

Obesity and Overweight: A Service-Based Learning Experience

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ABSTRACT

The academic experience on service-based learning is evidenced desde the subjects of differentiated semiology and pathophysiology II, of the sixth semester of the Medicine career. As part of the advance contents of both subjects, the Findrisk Test is applied to the collaborators of the Private University "Franz Tamayo", the metabolic risk is identified and complemented with laboratory tests, the diagnose criteria of the ALAD are used. work teams are formed by the students with the mentoring of the teacher as facilitator and prevention activities are carried out in the college community with itself the aim of modifying the lifestyle. The following were found as fundamental results: significant relationship between systolic blood pressure, limited fruits consumption and abdominal waist with metabolic risk; incorporation of results to the contents of the instructional designs of various subjects; level of autonomous achievement of the student and high level of general satisfaction on the part of the collaborators. It is finished that Este variety of methodology integrates the curriculum with the technological, the assistance and directly with the community as part of the student's social responsibility.

Keywords: Obesity; Service-Based Learning; Metabolic Risk

Theoretical Foundation

The current scientific and technological advances, the great challenges in terms of regional health problems and the different active methodologies that favor the teaching-learning process, motivated the researcher to reflect on obesity from the context of the subjects he teaches as a teacher. According to the World Health Organization (WHO), obesity is the abnormal increase in body fat and has become a complex disorder influenced by physical, psychological, biological, genetic, social, economic, cultural and environmental factors. (Herrera [1]). The transition from a traditionally paternalistic medicine to one in which the autonomy, opinions and decisions of the patient regarding their health care are taken into account, places the co-responsibility of patients in the foreground regarding their comprehensive management, since it is of primary importance that they make educated decisions based on quality information, while respecting their personal, cultural and religious conceptions (Molina [2]).

In the world, the ignorance of patients about their cardiovascular health is overwhelming. In the global population approached by the Prospective Urban Rural Epidemiological study (PURE), which has a Colombian population, showed that only 46.5% of hypertensive patients were aware of their diagnosis. In the DAWN study, it was proven that only 12% of diabetic patients carried out recommended measures of self-management of the disease. Adequate research on educational tools and their impact should then be undertaken as they can be considered therapeutic weapons in themselves. The term therapeutic education is used as one that helps them learn, develop and adapt behaviors that manage to improve health parameters, by including biomarkers and quality of life (Molina [2]).

In the author's opinion, the issue of obesity and overweight as great global scourges and its close relationship with non-communicable diseases and cancer, force care providers, teachers, parents, social networks and the food industry to rethink integrative strategies. that really modify the patient's lifestyle and, in turn, achieve the expected therapeutic education. The limitations in knowledge about

their disease and the possible consequences that it causes, generate insufficient results in therapeutic adherence. Different authors have dealt with the issue of values from dissimilar points of view and approaches, which is logical, since it constitutes a very complex issue that can be approved in different fields of knowledge, integrated by educational sciences, such as psychology, pedagogy, philosophy, sociology, among others, who have studied the problem of value formation in depth in recent years, and emphasize its relationship with the formative process.

They agree that education, strengthening or development of values; They seek valuation and behavior based on conscious conduct, based on the recognition and assimilation of these, which allow the acceptance of the individual by society and their self-realization (Zaldívar Rosales [3]). Some authors have considered shortcomings in social and professional behaviors, such as: manifestations of lack of ethics in doctor-patient-family relationships, as a formative practice; insufficiencies in the social behavior of professionals in the medical sciences; loss of trust towards medical professionals on the part of patients and relatives and of that social imaginary that people have of what it means to be a doctor; In the professional training process, intentional actions that contribute to the development of essential values are not systematically integrated; manifestations of insufficient methodological work as an instruction in the professional training process, especially in the treatment of values (Zaldívar Rosales [3]). The analysis around the issue of values during the formative

process acquires importance in the contemporary times, considering the increase in non-communicable diseases and cancer related to obesity and changes in lifestyle, where conduct, behavior Ethics and the responsibility of health personnel play an important role in their control, since these entities always have a biopsychosocial behavior that is often dependent on the appropriate doctor-patient relationship.

Experience Description

It starts from the direct observation of a group of collaborators of the Private University «Franz Tamayo», where the sedentary lifestyle of office work favored weight gain and individually they had started to carry out certain diets, in this way as a teacher of the subjects of differentiated semiology and pathophysiology and by using service-based learning, from the contents of the metabolic endocrine system, it was decided to apply the Findrisk Test to all collaborators as part of the initial diagnosis of metabolic risk. This stage was carried out by Sixth semester students with advice from the teacher in charge. Subsequently, the study was completed with humoral tests to select the patients who met the criteria for Metabolic Syndrome according to those assumed by ALAD and seen in. The priority of the attention was centralized in the modifications of the lifestyle through educational activities carried out by the students of the mentioned subjects and guided by the mentor teacher. During the management, actions in the community were made to coincide with dates related to health care. Three examples are mentioned (Pictures 1-4).

Componentes	Harmonizing the Metabolic Syndrome	ALAD
Obesidad abdominal	Incremento de la circunferencia abdominal: definición específica para la población y país	Perímetro de cintura ≥ 94 cm en hombres y ≥ 88 cm en mujeres
Triglicéridos altos	> 150 mg/dL (o en tratamiento con hipolipemiente específico)	> 150 mg/dL (o en tratamiento hipolipemiente específico)
cHDL bajo	< 40 mg/dL en hombres o < 50 mg/dL en mujeres (o en tratamiento con efecto sobre cHDL)	< 40 mg/dL en hombres o < 50 mg/dL en mujeres (o en tratamiento con efecto sobre cHDL)
Presión arterial elevada	PAS ≥ 130 mmHg y/o PAD ≥ 85 mmHg o en tratamiento antihipertensivo	PAS ≥ 130 mmHg y/o PAD ≥ 85 mmHg o en tratamiento antihipertensivo
Alteración en la regulación de la glucosa	Glicemia en ayunas ≥ 100 mg/dL o en tratamiento para glicemia elevada	Glicemia anormal en ayunas, intolerancia a la glucosa, o diabetes
Diagnóstico	3 de los 5 componentes propuestos	Obesidad abdominal + 2 de los 4 restantes

Picture 1: Metabolic Syndrome criteria according to ALAD.

Source: Metabolic Syndrome. Concept and practical application (Lizaraburu Robles, 2013).

Legend: ALAD (Latin American Diabetes Association); HDL-C (high-density lipoprotein cholesterol); SBP (systolic blood pressure); DBP (diastolic blood pressure).



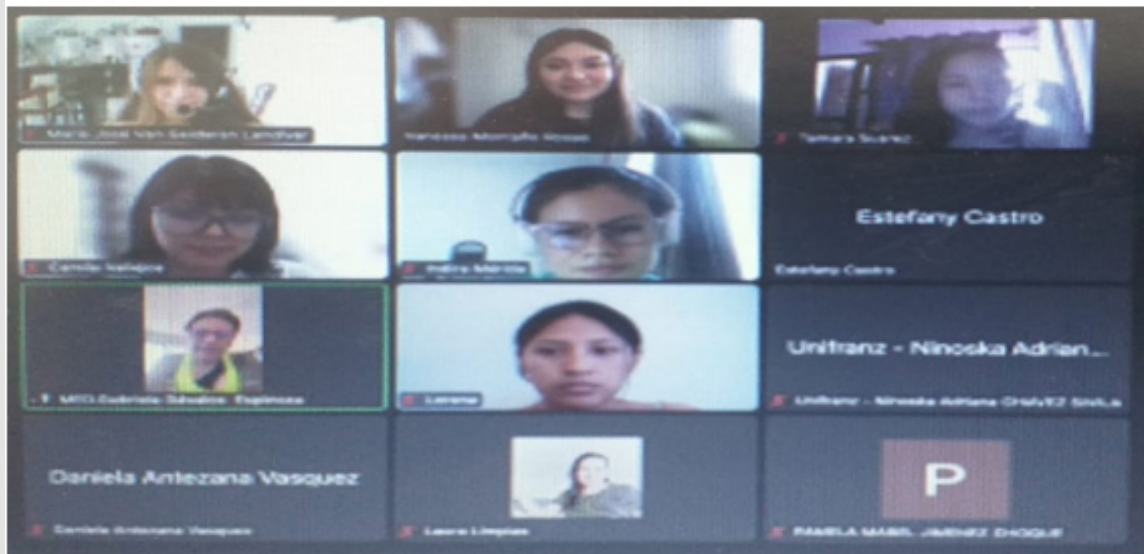
Picture 2: World Heart Day on September 29.

Source: Author's own elaboration.



Picture 3: International Day to Fight Breast Cancer October 19.

Source: Author's own elaboration.



Picture 4: World Diabetes Mellitus Day on November 14.

Source: Author's own elaboration.

Achievements Achieved

The experiences of academic work from the university itself, considered a learning community, where teachers, students and support staff (collaborators), unlearn and learn about lifestyle modifications to control risk factors, diseases and avoid with this, complications and disabilities. The achievements that are evident have been structured into four types: welfare, academic, student and in the satisfaction of the beneficiary community.

Healthcare Achievements

The Findrisk Test was applied to three collaborators, 49% showed slightly elevated results, 67.9% of the collaborators were women, 49% had a body mass index in the overweight range and 39.6% did not consume fruits in their usual diet. 19 hypertensive patients were identified for 35.9% with risk of type II diabetes. Of all the patients, 28 collaborators had an abdominal waist above the values considered normal according to the Latin American Association of Diabetes Mellitus. This value is closely related to the Findrisk Test and shows a highly significant Spearman Correlation for $p \leq 0.01$ (0.000). When relating systolic blood pressure to abdominal waist, a significant Spearman correlation is shown for $p \leq 0.01$ (0.008).

Academic Achievements

The doctor-patient relationship is favored through community

activities, where the student develops the skills of assertive communication, in addition, from the technical point of view, it enriches their knowledge about the interrogation of frequent symptoms. In another sense, the ethical behavior of the student was valued by sharing his knowledge with a group of collaborators, where he is observed by his teacher and by the patients themselves, forcing him to maintain ethical and responsible conduct. At the beginning of the application of the Findrisk Test, the collaborator was asked for the Informed Consent to participate in this proposal. When observing the results obtained in the Findrisk Test and humoral studies, it is denoted that it really is a health problem in the studied community and teachers of subjects with content related to obesity are instructed to prepare a training activity on this subject and be included in the instructional design and Moodle platform.

Student Achievements

Student achievement is evidenced in (Table 1) which shows the level of achievement at the end of the continuous evaluation in Milestone 4 of training. The table shows that 61.9% of the students reached an autonomous level of learning, where the activities with the learning community were included as part of their continuous evaluation and helped to reach their self-learning and research capacity. aspects of the competence related to the topics of health education in patients.

Table 1: Level of Achievement of sixth semester students.

Niveles De Logro	Criterios Evaluativos	Nro.	Porcentaje
Inicial (menor de 51 puntos)	Tiene conocimientos preliminares	0	0
Basico (51-74 puntos)	Ha alcanzado los conocimientos básicos del elemento de competencia	8	38,1
Autonomo (75-89 puntos)	Tiene la capacidad de autoaprendizaje	11	52,4
Estrategico (90-94 puntos)	Tiene la capacidad de investigar aspectos concretos de la competencia	2	9,5
Excelente (95-100 puntos)	Tiene la capacidad de innovar a partir de lo teórico / practico. Ha alcanzado la competencia global	0	0
	Total	21	100

Achievements in the Satisfaction of the Beneficiary Community

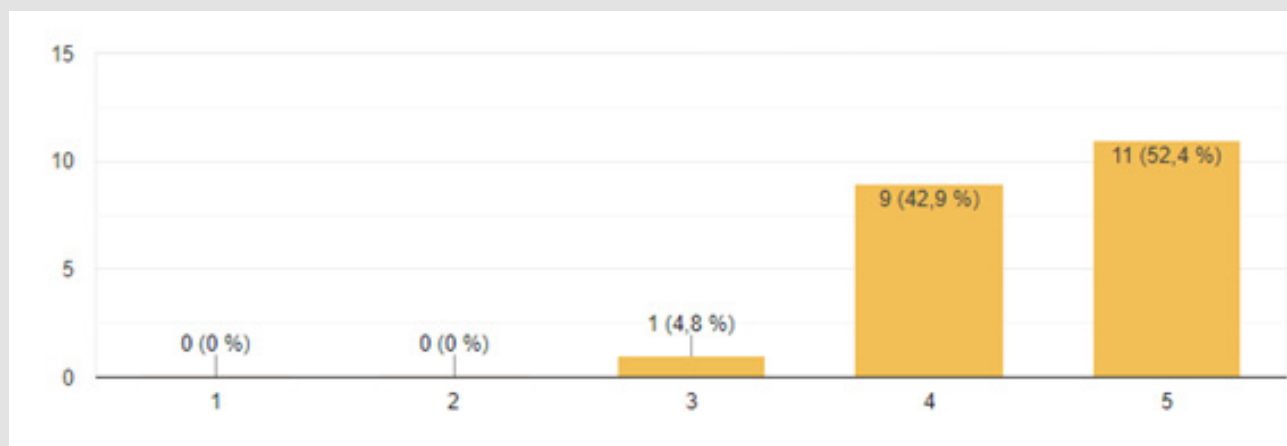
This aspect is considered because it is often neglected in health care and is not the main axis in health policies (Castelo Rivas [4]). The link of a form applied to the university community benefited from the proposal is attached (<https://forms.gle/2D4TpV4RiLsEJUXKA>), the following classification was considered in points from one to five: one (not at all satisfied); two (unsatisfied); three (satisfied, expectations are met); four (satisfied with exceeded expectations) and five (very satisfied with in-depth empathy). A total of 23 collaborators answer the form, of which 78.3% are women and 21.7% are men. By age groups, the majority of those who answered the form were 30-34 years old (39.1%) and 45-59 years old (34.8%). This last result is significant if one considers that after 45 years, age is a cardiovascular risk factor. Of the total number of respondents, 87% stated that they had performed the laboratories to confirm the possibility or not of metabolic syndrome.

The coordination and operation of community activities was valued as four by 57.1% of the collaborators where expectations are exceeded and five by 42.9% where in-depth empathy is achieved. For its part, compliance with the schedules reaches a level of satisfaction between four and five of 85.8%, so expectations are exceeded and an important empathy is also achieved, despite this, there is a 4,8% who stated that they were dissatisfied with this aspect [5]. The treatment and kindness of the students was very satisfactory, reaching 85.7% of

collaborators who manifested a degree of empathy in depth, the rest of the collaborators exceeded expectations. This result coincides with the dedication and empathy of the student teams that reach scores of five for 61.9% and four for 38.1%.

The clarity of the language and the way of communicating was valued as four in 52.4% and five in 42.9%, however, one collaborator (4.8%) stated that he felt dissatisfied. According to the collaborators, students are capable of identifying medical needs in 85.7% (scores between four and five), only three collaborators were neutral with expectations covered for 14.3%. The clarity of content and information discussed in each meeting was rated five by 61.9% of the collaborators, the rest agreed between three and four points. The suitability of the work methodology was seen between four and five by 95.3% of all collaborators, in the same way as the incentive to value their opinion and participation in activities as patients.

They consider that the knowledge learned is pertinent with a rating of four by 28.6% of the collaborators and 71.4% with a rating of five. In general, when asked what is the general level of satisfaction, 95.3% of the collaborators exceed expectations and achieve in-depth empathy with the student teams, this result is evidenced in (Graph 1). The aforementioned results show the teaching, care, research and extension integration of the teacher and the student team committed to improving the lifestyle of a highly productive population with modifiable risk factors such as overweight and obesity.

**Graph 1:** General Level of Satisfaction.

Final Thoughts on the Experience

Obesity and overweight, as complex phenomena, require deep and inclusive actions where co-responsibility from the patient himself, the teacher, the food industry to health service providers, who all have a high social commitment, otherwise, cardiovascular comorbidities and cancer will continue to rise. The Findrisk test in the research context (UNIFRANZ collaborators), becomes a strong predictive instrument of cardiometabolic risk, which is confirmed with humoral studies, which justify the challenge of establishing primary prevention actions from the community itself, to guarantee the modifications of the lifestyle and integrate the academic, the link with the environment and the investigative. Service-based learning from the subjects of differentiated semiology and pathophysiology II in the sixth semester of the medical career, allows students to identify the close relationship between systolic blood pressure, the non-consumption of fruits and the measurement of blood pressure. abdominal waist with the cardiometabolic risk and undertake

preventive actions in the collaborators that reinforce in the student their autonomy, the level of achievement in their learning and a high degree of general satisfaction in the collaborators.

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