

Risk profile in the university population of the health sciences: a cross-sectional study

Perfil de riesgo en la población universitaria del área de la salud: un estudio transversal

Diana Sthefany Castillo Aran, Dra. Sarahí González Reyes, Dra. Martha Palomino Castro,
Dr. Sergio Antonio Ramírez Ríos, Dr. David Ramírez Pineda*

Abstract

Overweight and obesity constitute a global public health problem and are closely associated with an increased risk of type 2 diabetes mellitus, arterial hypertension, and dyslipidemia. In Mexico, these conditions have reached alarming levels, and university students in the health sciences are not exempt, due to factors such as prolonged academic schedules, stress, sleep deprivation, and unhealthy dietary habits. Evaluating these factors at early stages is essential for designing preventive strategies aimed at future health professionals. The objective of this study was to assess anthropometric status and metabolic risk factors among health sciences students at the beginning of the academic term, as a preliminary diagnostic phase of a longitudinal study on body weight variation. A descriptive, cross-sectional study with an epidemiological approach was conducted in a sample of 60 students from the Faculty of Medicine "Dr. Alberto Romo Caballero" of the Autonomous University of Tamaulipas, selected through stratified probabilistic sampling by semester. Data collection included digital surveys based on NOM-008-SSA3-2010, anthropometric measurements, blood pressure assessment, and laboratory analyses. The results showed that more than 50% of students presented excess body weight, with increased waist circumference and alterations in triglyceride and cholesterol levels. High levels of stress, sleep deprivation, and a significant family history of chronic diseases were also identified. These findings reveal a concerning metabolic and emotional risk profile, underscoring the need for early interventions during university training to strengthen students' overall health.

Keywords: profile of risk; university students; overweight and obesity; metabolic risk factors; university health

Correspondencia: gonzalezr@docentes.uat.edu.mx

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*Universidad Autónoma de Tamaulipas, México

Resumen

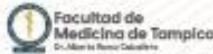
El sobrepeso y la obesidad constituyen un problema de salud pública de alcance mundial, estrechamente asociados con un mayor riesgo de diabetes mellitus tipo 2, hipertensión arterial y dislipidemias. En México, estas condiciones alcanzan cifras alarmantes y los estudiantes universitarios del área de la salud no están exentos, debido a factores como jornadas académicas extensas, estrés, privación del sueño y hábitos alimentarios inadecuados. Evaluar estos factores en etapas tempranas resulta fundamental para el diseño de estrategias preventivas dirigidas a los futuros profesionales de la salud. El objetivo del estudio fue evaluar el estado antropométrico y los factores de riesgo metabólico en estudiantes del área de la salud al inicio del periodo escolar, como fase diagnóstica preliminar de un estudio longitudinal sobre la variación del peso corporal. Se realizó un estudio descriptivo, transversal y de enfoque epidemiológico en una muestra de 60 estudiantes de la Facultad de Medicina "Dr. Alberto Romo Caballero" de la Universidad Autónoma de Tamaulipas, seleccionados mediante muestreo probabilístico estratificado por semestre. La recolección de datos incluyó encuestas digitales basadas en la NOM-008-SSA3-2010, mediciones antropométricas, presión arterial y análisis de laboratorio. Los resultados mostraron que más del 50 % de los estudiantes presentó exceso de peso, con perímetro de cintura elevado y alteraciones en triglicéridos y colesterol. Asimismo, se identificaron altos niveles de estrés, privación del sueño y una importante carga heredofamiliar de enfermedades crónicas. Estos hallazgos evidencian un perfil preocupante de riesgo metabólico y emocional, lo que subraya la necesidad de intervenciones tempranas desde la formación universitaria para fortalecer la salud integral de los estudiantes.

Palabras clave: perfil de riesgo; estudiantes universitarios; sobrepeso y obesidad; factores de riesgo metabólico; salud universitaria







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INTRODUCTION


RESULTS

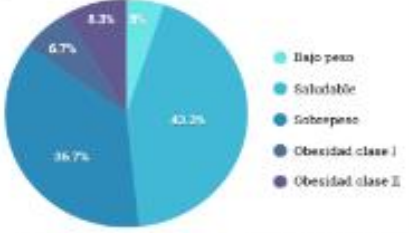
Overweight and obesity represent a major global public health problem, strongly associated with an increased risk of type 2 diabetes mellitus, hypertension, and dyslipidemia. In Mexico, the prevalence of these conditions has reached alarming levels. University students in health-related programs are not exempt from these risks. Long academic hours, psychological stress, irregular schedules, and inadequate dietary habits may contribute to excess body weight and unhealthy lifestyles. Understanding the magnitude of these factors among future healthcare professionals is essential for designing early preventive strategies. This initial phase of the study presents findings collected at the beginning of the academic cycle, establishing a baseline assessment of the nutritional, metabolic, and psychosocial status of medical students.

More than 50% of the students presented excess body weight (overweight or obesity), with a considerable proportion showing increased waist circumference, indicating potential cardiometabolic risk. Laboratory analyses identified elevated triglyceride and cholesterol levels in several participants. Regarding lifestyle habits: 48% frequently consumed ultra-processed foods; 56% reported eating outside the home or while performing other activities, reflecting unhealthy dietary patterns. Although 49% reported engaging in regular physical activity, its duration and intensity were insufficient to achieve optimal metabolic benefits. Two particularly relevant findings were academic stress and sleep deprivation: 53% reported sleeping six hours or less per night or experiencing poor sleep quality; 83% reported moderate to high stress levels. Additionally, 65% reported emotional symptoms, including fatigue, reduced concentration, or appetite changes; 42% reported symptoms consistent with anhedonia. A high family burden of chronic diseases was also identified, including Diabetes mellitus (81%), Hypertension (70%), Obesity (46%), Dyslipidemia or cancer (30%). Charts presented in the poster illustrate BMI distribution, waist circumference categories, and lipid profile variations among participants.

OBJETIVE

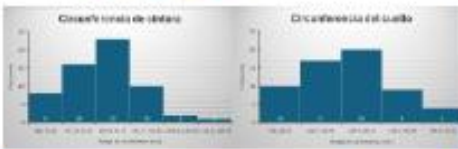
To evaluate the anthropometric status and metabolic risk factors among health sciences students at the beginning of the academic period, as a preliminary diagnostic phase of a longitudinal study on body weight variation. Specific objectives included: Measuring body weight, height, body mass index (BMI), and anthropometric variables such as neck and waist circumference at the beginning of the academic period. Applying surveys to assess dietary habits and the consumption of sugar, alcohol, and tobacco. Identifying risk factors for chronic non-communicable diseases and family history of metabolic disorders.





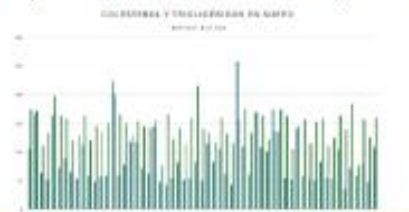
METHODOLOGY


A descriptive, cross-sectional epidemiological study was conducted as the first phase of a broader research project aimed at evaluating anthropometric profiles, lifestyle habits, and metabolic risk factors among health sciences students. The sample included 60 students aged 17-24 years from the Faculty of Medicine "Dr. Alberto Romo Caballero" of the Autonomous University of Tamaulipas, selected through stratified probabilistic sampling according to academic semester. Data collection was conducted during the Fall 2025 academic term (2025-3) and included: A digital survey (Google Forms) based on the NOM-008-SSA3-2010 standard, Anthropometric measurements: weight, height, BMI, waist circumference, and neck circumference, Blood pressure measurement using a validated manual sphygmomanometer, Laboratory analyses, including complete blood count and basic blood chemistry (six parameters) All procedures ensured anonymity, confidentiality, and digital informed consent.



CONCLUSIONS

Medical students present a concerning metabolic and emotional risk profile, characterized by excess body weight, unhealthy lifestyle habits, academic stress, and sleep disturbances. Beyond numerical indicators, these findings represent an early warning signal: future healthcare professionals are themselves exposed to risk factors that should not be normalized within medical training environments. Intervening during university education is essential to strengthen health-promoting behaviors and overall well-being among students, thereby supporting both their personal health and their future role as health promoters.





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