anxiety, and stress levels. We analyzed the data by calculating the mean and using tables and figures. Data were analyzed using descriptive statistics, Pearson's correlation, and the coefficient of determination (r^2) to assess relationships accuracy.

Ethical Considerations

Institutional permissions were secured before data collection, and confidentiality measures were strictly upheld.

RESULTS

Physical Activity			Nutrition			Hydration			Sleep			Self-care		
(f)	%	Cum	(f)	%	Cum	(f)	%	Cum	(f)	%	Cum	(f)	%	Cum
6	5.4	5.4	5	4.5	4.5	1	.9	.9	3	2.8	2.8	5	4.5	4.5
12	10.8	16.2	6	5.4	9.9	5	4.5	5.4	22	19.8	22.6	11	9.9	14.4
34	30.6	83.7	30	27.0	90.1	24	21.7	94.6	30	27.0	77.4	23	20.7	85.6
42	37.8	53.1	52	46.9	63.1	47	42.3	72.9	42	37.8	50.4	40	36.1	64.9
17	15.3	15.3	18	16.2	16.2	34	30.6	30.6	14	12.6	12.6	32	28.8	

Figure 1. Distribution of Health-Related Behaviors: Physical Activity, Nutrition, Hydration, Sleep, and Self-Care

The figure 1 presents data on five health behaviors: physical activity, nutrition, hydration, sleep, and self-care. The majority of respondents (37,8 %) choose mid-to-high levels of physical activity, with 83,7 % participating in moderate-to-high levels of exercise. Most people measure their nutritional understanding against intake at moderate to high levels, with 94,6 % falling under the moderate-to-high range. Hydration habits are good, with only 0,9 % showing low levels. Most people receive adequate sleep, with 37,8 % of participants achieving 77,4 %. The lowest sleeping group is 2,8 %, with a small group of respondents who did not receive adequate sleep posing a risk for sleep deprivation. Self-care practices are moderate, with 36,1 % of participants implementing them. A small group (4,5 %) falls into the lowest self-care category. Most respondents demonstrate high involvement with physical exercise, food consumption, hydration, sleep management, and self-care practices. However,

some require support to improve their behavior patterns. People show strong awareness of hydration and nutrition, with the most positive trends. The variability in sleep and self-care data suggests that selected groups require more focus on these areas.

Table 1. Descriptive Labels of Health-Related Behaviors		
Variables	Mean	Label
Physical Activities	2,47	Good
Nutrition	2,65	Good
Hydration	2,97	Good
Sleep	2,38	Fair
Self-care	2,75	Good

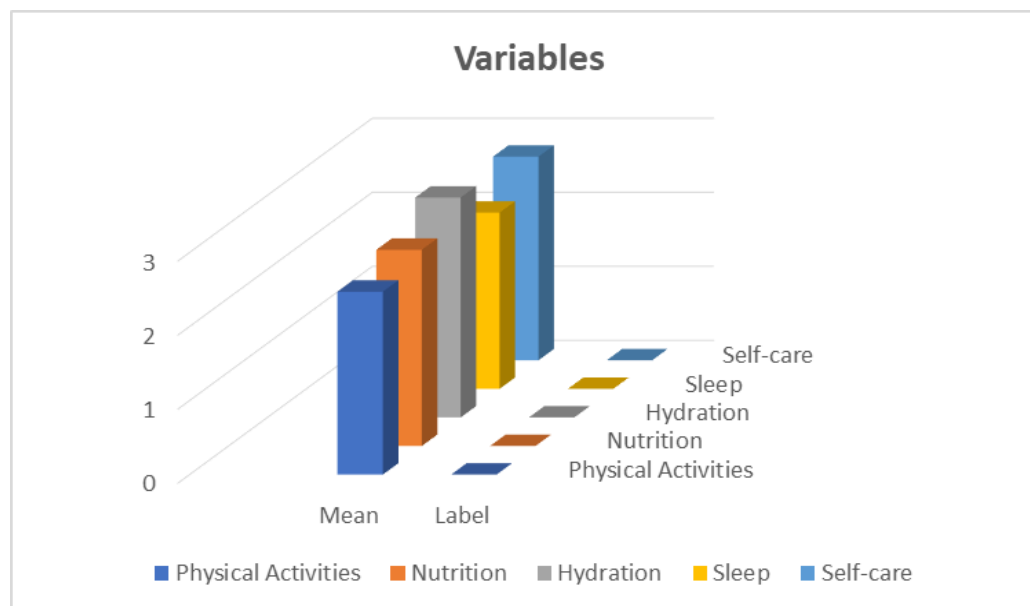


Figure 2. Labels of Health-Related Behaviors

Respondents showed positive reactions to all health aspects of physical activity (Mn = 2,47 Good), nutrition (Mn = 2,65 Good), hydration (Mn = 2,97 Good), and self-care (Mn = 2,75 Good), except for nighttime sleep, which was rated at “Fair” (Mn = 2,38). The physical health status of the respondents is primarily satisfactory based on the calculated average of 2,64. The findings show that individuals maintained excellent physical health despite experiencing the adversity of a global pandemic. The physical health components of respondents show poor-to-very-poor status for 16,2 % of physical activity, 9,9 % of nutrition, 5,4 % of staying hydrated, 22,6 % of night sleep, and 14,4 % of self-care, which totals to 13,7 % overall poor-to-very-poor ratings. Authorities operating at the institution should provide oversight due to the present situation. The global epidemic challenges have not deterred most employees, who maintain high levels of good work practices, according to statistical findings (86,3 % on average). During the ongoing pandemic period, Marawi educators continue to show remarkable determination for sustaining their professional effectiveness and efficiency.

Graphical representation of the mental health level

The respondents revealed that 10,8 % (few) of them experienced significant symptoms of mental illness and had a high-to-very-high level of negative mental health, as shown through a 2-way cumulative percent analysis. The data underlines why university management needs to devote attention to this matter. 89,2 % of respondents, a significant majority, maintained their scores within the safe range during the assessment process. Most participants maintain their health because they show minimal symptoms of mental health disorders, despite a small number of responders presenting indications. The mental problems stemming from the pandemic have not made the Marawi educators any less efficient or significantly less effective, as described by Bandura’s efficacy theory, even though they demonstrate remarkable toughness in overcoming pandemic challenges.

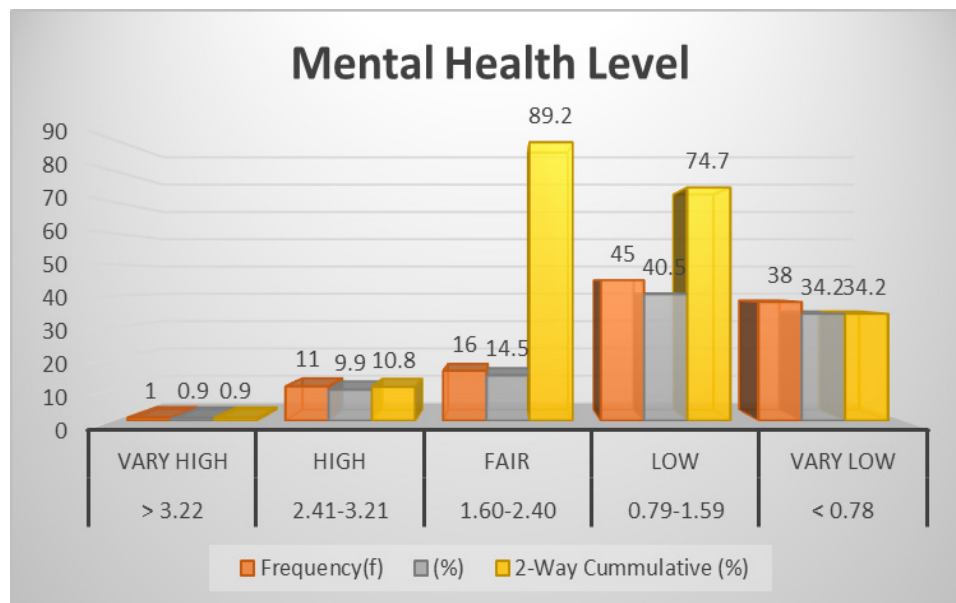


Figure 3. Respondent's Level of (-) Mental Health amidst Global Pandemic

Dependent Variables Independent Variables	(p)	Negative (-) Mental Health (r)	(r ²) %	Decision
Physical Activity	.006	-.258**	6.66	Reject H ₀
Nutrition	.000	-.354**	12.53	Reject H ₀
Hydration	.001	-.311**	9.67	Reject H ₀
Night Sleep	.005	-.266**	7.08	Reject H ₀
Self-Care	.000	-.369**	13.62	Reject H ₀

N= 111; ** Significant at .01 (2-tailed); * Significant at .05 level (2-tailed)

Figure 4. Correlation Between Variables

The people in the study had strong negative linear correlations between their poor mental health and their levels of physical activity ($r = -0.258^{**}$), nutrition ($r = -0.354^{**}$), hydration ($r = -0.311^{**}$), night sleep ($r = -0.266^{**}$), and self-care ($r = -0.369^{**}$). When the double negation rule is used on the results, it becomes clearer that there is a positive linear connection between these variables. This relationship is between physical health factors and good mental health outcomes. This explains why better physical activity together with nutrition quality, hydration levels, nighttime rest, and self-care support superior mental health measures. People who practice physical activity correctly, together with proper nutrition and hydration, enough sleep, and excellent self-care methods, will gain positive mental health outcomes. The link between physical health indicators and mental health outcomes is strong, with self-care being the most important predictor out of physical activity (6.66 %), nutrition (12.53 %), hydration (9.67 %), night sleep (7.08 %), and mental health outcomes (13.62 %). Physicians should make self-care their top priority because it remains essential for preserving excellent mental well-being through difficult times.

DISCUSSION

The findings of this study indicate that a significant portion of the participants engage in moderate-to-high levels of physical activity (83.7 %), suggesting that most educators maintain an active lifestyle despite global pandemic-related disruptions. These results align with the study by⁽²⁵⁾, which found that globally, adults were maintaining moderate levels of physical activity. However, this contradicts the findings of⁽²⁶⁾, who reported a sharp decline in physical activity during the COVID-19 pandemic due to lockdowns and remote work. The small percentage (5.4 %) of respondents reporting low physical activity aligns with⁽²⁷⁾, which noted that educators, particularly in structured environments, are more likely to sustain an active routine. However, this is at odds with⁽²⁸⁾, who suggested that remote work and increased screen time led to physical inactivity and associated health risks.

Regarding hydration habits, these findings corroborate⁽²⁹⁾, which emphasized that educators and professionals who follow structured routines are more likely to maintain proper hydration. However, these results are inconsistent with⁽³⁰⁾, who found that individuals engaged in prolonged screen-based work environments often

fail to hydrate adequately. Furthermore,⁽³¹⁾ highlighted that mask-wearing and changes in routines negatively impacted hydration, which contradicts the current study's findings.

In terms of nutrition, the data suggests that most participants follow moderate-to-high levels of nutritional awareness and intake. This is consistent with^(32,33), which found that education professionals generally have better nutrition awareness compared to other working groups. However,⁽³⁴⁾ reported a decline in healthy eating habits during the pandemic due to stress-induced poor dietary choices, which challenges the results of this study.

The study found that most participants maintained good health habits, with 77,4 % reporting moderate-to-high sleep quality. This supports the idea that structured work environments encourage stable sleep routines.⁽¹⁹⁾ However, the results contradict previous studies that found significant sleep disturbances during the COVID-19 pandemic. Self-care practices were moderately implemented, with 64,9 % engaging in mild-to-moderate self-care. However, barriers such as stress and workload prevented self-care, particularly among educators.⁽²⁴⁾

Several studies reinforce the link between healthy behaviors and resilience during crises,⁽²⁷⁾ such as maintaining pre-pandemic health routines, staying hydrated, and practicing self-care and physical activity. The study also found that 22,6 % of respondents experienced sleep disturbances, which is consistent with previous research.⁽²²⁾

Despite maintaining professional efficiency, 86,3 % of respondents were warned of potential burnout.⁽³⁵⁾ This aligns with Bandura's Self-Efficacy Theory, which suggests individuals with strong self-belief adapt better to crises.⁽³⁶⁾ Studies by⁽³⁷⁾ and,⁽³⁸⁾ support this, highlighting that structured routines and self-care protect against severe mental distress.⁽³⁹⁾

Despite the mostly positive results, 10,8 % of respondents had serious mental distress, highlighting the long-term effects of pandemic stress on mental health. Institutions must provide oversight to support those struggling with sleep deprivation, physical inactivity, and self-care deficits, preventing burnout and sustaining educator well-being.

CONCLUSION

The study highlights the resilience of Marawi educators in maintaining their physical and mental well-being despite the strike of global pandemic. While most participants showed positive health behaviors, sleep quality remained a concern, with a significant percentage experiencing deprivation. The study found a strong correlation between physical health factors, particularly self-care, nutrition, and hydration, and positive mental well-being. Self-care emerged as the most significant predictor of mental health, reinforcing the importance of stress management and personal well-being practices. The study validates Bandura's Self-Efficacy Theory, as educators demonstrated remarkable perseverance in overcoming adversity. However, the study highlights critical areas requiring institutional intervention. The complexity of health behaviors, such as individual differences in sleep needs, cultural attitudes toward self-care, and variations in physical activity, impacts overall well-being. Future research should explore long-term trends in educator health and resilience, particularly in post-pandemic recovery phases.

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FINANCING

The authors did not receive financing for the development of this research.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

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