



ORIGINAL ARTICLE

**Evaluation of the body mass index in students of the "UNIANDES" law school**

Valoración del índice de masa corporal en estudiantes de la carrera de derecho "UNIANDES"

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**ABSTRACT**

**Introduction:** obesity and overweight in young people increase metabolic risks, reflecting poor eating habits and sedentary lifestyles; it is urgent to promote prevention from educational and social contexts.

**Objective:** to assess the factors that influence the nutritional status of students of the Uniandes Law School.

**Methods:** a mixed study, with an exploratory approach, was carried out among UNIANDES Law students. A sample of 50 students, who signed the informed consent form, was randomly selected. The research combined quantitative and qualitative methods, allowing the analysis of both numerical data on overweight and obesity and the participants' perceptions and knowledge of their eating habits and lifestyle.

**Results:** 50 % of the students were between 17 and 20 years old, and 92 % had no hereditary diseases or conditions. Nutritional status showed that 44 % had a normal weight, but only 42 % knew their body mass index and importance. Regarding physical activity, 43 % exercised once or twice a week, with soccer (35 %) and dance therapy (20 %) as the main modalities. Regarding food, 52 % ate a healthy diet, while 42 % consumed junk food on a daily basis. Fifty-four percent preferred fruits and vegetables, and 60 % ate between three and four meals a day.

**Conclusions:** non-compliance with healthy eating habits and lack of physical activity in UNIANDES law students can cause serious metabolic diseases.

**Keywords:** Adolescents; Metabolic Diseases; Weight.

## RESUMEN

**Introducción:** la obesidad y el sobrepeso en jóvenes incrementan riesgos metabólicos, reflejando malos hábitos alimenticios y sedentarismo; urge promover prevención desde contextos educativos y sociales.

**Objetivo:** valorar los factores que influyen en el estado nutricional de estudiantes de la carrera de Derecho Uniandes

**Métodos:** se realizó un estudio mixto, con enfoque exploratorio, en estudiantes de Derecho de la UNIANDES. Se seleccionó aleatoriamente una muestra de 50 estudiantes, quienes firmaron el consentimiento informado. La investigación combinó métodos cuantitativos y cualitativos, permitiendo analizar tanto datos numéricos sobre sobrepeso y obesidad como percepciones y conocimientos de los participantes sobre sus hábitos alimenticios y estilo de vida.

**Resultados:** el 50 % de los estudiantes tenía entre 17 y 20 años, y el 92 % no presentaba enfermedades o condiciones hereditarias. El estado nutricional mostró que el 44% tenía un peso normal, pero solo el 42 % conocía su índice de masa corporal e importancia. En cuanto a la actividad física, el 43 % realizaba ejercicio una o dos veces a la semana, destacando el fútbol (35 %) y la bailoterapia (20 %) como las principales modalidades. Sobre alimentación, el 52 % llevaba una dieta saludable, mientras que el 42 % consumía comida chatarra a diario. El 54 % prefería frutas y vegetales, y el 60 % realizaba entre tres y cuatro comidas diarias.

**Conclusiones:** el incumplimiento de hábitos alimenticios saludables y la falta de actividad física en estudiantes de Derecho de UNIANDES pueden causar enfermedades metabólicas graves.

**Palabras claves:** Adolescentes; Enfermedades Metabólicas; Peso.

## INTRODUCTION

Obesity has increased in recent years worldwide 4 billion people suffer from what is obesity and overweight having incidences. Most people are also at risk of suffering from metabolic diseases, most are teenagers since they consume what is junk food this leads to them being able to continue with their normal lifestyle, but they will have difficulties in their health and considering that this research study aims to know the risks that lead to it being a main problem, we want to know if people do not have time to make healthy meals and also carry out activities that are the fundamental basis for a normal and healthy weight for each one of the people.<sup>(1)</sup>

According to Campos Jara et al.,<sup>(2)</sup> in recent years changes in the physical performance of schoolchildren have been documented, focusing on the Cafra and Navette tests and their relationship with obesity and cardiometabolic risk. In this regard, a significant increase in anthropometric values and a decrease in all variables related to physical performance in overweight and obese students (48,3 %) have been detailed. It is also evident how these alterations are associated with cardiometabolic risk, especially when both are affected, which is also related to overweight and obesity. Furthermore, an inverse relationship was observed between this capacity and abdominal obesity, with the fact that underweight students had a larger waist circumference.

The study by Guamialamá-Martínez and Salazar-Duque,<sup>(3)</sup> identifies a worrying level of malnutrition and overweight in university students in Quito, highlighting the need to promote healthy lifestyles through preventive programs in the academic environment. The same evidence, as the assessment based on body mass index, underscores the importance of implementing health policies in universities, such as nutrition education and promoting physical activity, to prevent nutrition-related diseases. Furthermore, it is recommended to delve deeper into the sociocultural diversity of the student body, considering geographic and social factors, to design more effective and contextualized interventions.

Obesity and excess body fat are key risk factors for chronic diseases such as type 2 diabetes and cardiovascular disease. Therefore, assessing body composition and lifestyle choices is essential to prevent and control these problems, especially in vulnerable populations. The need for programs that promote physical activity, healthy eating, and habits that improve quality of life is highlighted.<sup>(4)</sup> Taking into account the above, this research was carried out, which aimed to assess the factors that influence the nutritional status of Uniandes Law students.

## METHODS

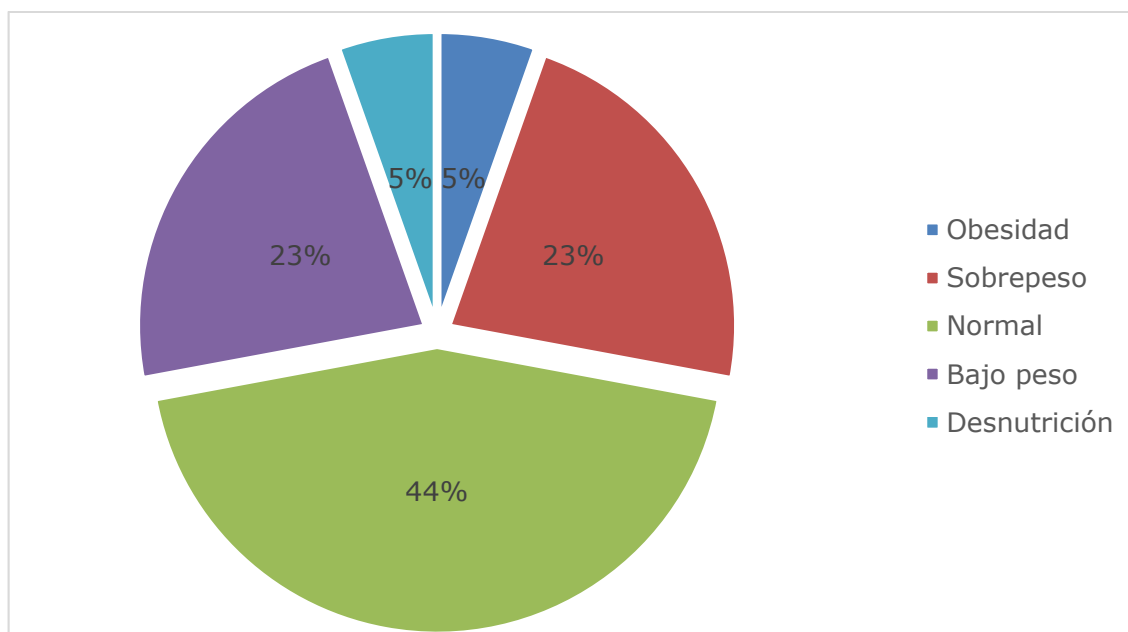
A mixed-sex study with an exploratory approach was conducted among law students at the Regional Autonomous University of the Andes (UNIANDES). A sample of 50 students was selected from the sample pool using simple random probability, after confirming their willingness to participate in the study by signing an informed consent form.

This study used a mixed-method approach, combining elements of quantitative and qualitative research to obtain a more comprehensive view of the phenomenon under study. The qualitative component provided a contextual interpretation of the results, considering participants' perceptions and knowledge of their eating habits and lifestyle. The quantitative component allowed for the collection and analysis of numerical data over a specific period through surveys administered to students, which facilitated the identification of levels of overweight and obesity.

Descriptive statistics were used to present the results in graphs. The principles of medical ethics and the aspects established in the Declaration of Helsinki were observed. Informed consent was obtained from participants, and this research was approved by the Research Ethics Committee of the Universidad Regional Autónoma de los Andes.

## RESULTS

The sample showed a predominance of students aged 17-20 (50 %), with 92 % showing no hereditary diseases or conditions. The nutritional status of the participants is detailed in Chart 1, with a predominance of those of normal weight (44 %). Among them, only 42 % were familiar with the BMI and its clinical significance.



**Chart 1.** Body Mass Index of Law students.

The student interview revealed that 43 % engaged in physical activity once or twice a week, with soccer practice and dance therapy (35 % and 20 % respectively) being the main modalities employed.

**Table 1.** Sample distribution according to eating practices.

Variable		No.	%
Healthy eating	Yeah	26	52
	No	24	48
Junk food consumption	Diary	21	42
	Once a week	26	52
	Never	3	6
Consumption preference	Fruits and vegetables	27	54
	Fried and greasy foods	10	20
	Flours and carbohydrates	14	28
Frequency of daily meals	1-2	12	24
	3-4	30	60
	5-6	8	16

Table 1 shows the students' eating habits, showing that 52 % of participants report eating healthy. Regarding junk food consumption, 42 % consume it daily, although 54 % prefer fruits and vegetables. Regarding daily meal frequency, 60 % eat between three and four meals a day.

## DISCUSSION

The results obtained reflect a worrying reality regarding nutritional health knowledge among young university students. Although 50 % of the students surveyed were between 17 and 20 years old and 92 % did not report any hereditary diseases or conditions, the lack of knowledge regarding key concepts such as body mass index (BMI) is significant: only 42 % know what it is and its clinical relevance. This lack of knowledge is especially alarming considering that BMI is a basic and accessible tool for assessing nutritional status and for preventing metabolic and cardiovascular diseases.<sup>(5)</sup>

The fact that 44 % of participants were at an appropriate weight (normal weight) is a positive finding; however, maintaining this status long-term requires ongoing nutrition and health education. Several studies have shown that a lack of knowledge about BMI and other nutritional indicators negatively influences the adoption of healthy habits and the identification of risks related to overweight, obesity, and malnutrition. Furthermore, recent studies highlight that a large proportion of adolescents and young adults underestimate their own weight, which can delay seeking professional help and perpetuate harmful habits.<sup>(6)</sup>

The university stage represents a transitional period where many behaviors related to nutrition, exercise, and self-care are consolidated. Therefore, the absence of hereditary diseases should not lead to a false sense of security, as the lifestyle acquired during this phase can significantly influence future health. The implementation of educational programs on nutrition and comprehensive health in the university setting can significantly contribute to improving knowledge about BMI and other risk factors, facilitating informed decision-making regarding physical and mental well-being.<sup>(7,8)</sup>

In a study developed by Ibarra Herrera,<sup>(9)</sup> it is indicated that the BMI is a useful tool to evaluate overweight and obesity in the population, since its application is uniform for both sexes and for adults of all ages. However, it is noted that the BMI should be considered an approximate value, since it does not always accurately reflect the level of body fat in different people.

Overweight and obesity, previously considered problems of high-income countries, have increased in low- and middle-income nations, especially in urban areas. According to international data, the main cause of these disorders is the imbalance between calories consumed and expended, driven by an increased intake of high-fat foods and a decrease in physical activity due to sedentary lifestyles and urbanization.<sup>(1,11,12)</sup>

The result, which shows that 43 % of students engage in physical activity once or twice a week, with a preference for soccer (35 %) and dance therapy (20 %), allows us to identify important patterns regarding movement habits in the young university population. This frequency of physical exercise, although limited, reflects an intention to maintain some physical activity; however, it is not sufficient to meet the recommendations of the World Health Organization, which suggests at least 150 minutes of moderate aerobic activity per week for adults between 18 and 64 years of age, spread over several days of the week, to obtain significant benefits for physical and mental health. Various studies have indicated that regular physical activity not only reduces the risk of chronic diseases such as type 2 diabetes and hypertension, but also improves academic performance and emotional health in university students. In this context, the choice of soccer as the main modality is consistent with other research in Latin America, which recognizes it as one of the most accessible and popular sports, promoting socialization and teamwork. On the other hand, dance therapy, which combines music with choreographed movements, has positioned itself as a fun and effective way to promote aerobic exercise,

especially among young women, as it is perceived as a recreational activity rather than a physical obligation.<sup>(13,14,15)</sup>

Changes in eating and physical activity habits are often a consequence of environmental and social changes associated with development and a lack of supportive policies in sectors such as health; agriculture; transportation; urban planning; environment; food processing, distribution and marketing; and education.<sup>(15)</sup> According to Potosí,<sup>(16)</sup> a study conducted on young adults in the Tulcán canton showed that between 56 % and 84 % of the population was overweight or obese, reflecting a high body mass index and a high risk of developing chronic non-communicable diseases.

In the province of Tungurahua, the Ministry of Public Health recognized in 2013 the importance of assessing physical growth and development as one of the fundamental aspects of pediatric clinical practice, due to the close relationship between adequate growth and general health. In this context, anthropometry is presented as a key objective indicator, since it allows quantifying variations in physical dimensions and body composition throughout the different stages of life and based on nutritional status. This tool is not only used to assess the nutritional status of individuals and populations, but also serves as a criterion to determine eligibility for nutrition and food assistance programs.<sup>(17)</sup>

## CONCLUSIONS

Failure to maintain healthy eating habits and lack of physical activity among UNIANDES law students can lead to serious metabolic diseases. In response, we propose promoting healthy eating habits, regular exercise, and regular mealtimes to prevent overweight, obesity, and other risks, thereby improving metabolism and quality of life.

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