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Artículo Original Cuantitativo

Nutritional status in first-year medical students at the Faculty of Medical and Life Sciences

Estado nutricional en estudiantes de medicina de primer año de la Facultad de Ciencias Médicas y de la Vida

État nutritionnel des étudiants en médecine en première année à la Faculté des Sciences Médicales et de la Vie

Authors: Juan Pablo Mencos,[1] Juana Mileny Mateo-López,[2] Manfredo Rafael Xalin-Iquic ,[3] Katerine Luisa Fernanda Oroxom-Sian,[4] Kristha Méndez,[5] Miday Columbié-Pileta[6]

[1]Student of Degree in Nutrition. Da Vinci University of Guatemala. Faculty of Medical and Life Sciences. Guatemala. Email: 202002241@udv.edu.gt Orcid Code: https://orcid.org/0000-0002-0766-5078
[2]Student of Degree in Nutrition. Da Vinci University of Guatemala. Faculty of Medical and Life Sciences. Guatemala. Email: 202003252@udv.edu.gt Orcid Code: https://orcid.org/0000-0002-0658-6896
[3]Student of Degree in Nutrition. Da Vinci University of Guatemala. Faculty of Medical and Life Sciences. Guatemala. Email: 202003351@udv.edu.gt Orcid Code: https://orcid.org/0000-0001-7843-8625
[4]Student of Degree in Nutrition. Da Vinci University of Guatemala. Faculty of Medical and Life Sciences. Guatemala. Email: 202002548@udv.edu.gt Orcid Code: https://orcid.org/0000-0001-8729-2728
[5]Student of Degree in Nutrition. Da Vinci University of Guatemala. Faculty of Medical and Life Sciences. Guatemala. Email: 202005862@udv.edu.gt Orcid Code: https://orcid.org/0000-0002-9642-6203
[6]Doctor of Medicine. Licensed Physician and Surgeon. Biostatistics Specialist. Master in Primary Health Care. PhD in Sciences of Medical Education. Email: mpileta@udv.edu.gt Orcid code: https://orcid.org/0000-0003-3812-4239

ABSTRACT

Introduction: the evaluation of the nutritional status of medical students is extremely important since the student's health is essential for their development and optimal performance. **Objective**: to evaluate the nutritional status of first-year medical students at the Faculty of Medical and Life Sciences. **Method:** an observational descriptive cross-sectional study was carried out in first-year medical students of the faculty. Variables were operationalized to output the proposed objective. The ethics of scientific research was complied with. The information was processed using SPSS 21. Absolute and relative frequency distributions were used. **Results:** it was found that half of the students are normal weight, 46.3% were overweight and obese, while 3.7% were underweight. 52% predominated with healthy

***Author for correspondence**: Juan Pablo Mencos. Correo electrónico: 202002241@udv.edu.gt

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fats, while 7.4% were low in fat. The entire underweight had a healthy percentage of fat. Within the normal weight, those with a percentage of healthy fat also predominated. **Conclusions:** Unfavorable values were found for the nutritional status of the students, in which low or undesirable percentages for health were found; few students presented with a normal nutritional status, this in relation to the percentage of fat, bone mass and protein depletion.

Key words: body mass index, nutritional status, medical students, anthropometric measurements.

RESUMEN

Introducción: la evaluación del estado nutricional de los estudiantes de medicina es de suma importancia ya que la salud del estudiante es primordial para su desarrollo y rendimiento óptimo. **Objetivo**: evaluar el estado nutricional de los estudiantes de medicina de primer año de la Facultad de Ciencias Médicas y de la Vida. **Método**: se realizó una investigación de tipo observacional descriptiva de corte transversal en estudiantes de medicina de primer año de la facultad. Se operacionalizaron variables para dar salida al objetivo planteado. Se cumplió con la ética de la investigación científica. Se procesó la información mediante el SPSS 21. Se utilizaron distribuciones de frecuencia absoluta y relativa. **Resultados**: se encontró que la mitad de los estudiantes se encuentran normopeso, el 46.3% estaba sobrepeso y obeso, mientras que un 3.7% estaba bajo peso. Predominó un 52% con grasas saludables, mientras que un 7.4% estaba bajo en grasa. La totalidad del bajo peso tenía un porcentaje saludable de grasa. Dentro de los normopeso también predominaron los de porcentaje de grasa saludable. **Conclusiones**: Se encontraron valores poco favorables para el estado nutricional de los estudiantes, en el cual se encontró porcentajes bajos o poco deseables para la salud; se presentaron pocos estudiantes con un estado nutricional normal, esto en relación al porcentaje de grasa, masa ósea y depleción proteica.

Palabras clave: índice de masa corporal, estado nutricional, estudiantes de medicina, mediciones antropométricas.

RÉSUMÉ

Introduction: l'évaluation de l'état nutritionnel des étudiants en médecine est extrêmement importante puisque la santé de l'étudiant est essentielle à son développement et à ses performances optimales. **Objectif:** évaluer l'état nutritionnel des étudiants en première année de médecine à la Faculté des sciences médicales et de la vie. **Méthode:** une étude transversale descriptive observationnelle a été menée auprès des étudiants en première année de médecine de la faculté. Les variables ont été opérationnalisées pour produire l'objectif proposé. Nous nous sommes conformés à toutes les exigences éthiques de la recherche scientifique. Les informations ont été traitées à l'aide de SPSS 21. Des distributions de fréquence absolues et relatives ont été utilisées. **Résultats:** il a été constaté que la moitié des étudiants avaient un poids normal, 46,3 % étaient en surpoids et obèses, tandis que 3,7 % avaient un poids insuffisant. 52% prédominent avec des graisses saines,

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tandis que 7,4% sont faibles en graisses. L'ensemble de l'insuffisance pondérale avait un pourcentage sain de graisse. Dans le poids normal, ceux avec un pourcentage de graisse saine prédominent également. **Conclusions:** des valeurs défavorables ont été trouvées pour l'état nutritionnel des étudiants, dans lesquelles des pourcentages faibles ou indésirables pour la santé ont été trouvés; peu d'étudiants présentaient un état nutritionnel normal, en ce qui concerne le pourcentage de graisse, la masse osseuse et la déplétion protéique.

Mots clés: indice de masse corporelle, état nutritionnel, étudiants en médecine, mesures anthropométriques.

INTRODUCTION

According to the World Health Organization (WHO), nutrition is the intake of food in relation to the dietary needs of the body. To maintain good health, good nutrition is required, which is guaranteed with a balanced diet and frequent physical exercise.[1]

One of the consequences of inadequate nutrition is the lowering of the body's immune barrier, which increases vulnerability to disease, alters physical and mental development, and reduces productivity.

Good nutrition is an important factor to take into account to avoid the appearance of non-communicable diseases (NCDs); therefore, nutrition is a modifiable factor. The type of diet plays an important role with both positive and negative consequences. Nutritional assessment are the best way to determine whether people's nutritional needs are in fact being met, once food is available and easily accessible.[2]

The nutritional assessment provides up-to-date, high-quality, evidence-based information for goal-setting, planning, monitoring, and evaluation of programs with the aim of reducing hunger in countries and the ambitious goal of eliminating it, as well as reduce malnutrition.[3]

The Nutrition and Food Systems Division offers its expertise to support countries in the collection, harmonization and dissemination of high-quality information on diet and nutrition. In this area, we improve the evaluation instruments; we build the capacities of countries to collect data; and we work to develop a global platform that provides free access to country-specific food-based nutrition information.[3]

The distribution of dietary macronutrients seems to play a key role in the regulation of weight and body composition. An evaluation of the ideal nutritional status occurs when there is equivalence between the necessary nutrients and those consumed by each person.[4]

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Evaluating people regarding their nutritional status is important, since more chronic diseases can be triggered, including obesity, arteriosclerosis and cardiovascular disease, diabetes, alcohol dependence, some variety of cancer, degenerative bone disease, dental problems, among many other ailments.[5]

In recent years, some authors 6 have expanded the evidence of how malnutrition can turn university students into the future direct target of Cardiovascular Diseases (CVD), the result of which can lead to early death. Students are subject to particular conditions upon entering the university system.

The academic environment can produce changes in their lifestyles, with positive and negative implications. They are in a critical stage for the development of their eating habits and are characterized by having little time to eat, which leads to skipping meals often, eating between meals, a high consumption of fast food, among others.

In addition, together with the little physical activity they do due to technological entertainment; there has been an increase in the prevalence of tobacco and alcohol consumption. These unhealthy lifestyles contribute to the development of cardiovascular risk factors (CVRF) in university students.6

CVDs are a main objective in public health policiesdue to their significant effect on the population in terms of mortality, morbidity, healthcare cost and quality of life. Although it is more common among the elderly, young people are not exempt from presenting some risk factors; Recent research has found that the main CVRFs are a sedentary lifestyle, obesity, hypertension, diabetes, hypercholesterolemia, smoking, stress, and other psychosocial and genetic factors.[6]

A 2010 National Health Survey included 812 young people between the ages of 15 and 24, where 10.9% were obese, 46% current smokers, 79.3% sedentary, and only 13% complied with consumption recommendations of vegetables and fruits of the Ministry of Health of Chile.[7]

The purpose of this research was to evaluate the nutritional status of first-year medical students from the Faculty of Medical and Life Sciences.

METHOD

An observational, descriptive cross-sectional investigation was carried out. The universe was the first-year medical students of the Faculty of Medical and Life Sciences of the Da Vinci University of Guatemala.

To carry out this study, we had the approval of the authorities of said faculty. The students who participated were informed about the objectives and importance of the research. Prior to taking the

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anthropometric measurements and biochemical evaluation, each participant filled out the written informed consent. The confidentiality of the data obtained was fulfilled, which was used by the researchers for research purposes.

In order to respond to the stated objective, qualitative and quantitative variables were operationalized, which were summarized with absolute and relative frequency distributions. The data were processed using the SPSS 21 statistical program in Spanish.

RESULTS

Information related to nutritional status and some variables related to it is presented below. 54 students were studied. Note in table 1 the classification of body fat according to nutritional status. Half of the students are normal weight, 46.3% were overweight and obese, while 3.7% were underweight. 52% predominated with healthy fats, while 7.4% were low in fat. All of the underweights had a healthy percentage of fat. Within the normal weight, those with a percentage of healthy fat also predominated; and as expected, high in fat and obese presented with the same behavior of 40% in overweight and obese.

Table 1: Classification according to body fat percentage and nutritional status

Average of fat		Nutritional condition			Total
		Under weight	Normal weight	Overweight and/obese	
HIGH FAT	Count	0	1	10	11
	% within Nutritional status	0.0%	3.7%	40.0%	20.4 %
LOW IN FAT	Count	0	3	1	4
	% within Nutritional status	0.0%	11.1%	4.0%	7.4%
OBESE	Count	0	1	10	11
	% within Nutritional status	0.0%	3.7%	40.0%	20.4 %
HEALTHY	Count	2	22	4	28
	% within Nutritional status	100.0%	81.5%	16.0%	51.9 %

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TOTAL	Count	2	27	25	54
	% within Nutritional status	100.0%	100.0%	100.0%	100%

Within the results shown in table 2, it can be seen that there is a greater number of students with an adequate percentage of body water represented by 81.5% while only 11.1% of the total percentage is in an inadequate range. Within the normal weight there is 88.9% with an adequate range of percentage of body water. Although with a lower percentage, this range also predominated among the overweight and obese; and within the underweight, half are within this range.

Table 2: Percentage of body water and nutritional status

Percentage of body water		Nutritional condition			Total
		Under weight	Normal weight	Overweight and/obese	
DOES NOT APPLY*	Count	0	2	2	4
	% within Nutritional status	0.0%	7.4%	8.0%	7.4%
APPROPRIATE	Count	1	24	19	44
	% within Nutritional status	50.0%	88.9%	76.0%	81.5%
INADEQUATE	Count	1	1	4	6
	% within Nutritional status	50.0%	3.7%	16.0%	11.1%
TOTAL	Count	2	27	25	54
	% within Nutritional status	100.0%	100.0%	100.0%	100.0 %

* Note: It was not taken into account because these participants were minors

Note in table 3, a high percentage of students with a healthy status according to their classification of visceral fat with 88.9% and a lower value of 3.7% of those who presented excessive visceral fat. Within the range of normal nutritional status, healthy visceral fat predominates in students with 92.6%; however, students with an overweight and/or obese nutritional status were found in excess.

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Table 3: Classification according to visceral fat and nutritional status

Clasificación según grasa visceral		Nutritional condition			Total
		Under weight	Normal weight	Overweight and/obese	
DOES NOT APPLY*	Count	0	2	2	4
	% within Nutritional status	0.0%	7.4%	8.0%	7.4%
EXCESS	Count	0	0	2	2
	% within Nutritional status	0.0%	0.0%	8.0%	3.7%
HEALTHY	Count	2	25	21	48
	% within Nutritional status	100.0%	92.6%	84.0%	88.9%
TOTAL	Count	2	27	25	54
	% within Nutritional status	100.0%	100.0%	100.0%	100.0%

* Note: It was not taken into account because these participants were minors

Based on the evidence collected in Table 4, it can be seen that only 24.1% of the students are in an adequate classification for bone mass. However, it is important to note that within normal weights, bone mass is adequate only in 14.8% of the population.

Table 4: Classification of bone mass and nutritional status

Clasificación de masa ósea		Nutritional condition			Total
		Under weight	Normal weight	Overweight and/obese	
DOES NOT APPLY*	Count	0	2	2	4
	% within Nutritional status	0.0%	7.4%	8.0%	7.4%
APPROPRIATE	Count	1	4	8	13
	% within Nutritional status	50.0%	14.8%	32.0%	24.1%

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INADEQUATE	Count	1	21	15	37
	% within Nutritional status	50.0%	77.8%	60.0%	68.5%
TOTAL	Count	2	27	25	54
	% within Nutritional status	100.0%	100.0%	100.0%	100.0 %

* Note: It was not taken into account because these participants were minors

In table 5, it can be seen that 50% of the students metabolic ages are within a higher classification than their actual age. And only 3.7% of students are classified in a metabolic age equal to the real age. The totality of the underweight has a lower metabolic age, the same as the third part of the normal weight. On the other hand, in 92% of overweight and obese patients, the metabolic age is higher than the real age.

Table 5: Classification of metabolic age and nutritional condition

Classification of metabolic age		Nutritional condition			Total
		Under weight	Normal weight	Overweight and/obese	
DOES NOT APPLY*	Count	0	2	2	4
	% within Nutritional status	0.0%	7.4%	8.0%	7.4%
ELDERLY	Count	0	2	0	2
	% within Nutritional status	0.0%	7.4%	0.0%	3.7%
MAJOR	Count	0	4	23	27
	% within Nutritional status	0.0%	14.8%	92.0%	50.0 %
MINOR	Count	2	19	0	21
	% within Nutritional status	100.0%	70.4%	0.0%	38.9 %
TOTAL	Count	2	27	25	54
	% within Nutritional status	100.0%	100.0%	100.0%	100.0 %

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After the analysis of table 6, a 79.6% depletion of normal somatic protein can be observed in the students. Within the low weight group, 50% are mildly depleted and the other 50% are moderately depleted. 66.7% of normal weight have a normal depletion. It is valid to note that within the overweight and obese, all presented depletion of somatic protein classified as normal.

Table 6: Somatic protein depletion and nutritional status

Somatic protein depletion		Nutritional condition			Total
		Under weight	Normal weight	Overweight and/obese	
MILD DEPLETION	Count	1	7	0	8
	% within Nutritional status	50.0%	25.9%	0.0%	14.8%
MODERATE DEPLETION	Count	1	2	0	3
	% within Nutritional status	50.0%	7.4%	0.0%	5.6%
NORMAL	Count	0	18	25	43
	% within Nutritional status	0.0%	66.7%	100.0%	79.6%
TOTAL	Count	2	27	25	54
	% within Nutritional status	100.0%	100.0%	100.0%	100.0%

DISCUSSION

In the last four decades, the prevalence of obesity has increased drastically, becoming a public health problem worldwide,[8] resulting in an increased risk of suffering from health problems such as type 2 diabetes mellitus (DM2).[9] The prevalence of obesity and overweight in young adults has greater fluctuations than those found in adults.[10]

When evaluating the hours that young people use to study, it is evident that they spend a large part of the day sitting, which constitutes a sedentary behavior, related to various cardiovascular and metabolic risk factors, as well as obesity in both adults and young people.

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In a study carried out at the University of Tuxtla Gutierrez, Chiapas,[12] a relationship is shown between the BMI in the categories of obesity and overweight with a high metabolic age, this is contrasted with the present study, which reaffirms the results obtained in overweight students who tend to have a higher metabolic age.

Poor water consumption has not been studied in recent years; In a study carried out on 60 dance students, it was observed that water consumption is linked to a greater consumption of calories.[13] This is presented in a similar way to the data of the present investigation, which show a nutritional status in obesity and overweight and an inadequate percentage of body water. In a study of 49 Peruvian students, an average with normal values for nutritional status was found.[14]

Taking into account the nutritional status of young people could also be important to identify their perception of reality and the world, their self-esteem, mental health, their own identity, among other aspects.[15] As there is no history of research of this type among students, it constitutes an oportunity because institutions can take actions that favor better nutrition in this group of students and among university students in general.

CONCLUSIONS

It can be observed that the result of the investigation presents unfavorable values for the nutritional status of the students, in which low or undesirable percentages for health were found. There are few students with a normal nutritional status in relation to the percentage of fat, bone mass and protein depletion.

FINANCING

No funding was received for the development of this study.

CONFLICTS OF INTEREST

No conflicts of interest are declared.

BIBLIOGRAPHIC REFERENCES

1. Harrison SE, Greenhouse D. Dietary and nutrition recommendations in pediatric primary care: A call to action. South Med J [Internet]. 2018 [citado el 10 de diciembre de 2022];111(1):12–7. Disponible en: https://pubmed.ncbi.nlm.nih.gov/29298363/

2. Moreno Villares JM. Los primeros 1000 días: una oportunidad para reducir la carga de las enfermedades no transmisibles. Nutr Hosp [Internet]. 2018 [citado el 10 de diciembre de

*Author for correspondence: Juan Pablo Mencos. Correo electrónico: 202002241@udv.edu.gt

Received on november 11, 2022. Acepted on december 1, 2022.

2022];36(1):218–32. Disponible en: https://scielo.isciii.es/scielo.php?script=sci_arttext&pid=S0212-16112019000100218

3. Reyes SE, Mallqui More JE, León Toledo LE. Evaluación nutricional en estudiantes de una universidad pública. RESPYN Revista de Salud Pública y Nutrición [Internet]. 2020;19(4). Disponible en: http://dx.doi.org/10.29105/respyn19.4-2

4. Govantes-Bacallao Y, Ortíz-Rios R, Lantigua-Martell M. Evaluación nutricional en adultos mayores discapacitados.. Revista Cubana de Medicina Física y Rehabilitación [revista en Internet]. 2018 [citado 10 Dic 2022];10(1) Disponible en: https://revrehabilitacion.sld.cu/index.php/reh/article/view/270

5. Ortega C, Geoconda D. Evaluación del estado nutricional y factores de riesgo de enfermedades crónicas no transmisibles (ECNT) en adolescentes de educación general básica (EGB) de la unidad educativa "Valle del Chota", Carpuela, Imbabura, 2019. 2020. Disponible en: http://repositorio.utn.edu.ec/handle/123456789/10159

6. Yaguachi Alarcón RA, Troncoso Corzo LV, Correa Asanza K, Poveda Loor CL. Estilo de vida, estado nutricional y riesgo cardiovascular en trabajadores de la salud. Nutr Clín Diet Hosp [Internet]. 1 de septiembre de 2021 [citado 10 de diciembre de 2022];41(3). Disponible en: https://revista.nutricion.org/index.php/ncdh/article/view/145

7. Rinat RG, Martel J. Calidad de la alimentación y estado nutricional en estudiantes universitarios de 11 regiones de Chile. Rev. méd. Chile [Internet]. 2012 Dic [citado 2022 Dic 10]; 140(12): 1571-1579. Disponible en: http://www.scielo.cl/scielo.php?script=sci_arttext&pid=S0034-98872012001200008&lng=es. http://dx.doi.org/10.4067/S0034-98872012001200008.

8. Petrova D, Salamanca-Fernández E, Rodríguez Barranco M, Navarro Pérez P, Jiménez Moleón JJ, Sánchez M-J. Obesity as a risk factor in COVID-19: Possible mechanisms and implications. Aten Primaria [Internet]. 2020;52(7):496–500. Disponible en: https://www.sciencedirect.com/science/article/pii/S0212656720301657

9. Lapo-Ordoñez DA, Quintana-Salinas MR. Relación entre el estado nutricional por antropometría y hábitos alimentarios con el rendimiento académico en adolescentes. Arch méd Camagüey [Internet]. 2018 [citado el 11 de noviembre de 2022];22(6):755–74. Disponible en: http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S1025-02552018000600755

***Author for correspondence**: Juan Pablo Mencos. Correo electrónico: 202002241@udv.edu.gt

Received on november 11, 2022. Acepted on december 1, 2022.

10. Bermúdez V, Pacheco M, Rojas J, et al. Epidemiologic Behavior of Obesity in the Maracaibo City Metabolic Syndrome Prevalence Study. American Journal of Therapeutics. 2010; (17): 288–294.

11. Thorp AA, Healy GN y cols. Deleterious associations of sitting time and television viewing time with cardiometabolic risk biomarkers: Australian Diabetes, Obesity and Lifestyle (AusDiab) study 2004-2005. Diabetes Care. 2010; 33:327–334.

12. Aparco JP, Bautista-Olórtegui W, Astete-Robilliard L, Pillaca J. Evaluación del estado nutricional, patrones de consumo alimentario y de actividad física en escolares del Cercado de Lima. Rev Peru Med Exp Salud Publica [Internet]. 2016;33(4):633. Disponible en: https://www.redalyc.org/pdf/363/36349330005.pdf

13. Muñoz Gamarra KM, Anastacio Alvarado SD. Estado nutricional y hábitos alimentarios en estudiantes de danza de 12 a 17 años de la Academia Steps Gabriela Reyes de la ciudad de Durán durante el período mayo - agosto 2019. Universidad Católica de Santiago de Guayaquil; 2019.

14. Román J. Nutrición clínica y dietética hospitalaria. 2020 [citado el 11 de noviembre de 2022]; Disponible en: https://revista.nutricion.org/index.php/ncdh/article/view/177/170

15. Escandón-Nagel Neli, Vargas José Felipe, Herrera Ana Carolina, Pérez Ana María. Imagen corporal en función de sexo y estado nutricional: Asociación con la construcción del sí mismo y de los otros. Rev. Mex. de trastor. aliment [revista en la Internet]. 2019 Jun [citado 2022 Dic 14];10(1):32-41. Disponible en: http://www.scielo.org.mx/scielo.php?script=sci_arttext&pid=S2007-15232019000100032&lng=es. https://doi.org/10.22201/fesi.20071523e.2019.1.521.

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Author's name: Juan Pablo Mencos, Juana Mileny Mateo López, Manfredo Rafael Xalin Iquic, Katerine Luisa Fernanda Oroxom Sian, Kristha Méndez, Miday Columbié Pileta

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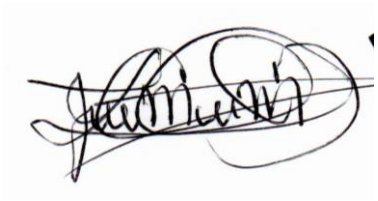


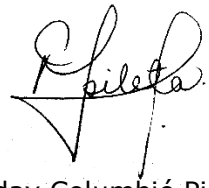
Juana Mileny Mateo López

Kristha Méndez

Katerine Luisa Fernanda Oroxom Sian

Manfredo Rafael Xalin Iquic

Juan Pablo Mencos



Miday Columbié Pileta