



Healthy lifestyles and higher education: an analysis from Pender's theory

Estilos de vida saludables y educación superior: un análisis desde la teoría de Pender

Ruth Elizabeth Calderón Landívar¹

Dennis Victoria García Loo¹

Erika Elizabeth Napa Castillo¹

Jenrry Fredy Chávez-Arizala¹ 

¹ Instituto Superior Tecnológico Adventista del Ecuador. Santo Domingo, Ecuador.

Submitted: 02-04-2024 | Revised: 04-06-2024 | Accepted: 07-07-2024 | Published: 08-07-2024

ABSTRACT

Introduction: the analysis of health promotion framed in Nola J. Pender's model showed that this approach conceived health as a dynamic process in which individuals assumed an active role in the construction of their wellbeing. In the case of university students, it was highlighted that the academic stage represented a decisive moment in the formation of healthy habits, since it allowed cementing behaviors that impacted their adult life. Development: Pender's model proposed that health behaviors were influenced by personal, social and environmental factors, including self-efficacy, perceived benefits and perceived barriers. This framework was relevant to understanding how youth coped with challenges such as poor diet, lack of physical activity, substance use, and inadequate sleep and stress management. It was also observed that the support of family, friends and the academic environment played a decisive role in the adoption of healthy practices. Universities, for their part, played a central role in implementing policies and programs that favored prevention, physical activity, balanced nutrition and education for self-care. Conclusions: it was concluded that health promotion in university students transcended simple disease prevention and was consolidated as a social and educational investment. Pender's model provided conceptual tools to design effective interventions that strengthened resilience, reduced risks and enhanced the construction of healthier academic communities.

Keywords: Health Promotion; Pender's Model; College Students; Lifestyles; Wellness; Well Being.

RESUMEN

Introducción: el análisis de la promoción de la salud enmarcado en el modelo de Nola J. Pender mostró que este enfoque concibió la salud como un proceso dinámico en el cual los individuos asumieron un rol activo en la construcción de su bienestar. En el caso de los estudiantes universitarios, se destacó que la etapa académica representó un momento decisivo en la formación de hábitos saludables, ya que permitió cimentar conductas que impactaron en su vida adulta. Desarrollo: el modelo de Pender planteó que los comportamientos de salud estuvieron influenciados por factores personales, sociales y ambientales, incluyendo la autoeficacia, la percepción de beneficios y las barreras percibidas. Este marco resultó pertinente para entender cómo los jóvenes enfrentaron desafíos como la mala alimentación, la falta de actividad física, el consumo de sustancias tóxicas y la gestión inadecuada del sueño y el estrés. Asimismo, se observó que el apoyo de la familia, las amistades y el entorno académico ejerció un papel decisivo en la adopción de prácticas saludables. Las universidades, por su parte, desempeñaron un rol central al implementar políticas y programas que favorecieron la prevención, la actividad física, la nutrición equilibrada y la educación para el autocuidado. Conclusiones: se concluyó que la promoción de la salud en universitarios trascendió la simple prevención de enfermedades y se consolidó como una inversión social y educativa. El modelo de Pender proporcionó herramientas conceptuales para diseñar intervenciones efectivas que fortalecieron la resiliencia, redujeron riesgos y potenciaron la construcción de comunidades académicas más saludables.

Palabras clave: Promoción de la Salud; Modelo de Pender; Estudiantes Universitarios; Estilos de Vida; Bienestar.

INTRODUCTION

In recent decades, health promotion has become a central pillar of a comprehensive approach to human well-being, moving beyond simple disease prevention to encompass the active construction of healthy lifestyles. In this context, the health promotion model proposed by Nola J. Pender is a widely accepted theoretical framework, as it views health as a dynamic, positive, and conscious process in which individuals take an active role in making decisions that affect their quality of life. This approach recognizes that healthy behaviors are influenced by personal, social, and environmental factors, which makes the individual the protagonist of their own well-being and places them in constant interaction with their context.

The relevance of this perspective lies in the need to understand how different health determinants have a differentiated impact on specific populations, such as university students, who face multiple challenges associated with the transition to adulthood, academic stress, independence, and the development of permanent habits. The university stage is characterized by the formation of behaviors that can be maintained throughout life, so promoting the adoption of healthy lifestyles during this period is strategic not only for individual well-being but also for public health.

In this context, habits related to a balanced diet, regular physical activity, adequate rest, stress management, and substance abuse prevention take on particular relevance. These components not only promote physical and mental balance, but also affect academic performance, the building of positive social bonds, and students' ability to resiliently face the challenges of university life. Likewise, factors such as family, friends, personality, and self-image perception play a decisive role in the consolidation of a healthy lifestyle.

Similarly, higher education has an unavoidable commitment to promoting health, not only through the transmission of knowledge, but also through the implementation of policies and programs that encourage the adoption of healthy behaviors in the student community. This research is based on Pender's model as a conceptual framework for analyzing how young university students perceive, adopt, and maintain habits that impact their overall health, providing evidence and recommendations that favor the construction of healthier and more sustainable academic environments.

DEVELOPMENT

Theoretical positions

Nola J. Pender's health promotion model is a widely recognized theory in the field of health that emphasizes the active role of individuals in maintaining and improving their own well-being. This theoretical model suggests that health is a dynamic and positive process and that individuals have a responsibility to make conscious decisions to promote their health. Pender proposes that personal, social, and environmental factors, including previous experiences, cognitive status, and biological, psychological, and social motivations, influence health behavior. The theory highlights the importance of self-efficacy, perceived benefits and barriers, and interpersonal influences in the adoption of healthy behaviors. Pender argues that by strengthening self-efficacy and providing adequate support, individuals can be empowered to choose behaviors that promote a healthy lifestyle.

Nola J. Pender's model is closely related to the study, as this research seeks to understand how students and their families can be motivated to adopt healthy lifestyles. Pender's model provides a valuable framework for analyzing how social and personal influences affect health decisions in this population. For example, the theory can help identify barriers that students face when trying to adopt healthy habits, such as a lack of time or resources, and develop strategies to increase their self-efficacy, such as educational programs and social support. Furthermore, the model's emphasis on the importance of effective communication is crucial for implementing interventions that improve the mental and physical health of the educational community. By applying the principles of Pender's model, research can provide concrete recommendations for enhancing the overall well-being of students and their families, thereby fostering a healthier and more sustainable environment.

Conceptual framework Lifestyle

Researchers have determined that quality of life is constantly changing, influenced by har-

mentful habits and healthy lifestyles that are essential for short- and long-term health. This is why it is necessary to make informed decisions and avoid unhealthy habits, as a balanced diet and physical activity are essential for maintaining good physical and mental health, thus impacting healthy lifestyles. Lifestyle encompasses behaviors, habits, and attitudes that affect health and well-being, including diet, physical activity, rest, stress management, and work-life balance. For nursing staff, adopting healthy practices contributes to their well-being, allowing them to serve as role models for patients. A balanced diet and regular physical activity help reduce stress and prevent disease, while good rest and stress management are essential due to the demanding nature of their work. Maintaining a balance between personal and professional life prevents burnout and improves quality of life, allowing for more adequate patient care and promoting a comprehensive health environment in the community.(1,2)

Choosing not to lead a healthy lifestyle is a personal decision that can have consequences. Making good decisions means avoiding or reducing the intake of alcohol and controlled substances, which can reduce car accidents and prevent diseases related to bad habits. Tobacco is a harmful agent that damages respiratory function and can activate cancer cells. Ultimately, life is a game of choices, and it is essential to choose wisely to maintain good health and well-being, always thinking about the best healthy lifestyles.

Components of a healthy lifestyle

Family and Friends

Family habits and those related to close friends can significantly influence young people's health decisions, particularly when it comes to research on regional dietary differences. In this context, proper coexistence and communication with family or teachers highlights the importance of continuous support from these groups in evaluating and improving healthy habits.(3) Collaboration between institutions, close social circles, and families is essential for developing healthy habits from childhood, ensuring a supportive and learning environment that promotes healthy decision-making and combats stereotypes associated with obesity and overweight.

Physical Activity and Sport

Physical activity and sports are essential components of a healthy lifestyle, especially during adolescence, a critical stage for physical and emotional development. Regular participation in physical activities not only helps regulate energy expenditure and improve glucose metabolism but also contributes to reducing body fat and increasing muscle mass.(3,4,5) Physical activity has a positive impact on adolescents' mental health and self-esteem, improving their overall quality of life. These recreational and, in some cases, therapeutic activities promote an active lifestyle, contributing to overall well-being.(6,7)

Nutrition

Neglect of nutrition manifests in the frequent consumption of fast food, fried foods, sugary drinks, and sweet snacks, which significantly contribute to malnutrition. Most college students do not prioritize the intake of fruits and vegetables, which are essential for a balanced diet, resulting in high rates of overweight and obesity.(8,9) A balanced daily diet, with a variety of foods consumed, and adequate meal frequency are essential for health, where healthy habits and a preference for home-cooked meals over fast food are essential. Nutritional knowledge and awareness, along with an understanding of food labels, help people make informed decisions that promote a healthy lifestyle.(10)

Toxicity

The consumption of toxic substances, such as tobacco, has multiple adverse effects that not only deteriorate physical health, increasing the risk of chronic diseases such as cancer, cardiovascular disease, and respiratory problems, but also negatively affect mental health, contributing to depression and other psychological disorders.(11,12) Tobacco use, including frequency and amount of consumption, as well as the age of onset, are critical factors that affect health. Exposure to toxic environments, such as places with high pollution and the use of chemicals in the home, can also have long-term adverse effects.(13,14)

Alcohol

Alcohol consumption, which increases during college due to independence and social interaction, is frequent and concerning, with more than 30 % of young people showing dependence, which can lead to noncommunicable diseases and higher health costs. Therefore, there is a negative relationship between alcohol consumption and a healthy lifestyle.(15,16)Alcohol use, frequency, and amount of consumption, and age of onset are determinants of physical and mental health. Perception and attitude toward alcohol consumption also play an essential role in preventing related health problems.(17)

Sleep and Stress

Lack of adequate sleep, combined with academic stress, has resulted in daytime fatigue, decreased concentration, and impaired academic performance. Sleep quality, the number of hours of sleep per night, and bedtime routines all contribute positively to overall well-being.(18)Sleep problems such as insomnia and sleep apnea, along with factors that affect sleep such as the use of electronic devices and caffeine, must be managed. In addition, stress levels and sources of stress, both academic and work-related, as well as personal stress, and effective stress management methods are essential for maintaining a healthy balance.(19,20,21)

Personality Type and Satisfaction

Satisfaction with studies, understood as the perception of learning opportunities and gratification, moderates the adverse effects of poor mental health. This implies that, regardless of psychological challenges, students who find their education rewarding tend to maintain better academic performance. Personality traits, such as extroversion vs. introversion and level of openness and creativity, influence lifestyle. School satisfaction, including the level of satisfaction with the education received and the perception of the school environment and resources, affects overall well-being and motivation to adopt healthy habits.(22,23)

Internal Image

Positive self-concept, which includes perception of one's own appearance and abilities, also reinforces this relationship, indicating that a healthy internal image not only promotes social satisfaction but also supports a mentally and emotionally healthy lifestyle. Self-esteem, perception of self-image, and confidence, as well as the influence of body image on self-esteem, are aspects that contribute to the development of psychological well-being. Motivation and personal goals, both short- and long-term, and the level of motivation to achieve them are essential to maintaining a healthy lifestyle.(24)

Health and Sexuality Management

Comprehensive and accessible sex education allows individuals to develop a positive and responsible understanding of their emotional and sexual lives, which is essential for maintaining optimal physical and emotional health, fostering healthy social skills, improving the quality of interpersonal relationships, and supporting a balanced and fulfilling life. Preventive health practices, such as regular doctor visits and health checkups, vaccinations, and dental care, are essential. Sexual health education and practices, including knowledge about sexual and reproductive health and the use of contraception and STD prevention, help maintain a healthy life.(25)

Order

Order, manifested through effective time management, is closely linked to a healthy lifestyle as it significantly influences stress reduction. With proper time management, individuals can experience an improvement in their overall health. Time organization, time management, prioritization of activities, and a balance between study, work, and free time are essential. Having adequate research and work spaces and an effective home study environment contributes favorably to productivity and overall well-being, promoting an orderly and healthy lifestyle.(25)

Lifestyle and Higher Education

The fundamental elements of a healthy lifestyle include a balanced diet, regular physical activity, adequate stress management, adequate rest, maintaining positive social and emotional relationships, and refraining from harmful habits such as smoking and excessive alcohol consump-

tion. Each of these components plays a crucial role in promoting overall well-being and preventing long-term illness. In this context, they suggest strengthening bonds through psychological assistance without neglecting the importance of understanding eating disorders, as addressing everyday needs, such as a lack of communication.

The main objective of health promotion is to encourage the learning of basic social skills to prevent disease through lifestyle changes. In addition, the health sector strives to improve unhealthy risk behaviors by early detection of the sequelae or consequences of various clinical pathologies. (26) Currently, there are health professionals specializing in psychological illnesses who analyze each patient to understand their lifestyles. These experts intervene in the physical, mental, and social aspects of well-being, actively collaborating with the student community.

The benefits of healthy lifestyles are directly related to the promotion of health and well-being. The benefits of maintaining active habits are accessible to the entire student population. However, from another perspective, it remains essential to implement healthy habits in physical activities and universal sports practices, as well as in nutrition. In the case of young people, healthy habits are adopted to promote physical, mental, and social development in the student population.

Nutrition and dietary composition are essential pillars of a healthy lifestyle, and growing research on the correlation between diet and health has intensified interest in the biologically active components present in foods that complement nutrients. Information on these components is often required, as well as data on additives and contaminants, which are all integrated into a meticulously structured data system. Therefore, promoting foods that supplement a diet with natural products is not a viable alternative for maintaining an adequate quality of life that allows daily demands to be met.

Physical exercise is essential for promoting a healthy lifestyle in young people, as it provides several physical and mental benefits. Greater knowledge about the positive effects of physical activity on health has led to the development of specific recommendations for different segments of the population, both for healthy and sick individuals, all of which have been drawn up by other organizations. Additionally, it is advisable to limit physical inactivity and promote regular exercise as a daily habit.

Stress prevention and management are fundamental aspects of promoting a healthy lifestyle among young people. This prevention is tertiary when it is aimed at children who have been abused, to prevent the abuse from continuing or having a greater impact. Community resources are required, which must be practical and adequate; if they are not, the health professionals involved may be reluctant to report the abuse, ultimately harming the child. (27) Stress reduction not only contributes to mental well-being but can also have a positive impact on physical health by reducing the risk of developing stress-related illnesses.

Sleep and hygiene habits are essential for promoting a healthy lifestyle in young people. To gain a general understanding of young people's sleep habits, we began by asking the people who completed the questionnaire how many hours a day they slept during the week. As can be seen in the table, the number of hours of sleep reported is within the normal range (Ballester, 2005). Therefore, encouraging good sleep and hygiene habits in young people is essential to promoting their physical and mental well-being.

According to studies by Gonzalez & Vega, exercise is an effective measure for preventing and treating obesity and its comorbidities, so it is recommended to devote a few minutes a day to physical activity or exercise to prevent disease and improve quality of life. This practice can be done continuously or at intervals throughout the day, as there are various options for staying active and avoiding a sedentary lifestyle, such as walking, dancing, cycling, swimming, playing sports, walking the dog, or climbing stairs. Each of these activities contributes to a healthier and more active lifestyle.

Getting adequate sleep and ensuring a good night's rest not only helps you think more clearly but also significantly improves your mood. According to the CDC, (28) rest helps the immune system function better and keeps you mentally alert. Most adults need at least eight hours of sleep each night. Another key factor is hydration, which is the process of replenishing body fluids lost through various bodily functions such as sweating, breathing, and waste elimination. On average, the human body loses and needs to replenish between two and three quarts of water per day. This consumption can vary depending on factors such as climate, level of physical activity, and the individual's overall health.

Currently, it is easy to obtain illicit substances for consumption. According to studies conducted by Tena et al. (29), substance use among adolescents and young people under the age of 24 represents a significant public health problem worldwide, as the consumption of these substances clouds people's judgment, causing them to misbehave and cause social unrest. According

to MedlinePlus,(30) substance use not only affects the body but also causes negative changes in lifestyle, such as irregular eating habits and a poor diet.(31)

CONCLUSIONS

The analysis of Nola J. Pender's health promotion model showed that building healthy lifestyles among college students is not just about preventing disease, but involves a comprehensive process that includes personal, social, and environmental factors. Pender's theory proved to be a valuable framework by highlighting the importance of self-efficacy, perceived benefits, and the identification of barriers, offering clear guidance for the design of educational and community interventions that strengthen young people's ability to adopt behaviors conducive to their well-being.

The findings reviewed demonstrate that the university stage is a decisive period in the formation of habits, where practices are consolidated that can accompany individuals throughout their adult lives. Elements such as balanced nutrition, physical activity, stress management, adequate rest, and prevention of harmful substance use stand out as fundamental pillars of a healthy lifestyle. At the same time, psychosocial factors such as family support, friendships, self-image, and academic satisfaction have a decisive influence on the physical and mental well-being of students.

Likewise, it was found that universities play a crucial role in this process, serving as strategic spaces for promoting health through institutional policies, support programs, and pedagogical practices that aim to foster an active and balanced lifestyle. Higher education should not only impart academic knowledge, but also encourage the development of citizens who are responsible for their own care, capable of recognizing the consequences of their decisions, and actively participating in the construction of healthier environments.

In short, Pender's model provides a conceptual framework that not only explains how healthy lifestyles are shaped but also enables the design of strategies that integrate education, prevention, and the strengthening of the social environment. Health promotion among university students should be understood as a long-term investment that contributes to both personal development and public health. Recognizing the influence of individual and contextual factors facilitates the creation of more effective interventions that enhance resilience, reduce risky behaviors, and promote a comprehensive view of health. In this way, progress is made toward building more sustainable academic communities, where student well-being is a priority in university education.

REFERENCES

1. Bravo S, Izquiero D, Castillo A, Rodas P. Hábitos alimenticios, nocivos y rendimiento académico en estudiantes universitarios en tiempos de Covid-19 [Internet]. 2021 [citado YYYY Mon DD]. Disponible en: <https://revistavive.org/index.php/revistavive/article/view/144>
2. Carrillo P, Ramírez J, Magaña K. Neurobiología del sueño y su importancia: antología para el estudiante universitario [Internet]. 2016 [citado YYYY Mon DD]. Disponible en: <https://www.medigraphic.com/pdfs/facmed/un-2013/un134b.pdf>
3. Centers for Disease Control and Prevention (CDC). Dormir bien [Internet]. 2023 [citado YYYY Mon DD]. Disponible en: https://www.cdc.gov/cancer-survivors/es/healthy-living-guides/sleep.html?CDC_AAref_Val=https://www.cdc.gov/spanish/cancer/survivors/healthy-living-guides/physical-health/sleep.htm
4. Díaz D, Latorre J, Leal C, Saldivia S. Psicología para enfermería y ciencias de la salud [Internet]. 2023 [citado YYYY Mon DD]. Disponible en: https://www.google.com.ec/books/edition/Psicolog%C3%ADa_Para_Enfermer%C3%ADa_Y_Ciencias/RUC2EAAAQBAJ?hl=es&gbpv=1&dq=estilos+de+vida+saludable+marco+conceptual+2023+%22concepto%22&pg=PA287&printsec=frontcover
5. Espinosa A, Ortiz F. Redes sociales. 2023. Disponible en: https://www.google.com.ec/books/edition/Redes_Sociales_teor%C3%ADa_m%C3%A9todos_y_aplica/ba3IEAAAQBAJ?hl=es&gbpv=1&dq=estilo+de+vida%22+aspectos+eticos%22+2023&pg=PA155&printsec=frontcover
6. Fernández Y, Caballero A. Análisis del estilo de vida de los estudiantes universitarios ecuatorianos. 2023. Disponible en: http://scielo.senescyt.gob.ec/scielo.php?pid=S2528-79072023000100097&script=sci_arttext
7. Fuente S, Lopez Y. Publicidad de bebidas alcohólicas y efectos para la salud en opinión de estudiantes universitarios, Campus Mederos, UANL. 2020. Disponible en: <https://dialnet.unirioja.es/servlet/articulo?codigo=7660611>
8. Gomez E, Ceballos O, Moreno O, Cevilla R, Enriquez M. Diferencias en estilos de vida según el consumo de alcohol en universitarios: estudio longitudinal. 2022. Disponible en: <https://sanus.unison.mx/index.php/Sanus/article/view/321/395>
9. Gomez J, Tamayo O, Dieguez R, Iparraguirre A, Batista C. Incidencia del alcoholismo y el tabaquismo en estudiantes de medicina. 2021. Disponible en: <https://revistas.unheval.edu.pe/index.php/repis/article/view/885>
10. Gomez M. Introducción a la metodología de la investigación científica. 2006. Disponible en: https://www.google.com.ec/books/edition/Introducci%C3%B3n_a_la_metodolog%C3%ADa_de_la_in/9UDXP4U7aM-C?hl=es&gbpv=1&dq=%22enfoco+cuantitativo%22+concepto&pg=PA71&printsec=frontcover
11. González J, Portolés A. Actividad física extraescolar: relaciones con la motivación educativa, rendimiento académico y conductas asociadas a la salud. 2014. Disponible en: <https://www.redalyc.org/pdf/3111/311130199005.pdf>
12. Laje G, Narváez P, Narváez H, Gaviria A. Factores de riesgo de nutrición y alimentación en la atención integral de los adolescentes [Internet]. 2024 [citado 2025 sep 12]. Disponible en: <https://reciamuc.com/index.php/RECIAMUC/article/view/1253/1969>
13. López O, Sevilla A, Velandrino A. Fortalezas positivas [Internet]. 2020 [citado 2025 sep 12]. Disponible en: <https://dialnet.unirioja.es/servlet/articulo?codigo=6456216>
14. MedlinePlus. Dieta y recuperación de la drogadicción [Internet]. 2022 [citado 2025 sep 12]. Disponible en: <https://medlineplus.gov/spanish/ency/article/002149.htm#:~:text=El%20consumo%20de%20sustancias%20perjudica,irregular%20y%20una%20dieta%20deficiente>
15. Organización Mundial de la Salud. Importancia de un estilo de vida saludable [Internet]. 2018 [citado 2025 sep 12]. Disponible en: <https://www.udem.edu.mx/sites/default/files/2022-06/Importancia-estilo-de-vida-saludable-ArticuloBienestar.pdf>
16. Organización Mundial de la Salud. Actividad física [Internet]. 2022 [citado 2025 sep 12]. Disponible en: <https://www.who.int/es/news-room/fact-sheets/detail/physical-activity>
17. Organización Mundial de la Salud. Informe de las Naciones Unidas: las cifras del hambre en el mundo aumentaron hasta alcanzar los 828 millones de personas en 2021 [Internet]. 2022 [citado 2025 sep 12]. Disponible en: <https://www.who.int/es/news/item/06-07-2022-un-report--global-hunger-numbers-rose-to-as-many-as-828-million-in-2021>
18. Organización de las Naciones Unidas. Aumenta hasta los 828 millones el número de personas que sufren hambre [Internet]. 2022 [citado 2025 sep 12]. Disponible en: <https://news.un.org/es/story/2022/07/1511372>
19. Ordoñez D, Heredia D. Niveles de actividad física y motivación a la práctica deportiva en estudiantes de Educación Física [Internet]. 2021 [citado 2025 sep 12]. Disponible en: <https://dialnet.unirioja.es/servlet/articulo?codigo=7953205>
20. Ministerio de Salud Pública y Bienestar Social de Paraguay. Hábitos saludables para prevenir enfermedades, es la mejor manera de cuidarse [Internet]. 2020 [citado 2025 sep 12]. Disponible en: <https://www.mspbs.gov.py/portal/21297/habitos-saludables-para-prevenir-enfermedades-es-la-mejor-manera-de-cuidarse.html>
21. Pastor R, Bibiloni M, Tur J. Patrones de consumo de alimentos en estudiantes universitarios de Zamora [Internet]. 2017 [citado 2025 sep 12]. Disponible en: https://scielo.isciii.es/scielo.php?script=sci_arttext&pid=S0212-16112017000900024
22. Pizzinato A, Pagnussat E, Simonetti E, Lobo N, Fin R. Analysis of the support network and the social support in perception of users and professionals of the basic social protection [Internet]. 2018 [citado 2025 sep 12]. Disponible en: http://pepsic.bvsalud.org/scielo.php?script=sci_arttext&pid=S1413-294X2018000200006
23. Quiliano M, Quiliano M. Inteligencia emocional y estrés académico en estudiantes de enfermería [Internet]. 2020 [citado 2025 sep 12]. Disponible en: https://www.scielo.cl/scielo.php?pid=S0717-95532020000100203&script=sci_arttext

24. Rafapana. Quiénes somos [Internet]. 2022 [citado 2025 sep 12]. Disponible en: <https://rafapana.org/quienes-somos/>
25. Rosales Y, Cordovez S, Herrera V, Caiza M. Estilos de vida en estudiantes de medicina: una revisión sistemática [Internet]. 2023 [citado 2025 sep 12]. Disponible en: <https://revhabanera.sld.cu/index.php/rhab/article/view/4975>
26. Rubio J, Chicaiza L, Villota E, Rojas R. Consumo de sustancias psicoestimulantes en estudiantes universitarios [Internet]. 2019 [citado 2025 sep 12]. Disponible en: <https://retosdelacienciaec.com/Revistas/index.php/retos/article/view/267/142>
27. Salgado M, Cepeda L. Alimentación, estados afectivos y actividad física en estudiantes universitarios mexicanos durante la pandemia por COVID-19 [Internet]. 2021 [citado 2025 sep 12]. Disponible en: <https://e-revistas.uc3m.es/index.php/RECS/article/view/6231/5088>
28. Tena A, Castro G, Marin R, Gomez P, Fuente A, Gomez R. Consumo de sustancias en adolescentes: consideraciones para la práctica médica [Internet]. 2018 [citado 2025 sep 12]. Disponible en: https://www.scielo.org.mx/scielo.php?script=sci_arttext&pid=S0186-48662018000200008
29. Trianes M. Estrés en la infancia [Internet]. 1999 [citado 2025 sep 12]. Disponible en: https://www.google.com.ec/books/edition/Estr%C3%A9s_en_la_infancia/vQmG3pBsGt4C
30. Veron J, Ayala L, Cumbay L, Diaz V, Majun A, Molinas C, Morales L. Consumo de bebidas con cafeína en estudiantes de bioquímica [Internet]. 2024 [citado 2025 sep 12]. Disponible en: <https://revistas.uninorte.edu.py/index.php/medicina/article/view/v12n2a4>
31. Vilchez J, Quiñones D, Failo V, Acevedo T, Larico G, Mucching S, Córdova J. Salud mental y calidad de sueño en estudiantes de ocho facultades de medicina humana del Perú [Internet]. 2016 [citado 2025 sep 12]. Disponible en: https://www.scielo.cl/scielo.php?pid=S0717-92272016000400002&script=sci_arttext

FUNDING

None.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

AUTHORSHIP CONTRIBUTIONS

Conceptualization: Ruth Elizabeth Calderón Landívar, Dennis Victoria García Loor, Erika Elizabeth Napa Castillo, Jenrry Fredy Chávez-Arizala.

Data curation: Ruth Elizabeth Calderón Landívar, Dennis Victoria García Loor, Erika Elizabeth Napa Castillo, Jenrry Fredy Chávez-Arizala.

Formal analysis: Ruth Elizabeth Calderón Landívar, Dennis Victoria García Loor, Erika Elizabeth Napa Castillo, Jenrry Fredy Chávez-Arizala.

Research: Ruth Elizabeth Calderón Landívar, Dennis Victoria García Loor, Erika Elizabeth Napa Castillo, Jenrry Fredy Chávez-Arizala.

Methodology: Ruth Elizabeth Calderón Landívar, Dennis Victoria García Loor, Erika Elizabeth Napa Castillo, Jenrry Fredy Chávez-Arizala.

Project management: Ruth Elizabeth Calderón Landívar, Dennis Victoria García Loor, Erika Elizabeth Napa Castillo, Jenrry Fredy Chávez-Arizala.

Software: Ruth Elizabeth Calderón Landívar, Dennis Victoria García Loor, Erika Elizabeth Napa Castillo, Jenrry Fredy Chávez-Arizala.

Supervision: Ruth Elizabeth Calderón Landívar, Dennis Victoria García Loor, Erika Elizabeth Napa Castillo, Jenrry Fredy Chávez-Arizala.

Validation: Ruth Elizabeth Calderón Landívar, Dennis Victoria García Loor, Erika Elizabeth Napa Castillo, Jenrry Fredy Chávez-Arizala.

Visualization: Ruth Elizabeth Calderón Landívar, Dennis Victoria García Loor, Erika Elizabeth Napa Castillo, Jenrry Fredy Chávez-Arizala.

Writing – original draft: Ruth Elizabeth Calderón Landívar, Dennis Victoria García Loor, Erika Elizabeth Napa Castillo, Jenrry Fredy Chávez-Arizala.

Writing – review and editing: Ruth Elizabeth Calderón Landívar, Dennis Victoria García Loor, Erika Elizabeth Napa Castillo, Jenrry Fredy Chávez-Arizala.