RESEARCH ARTICLE

LAS ENFERMEDADES CARDIOVASCULARES COMO CONSECUENCIA DE LA OBESIDAD EN POBLACIÓN JOVEN DEL HOSPITAL SAGRADA FAMILIA, TORO – VALLE

CARDIOVASCULAR DISEASES AS A CONSEQUENCE OF OBESITY IN THE YOUNG POPULATION OF THE SAGRADA FAMILIA HOSPITAL, TORO – VALLE

Valentina Montoya Garatejo[1], Ana Catalina Rodríguez Castillo[2]

Received on May 15th, 2024. **Approved on** June 15th, 2024

RESUMEN:

Objetivo: Conocer la prevalencia de enfermedad cardiovascular en jóvenes obesos entre 15 y 28 años del Hospital Sagrada Familia de Toro Valle para mejorar el manejo y prevención de enfermedades cardiovasculares. **Materiales y métodos**: estudio empírico analítico, se obtuvo información desde la experiencia práctica de las profesiones relacionadas con salud, se revisaron diferentes fuentes que tuvieran relación con el tema de estudio. Se desarrolló con 6540 sujetos del hospital, entre 15 y 28 años, con diagnóstico de alguna enfermedad cardiovascular y obesidad o que asistieran a controles de prevención y promoción, ya fuera por el programa de adolescencia o juventud. **Resultados**: se atendieron un total de 1224 pacientes inscritos en el programa de riesgo cardiovascular, de estos, había algunos entre 15 a 28 años, de los cuales 4 estaban en rango de obesidad y 6 en sobrepeso. Respecto a las mujeres, se encontró que, en comparación con los hombres, en todas las edades del estudio hubo un número significativo de pacientes con sobrepeso y obesidad. Además, el sobrepeso predominó en las edades de 19, 23 y 28 años en mujeres, mientras que la obesidad fue más común en las edades de 23, 26 y 27 años. En cuanto a la población masculina, también se

[1] Physiotherapist, Student in Especialization in Occupational Risk Management, Security and Health in Work Environments, Corporación Universitaria Minuto de Dios, valentina.montoya-g@uniminuto.edu.co, https://orcid.org/0009-0008-1401-0142

[2] General physician, Student in Especialization in Occupational Risk Management, Security and Health in Work Environments, Corporación Universitaria Minuto de Dios, anacatalinar@hotmail.com, https://orcid.org/0009-0009-6700-6574

How to cite this article:?: Montoya-Garatejo Valentina , Rodríguez-Castillo Ana, Cardiovascular Diseases As A Consequence Of Obesity In The Young Population Of The Sagrada Familia Hospital, Toro – Valle, Basic Health Sciences Journal Revista, 2(3):62-82 , August 2024, ISSN 2981-5800.

encontraron casos de sobrepeso y obesidad, siendo más prevalentes en las edades de 28, 27 y 25 años para el sobrepeso, y 23, 26 y 28 años para la obesidad. **Conclusiones:** La investigación realizada a pesar de llevarse a cabo en una muestra pequeña, ha demostrado que existe una correlación entre la obesidad y el riesgo de desarrollar enfermedades cardiovasculares en población joven y adolescente tanto a nivel del entorno rural como urbano y que urge abordar este tema desde temprana edad como medida preventiva.

PALABRAS CLAVE: Riesgo cardiovascular, Obesidad, Jóvenes, Factores de riesgo, Actividad física

ABSTRACT

Objective: determine the prevalence of cardiovascular disease in obese young people between 15 and 28 years of age at the Hospital Sagrada Familia de Toro Valle to improve the management and prevention of cardiovascular disease. **Materials and methods:** empirical analytical study, information was obtained from the practical experience of health-related professions, diverse sources were reviewed. It was developed with 6540 subjects from the hospital, between 15 and 28 years of age, with a diagnosis of cardiovascular disease and obesity or who attended prevention and promotion controls, either through the adolescence or youth program. **Results:** a total of 1224 patients enrolled in the cardiovascular risk program were attended; of these, there were some between 15 and 28 years of age, of whom four were obese and six were overweight. Regarding women, it was found that, in all the ages of the study, there was a considerable number of patients with overweight and obesity, higher than the figures found in the male population. Also, it was determined that overweight predominated at ages 19, 23 and 28 years in women, while obesity was more common at ages 23, 26 and 27 years. As for the male population, cases of overweight and obesity were also found, being more prevalent at ages 28, 27 and 25 years for overweight, and 23, 26 and 28 years for obesity. **Conclusions:** The research conducted despite being carried out in a small population sample, has shown that there is a correlation between obesity and the risk of developing cardiovascular diseases in the young and adolescent population in both rural and urban environments and that it is urgent to address this issue from an early age as a preventive measure for various pathologies.

KEYWORDS: Cardiovascular risk, Obesity, Young, Risk factors, Physical activity

INTRODUCTION

The Sagrada Familia Hospital of Toro Valle is located in the municipality of Toro, Valle. It is the only healthcare institution in the area and serves an

How to cite this article:?: Montoya-Garatejo Valentina , Rodríguez-Castillo Ana, Cardiovascular Diseases As A Consequence Of Obesity In The Young Population Of The Sagrada Familia Hospital, Toro – Valle, Basic Health Sciences Journal Revista, 2(3):62-82 , August 2024, ISSN 2981-5800.

approximate population of 16,000 inhabitants, with a level I complexity. There has been growing concern among healthcare staff and the hospital's administration due to a significant increase in recent years in the prevalence and incidence of obesity and cardiovascular diseases. Even more concerning is the fact that these conditions are appearing at earlier ages, thus increasing early mortality, disability, and secondarily, reducing the quality of life and the availability of a healthy workforce.

For this reason, it was decided to initiate research focused on the relationship between cardiovascular diseases as a consequence of obesity in young and adolescent populations aged 15 to 28. This way, the study may contribute to a better understanding of this relationship. Regarding occupational health and safety, it relates to the research work as it may help implement workplace measures to reduce obesity or overweight levels in the population. Cardiovascular diseases “are a group of disorders of the heart and blood vessels” (Torres et al., 2018, p. 3). Therefore, these diseases are one of the leading causes of death worldwide. In Colombia, over the past 30 years, cardiovascular diseases (CVDs) have consistently ranked among the top five causes of mortality in the population. In the article titled "Prevalence and Characterization of Cardiovascular Risk in a Rural Population", it was found that, as in urban Additionally, it was found that being overweight before the age of 8 is associated with a body mass index (BMI) over 40 kg/m² in adulthood. Epidemiological data from Colombia were also considered, such as the third National Survey of the Nutritional Situation of Colombia (ENSIN) 2015, populations, cardiovascular disease is a growing and significant public health problem. There is limited information regarding cardiovascular risk in the Colombian population, especially in rural areas (Palacios et al., 2020, p. 4).

It is important to mention that there are various risk factors for developing these diseases. Among the most relevant, “obesity and overweight, which have been considered the epidemic of the 21st century, are highly complex phenomena influenced by biological characteristics, behavior, social aspects, and environmental influences” (Pimentel et al., 2021, p. 2).

Numerous studies on cardiovascular diseases in the adult population have been found, but far fewer in adolescents or young adults. Thus, data were collected from various types of research. According to data from the Colombian Journal of Endocrinology, it was found that obesity beginning in childhood contributes to the development of chronic noncommunicable diseases such as hypertension, dyslipidemia, cardiovascular and cerebrovascular disease, type 2 diabetes, nonalcoholic fatty liver disease, polycystic ovary syndrome, obstructive sleep apnea, musculoskeletal disorders and injuries, psychological/psychiatric disorders like depression, and up to 12 types of cancer (including leukemia, Hodgkin’s disease, colorectal and breast cancer, among others), increasingly appearing at younger ages (Ciro et al., 2020, p. 23).

which showed that weight gain in early childhood (0–4 years) rose from 4.9% in 2010 to 6.3% in 2015; in school-aged children (5–12 years), it increased from 18.8% in 2010 to 24.4% in 2015; and 1 in 5 adolescents aged 13 to 17 years (17.9%) is overweight. One in three youth and adults is overweight (37.7%), and

How to cite this article:?: Montoya-Garatejo Valentina , Rodríguez-Castillo Ana, Cardiovascular Diseases As A Consequence Of Obesity In The Young Population Of The Sagrada Familia Hospital, Toro – Valle, Basic Health Sciences Journal Revista, 2(3):62-82 , August 2024, ISSN 2981-5800.

one in five is obese (18.7%). In this context, 56.4% of the population is overweight, with a higher prevalence in women (22.4%) than in men (14.4%)(Ciro et al., 2020, p. 24). If this trend continues, the impact will not be limited to individual health but may eventually affect the country's economic activity as the young population becomes ill during their productive year.

In the study "Associations of Late-Adolescent or Young Adult Cardiovascular Health with Premature Cardiovascular Disease and Mortality", it was shown that if adolescents Furthermore, the article "Obesity in Children and Adolescents: Epidemiology, Causes, Assessment, and Management" found that after the COVID-19 pandemic, obesity rates in children and adolescents increased significantly due to several factors, including: "reduced physical activity, increased screen time, changes in dietary intake, food insecurity, and increased family and individual stress" (Jebeile et al., 2022, p. 3). This leads to the conclusion that for an intervention to have a real impact, it must consider not only biological factors but also socioeconomic and environmental aspects, especially in low- or middle-income countries where access to available therapies is often limited.

and young adults reach adulthood with adequate cardiovascular health, it can contribute to preventing premature cardiovascular disease and reducing mortality from this cause (Perak et al., 2020, p. 6). Another study, "Cardiovascular Risk in an Adolescent Population in Timbío, Colombia", conducted on adolescents from an educational institution in Timbío, Cauca, found a higher prevalence of cardiovascular risk among adolescents aged 15 to 18, with a rate of 84.6%, and that girls were more likely to be at risk (Torres et al., 2018, p. 4).

In Mexico, the study "Work-Related Factors Associated with Overweight and Obesity in Young Adults" demonstrated a link between overweight/obesity and precarious working conditions. They observed that exhausting work shifts (over 50 hours a week), multiple jobs, night shifts, and moderate to high job stress promote weight gain due to less time for physical activity or preparing healthy meals. Up to 60% of workers on rotating or permanent night shifts suffer from sleep disturbances and insufficient sleep duration, which alters the endocrine pathways regulating satiety (Pimentel et al., 2021, p. 7). Therefore, a strong governmental commitment is necessary to improve these conditions and ensure proper labor regulation.

METHODOLOGY

The research project follows an empirical-analytical epistemological approach, as the information was obtained from the practical experience of health-related professions, where a progressive increase in obesity and cardiovascular disease levels has been observed in increasingly younger patients. At the same time, the collected data was analyzed by breaking down the obtained information to better understand and explain the phenomenon under study. Additionally, the research is characterized as qualitative, as it

How to cite this article:?: Montoya-Garatejo Valentina , Rodríguez-Castillo Ana, Cardiovascular Diseases As A Consequence Of Obesity In The Young Population Of The Sagrada Familia Hospital, Toro – Valle, Basic Health Sciences Journal Revista, 2(3):62-82 , August 2024, ISSN 2981-5800.

considers qualitative elements, such as the experiences and perceptions of affected individuals, regarding the prevalence of obesity and cardiovascular diseases in the young population.

The exploratory level of knowledge in this research involves the collection of data on the health status of the young population, including information on their body mass index (BMI). In this case, reports from the health promotion and prevention programs and the cardiovascular risk program of the Sagrada Familia Hospital were considered, among others. A literature review of previous studies related to obesity and cardiovascular diseases was also conducted.

The documentary research strategy made it possible to broadly search for detailed, relevant, and specific information on cardiovascular diseases, obesity, and their impact on the young population.

For the study, different sources were reviewed, always ensuring they were reliable and of high quality. National and international scientific articles, books, theses, reports, and websites were included.

To carry out the documentary review in the mentioned research, a systematic and methodical process was followed. First, keywords related to the study topic were identified, such as "cardiovascular diseases", "obesity", and "young population." Subsequently, different bibliographic databases such as Scopus, Elsevier, Scielo, among others, were used.

The participants in the research were 6,539 individuals from the Sagrada Familia Hospital. They were selected based on the following clinical characteristics: aged between 15 and 28 years, diagnosed with a cardiovascular disease and obesity, regardless of whether they attended cardiovascular risk control. This also included patients who were seen in health promotion and prevention controls in the adolescent and youth control programs, carried out from 2022 to the date of the study.

A bibliographic matrix was developed, gathering 17 national and international articles from reliable sources that studied obesity and cardiovascular risk and had been published in the last five years from the start of the research. Once the matrix was completed, a documentary review of each was carried out, selecting five of them based on the criterion of those most closely related to the research topic and the field of specialization. A dialogue among the authors was then carried out, considering the findings of the various articles in the bibliographic matrix, allowing for the discovery of new theories and analyses of the research topic from different perspectives.

RESULTS

The Sagrada Familia Hospital is governed by various regulations, including Resolution 3280 of 2018, which mandates the performance of preventive health check-ups at specified intervals. It also divides the population into several age groups, among them adolescents, covering patients aged 12 to 17 years, 11

How to cite this article:?: Montoya-Garatejo Valentina , Rodríguez-Castillo Ana, Cardiovascular Diseases As A Consequence Of Obesity In The Young Population Of The Sagrada Familia Hospital, Toro – Valle, Basic Health Sciences Journal Revista, 2(3):62-82 , August 2024, ISSN 2981-5800.

months, and 29 days, and young adults, covering those aged 18 to 28 years, 11 months, and 29 days. Once a person is diagnosed with a cardiovascular disease, they must enter cardiovascular risk control.

An analysis of the database information found that in 2023, a total of 1,224 patients were enrolled in the cardiovascular risk program, of which 12 were between the ages of 15 and 28. Of these, 4 were in the obesity range (3 women and 1 man), 6 were overweight (2 women and 4 men), and the remaining had a normal BMI.

Table 1. *Patients in the cardiovascular risk program*

Edad	Peso	Talla	Género	IMC
22	87	162	FEMENINO	33,15
23	77	150	FEMENINO	34,22
23	77,3	178	MASCULINO	24,40
24	64	163	MASCULINO	24,09
25	98	167	FEMENINO	35,14
25	83	176	MASCULINO	26,79
26	81,5	158	MASCULINO	32,65
27	50	131	FEMENINO	29,14
27	83	170	MASCULINO	28,72
28	63,5	146	FEMENINO	29,79
28	89	178	MASCULINO	28,09
28	86	170	MASCULINO	29,76

Note: Data taken from the hospital Sagrada Familia de Toro Valle 2023

Table 1 presents the patients belonging to this group who do not regularly attend medical or nursing check-ups, although they were at some point diagnosed with a cardiovascular condition. This poses a challenge, as it limits the ability to accurately determine the prevalence of obesity within the study population.

During the adolescent health check-up program in 2023, a total of 1,211 patients between the ages of 15 and 17 were seen: 858 females and 352 males. Among the 15-year-old females (up to 11 months and 29 days), 225 were treated. Of these, 71 were found to be overweight (BMI ≥ 23.5 and ≤ 28.1), 19 were obese (BMI ≥ 28.2), 3 were underweight, and 132 had a normal weight.

Among the 16-year-old females (up to 11 months and 29 days), 276 consultations were recorded. Of these, 58 were overweight (BMI ≥ 24.1 to 28.8), 21 were obese (BMI ≥ 28.9), 11 were underweight, and 186 had a normal weight.

Among the 17-year-old females (up to 11 months and 29 days), 357 were treated. Of these, 99 were overweight (BMI ≥ 24.5 to 29.2), 23 were obese (BMI ≥ 29.4), 6 were underweight, and 229 had a normal weight.

Table 2 *Body mass index (BMI) of 15-year-old female patients in the adolescent control program.*

How to cite this article:?: Montoya-Garatejo Valentina , Rodríguez-Castillo Ana, Cardiovascular Diseases As A Consequence Of Obesity In The Young Population Of The Sagrada Familia Hospital, Toro – Valle, Basic Health Sciences Journal Revista, 2(3):62-82 , August 2024, ISSN 2981-5800.

Gender	F
Age	15
Tags	**IMC**
1. ≤ 15,9	**3**
2. ≥ 16 a 23,4	**132**
3. ≥ 23,5 a 28,1	**71**
4. ≥ 28,2	**19**
TOTAL	**225**

Graphic 1. *Distribution of body mass index in female patients aged 15 years.*

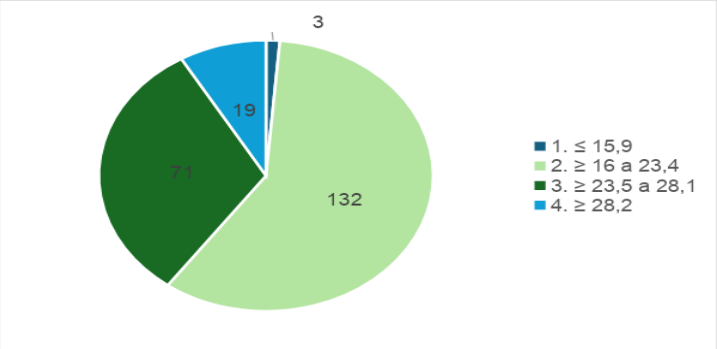


Table 3. *Body mass index (BMI) of 16-year-old female patients in the adolescent control program.*

Gender	*F*
Age	16
Tags	**IMC**
1. ≤ 16,2	**11**
2. ≥ 16,3 a 24	**186**
3. ≥ 24,1 a 28,8	**58**
4. ≥ 28,9	**21**
TOTALL	**276**

Graphic 2. *Distribution of body mass index in 16-year-old female patients.*

How to cite this article:?: Montoya-Garatejo Valentina , Rodríguez-Castillo Ana, Cardiovascular Diseases As A Consequence Of Obesity In The Young Population Of The Sagrada Familia Hospital, Toro – Valle, Basic Health Sciences Journal Revista, 2(3):62-82 , August 2024, ISSN 2981-5800.

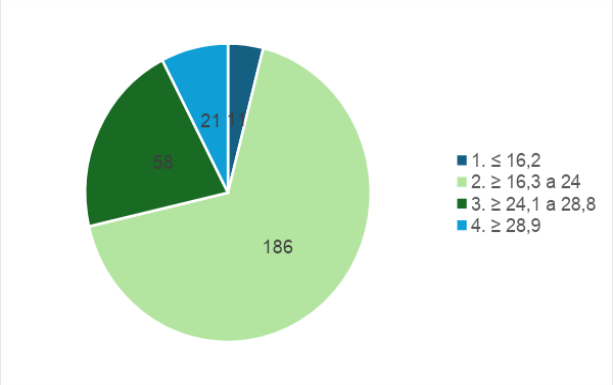
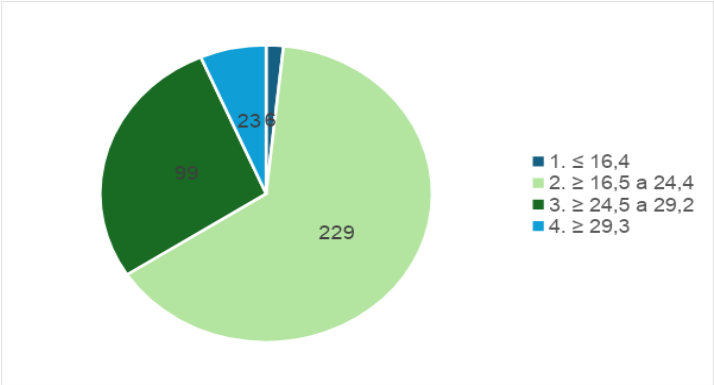


Table 4. *Body mass index (BMI) in 17-year-old female patients of the adolescent control program.*

Gender	F
Age	17
Tags	**IMC**
1. ≤ 16,4	**6**
2. ≥ 16,5 a 24,4	**229**
3. ≥ 24,5 a 29,2	**99**
4. ≥ 29,3	**23**
TOTAL	**357**

Graphic 3. *Distribution of body mass index in 17-year-old female patients.*



Among the male population aged 15 years, 11 months, and 29 days, a total of 98 individuals were seen. It was found that 23 were overweight (BMI ≥ 22.7 to 26.9), 5 were obese (BMI ≥ 27.0), 4 were underweight, and 66 had a normal weight.

For 16-year-old males (up to 11 months and 29 days), there were 126 consultations. Of these, 18 were overweight (BMI ≥ 23.5 to 27.8), 3 were

How to cite this article:?: Montoya-Garatejo Valentina , Rodríguez-Castillo Ana, Cardiovascular Diseases As A Consequence Of Obesity In The Young Population Of The Sagrada Familia Hospital, Toro – Valle, Basic Health Sciences Journal Revista, 2(3):62-82 , August 2024, ISSN 2981-5800.

obese (BMI ≥ 27.9), 2 were underweight, and 103 had a normal weight.

Among 17-year-old males (up to 11 months and 29 days), 128 were seen in total. It was found that 20 were overweight (BMI ≥ 24.3 to 28.5), 14 were obese (BMI ≥ 28.6), 3 were underweight, and 91 had a normal weight.

It is important to clarify that for the adolescent population, BMI is determined according to age-specific World Health Organization (WHO) standard deviation tables, which means the values differ from those used for the adult population.

Table 5. *Body mass index (BMI) in 15-year-old male patients of the adolescent control program.*

Gender	M
Age	15
Tags	**IMC**
1. ≤ 16,0	**4**
2. ≥ 16,1 a 22,6	**66**
3. ≥ 22,7 a 26,9	**23**
4. ≥ 27,0	
TOTAL	**98**

Graphic 4. *Distribution of body mass index in 15-year-old male patients*

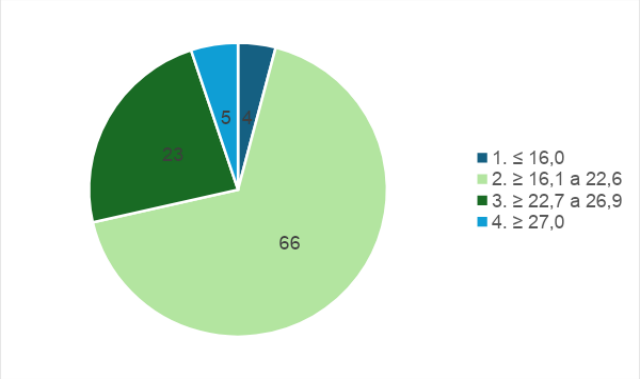


Table 6. *Body mass index (BMI) in 16-year-old male patients in the adolescent control program.*

Gender	M
Age	16

How to cite this article:?: Montoya-Garatejo Valentina , Rodríguez-Castillo Ana, Cardiovascular Diseases As A Consequence Of Obesity In The Young Population Of The Sagrada Familia Hospital, Toro – Valle, Basic Health Sciences Journal Revista, 2(3):62-82 , August 2024, ISSN 2981-5800.

Tags	IMC
1. ≤ 16,5	**2**
2. ≥ 16,6 a 23,4	**103**
3. ≥ 23,5 a 27,8	**18**
4. ≥ 27,9	**3**
TOTAL	**126**

Graphic 5. *Distribution of body mass index in 16-year-old male patients.*

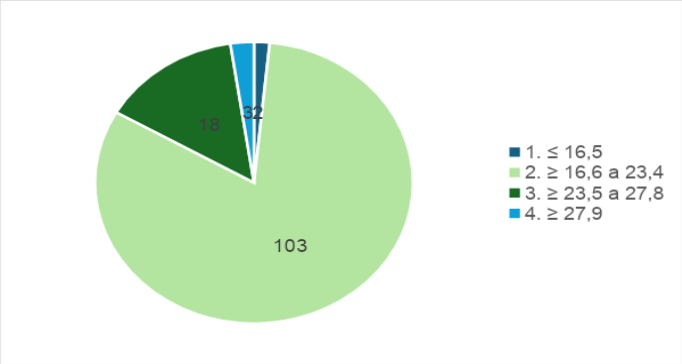
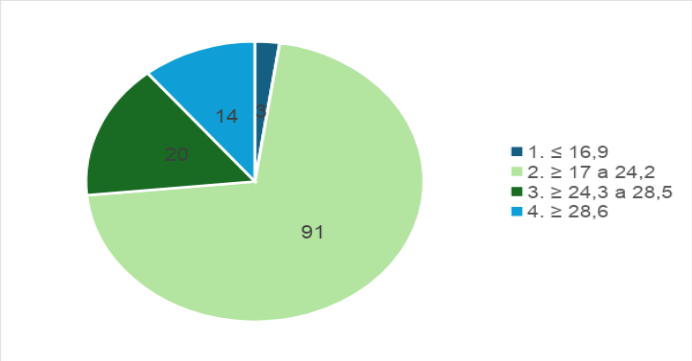


Table 7. *Body mass index (BMI) in female patients between 18 and 28 years of age in the youth control program.*

Gender	M
Age	17
Tags	**IMC**
1. ≤ 16,9	**3**
2. ≥ 17 a 24,2	**91**
3. ≥ 24,3 a 28,5	**20**
4. ≥ 28,6	**14**
TOTAL	**128**

Graphic 6. Distribution of body mass index in 17-year-old male patients.

How to cite this article:?: Montoya-Garatejo Valentina , Rodríguez-Castillo Ana, Cardiovascular Diseases As A Consequence Of Obesity In The Young Population Of The Sagrada Familia Hospital, Toro – Valle, Basic Health Sciences Journal Revista, 2(3):62-82 , August 2024, ISSN 2981-5800.



Regarding the population aged 18 to 28 years, 11 months, and 29 days, a total of 4,105 patients were seen, including 3,029 women and 1,076 men.

Among the female population, 877 were found to be overweight (BMI ≥ 25 to ≤ 29.9), 504 were obese (BMI ≥ 30), 146 were underweight, and 1,502 had a normal weight.

Overweight was most prevalent at the ages of 19, 23, and 28 years, with 104, 100, and 101 patients respectively.

Obesity was most common at the ages of 23, 26, and 27 years, with 71, 59, and 65 patients respectively.

Among the male population, 277 were overweight (BMI ≥ 25 to ≤ 29.9), 64 were obese (BMI ≥ 30), 74 were underweight, and 661 had a normal weight.

Overweight was most prevalent at the ages of 28, 27, and 25 years, with 39, 32, and 32 patients respectively.

Obesity was most common at the ages of 23, 26, and 28 years, with 12, 13, and 10 patients respectively.

Table 8. *Body mass index (BMI) in female patients aged 18 to 28 years in the youth control program.*

GENDER	F
Tags	**IMC**
1. ≤ 18,49	**146**
2. ≥ 18,5 - 24,99	**1502**
3. ≥ 25 - 29,99	**877**
4. ≥ 30	**504**
TOTAL	**3029**

How to cite this article:?: Montoya-Garatejo Valentina , Rodríguez-Castillo Ana, Cardiovascular Diseases As A Consequence Of Obesity In The Young Population Of The Sagrada Familia Hospital, Toro – Valle, Basic Health Sciences Journal Revista, 2(3):62-82 , August 2024, ISSN 2981-5800.

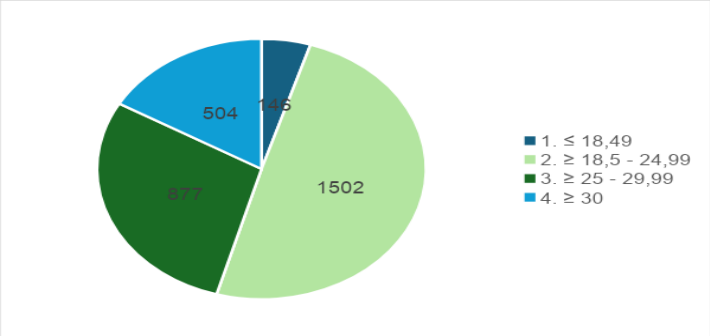
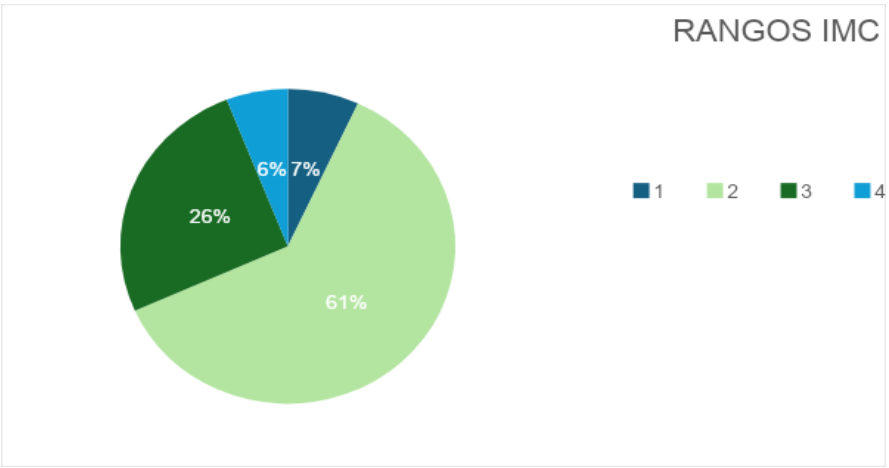


Table 9. *Body mass index (BMI) in male patients aged 18 to 28 years in the youth control program.*

GENDER	M
TAGS	**IMC**
1. ≤ 18,49	**74**
2. ≥ 18,5 - 24,99	**661**
3. ≥ 25 - 29,99	**277**
4. ≥ 30	**64**
TOTAL	**1076**

Graphic 8. *Distribution of body mass index in male patients aged 18 to 28 years.*



To achieve the second objective, a search was conducted for recommendations or strategies implemented in cardiovascular risk and obesity programs from other health institutions, both in Colombia and internationally. So far, there is insufficient evidence to choose one specific strategy; however, better results have been observed with multidisciplinary approaches. These include interventions addressing mental, nutritional, physical, pharmacological, and, when necessary, surgical aspects in an individualized manner once the condition is established.

How to cite this article:?: Montoya-Garatejo Valentina , Rodríguez-Castillo Ana, Cardiovascular Diseases As A Consequence Of Obesity In The Young Population Of The Sagrada Familia Hospital, Toro – Valle, Basic Health Sciences Journal Revista, 2(3):62-82 , August 2024, ISSN 2981-5800.

The applicability of the measures found was evaluated in the context of the Hospital Sagrada Familia and its young patients. This allowed for the identification of best practices and their adaptation to the needs and characteristics of this specific population.
The National University Hospital of Colombia (HUN) in Bogotá implements comprehensive strategies to address obesity and its complications, with a special focus on prevention, detection, and treatment of cardiovascular disease in young patients. Through promoting healthy eating, nutritional counseling, and a follow-up and treatment program for patients with obesity and massive weight loss, the hospital seeks to prevent and manage cardiovascular diseases associated with obesity. Furthermore, it provides comprehensive care through various medical specialties, such as endocrinology, nutrition, bariatric surgery, psychology, and nursing, demonstrating a significant commitment to managing this public health condition (Acosta.L, n.d.).
Another noteworthy institution is the University Hospital of Móstoles, located in Móstoles, Madrid, which has a Vascular Risk Unit focused on managing diseases associated with obesity, such as morbid obesity, hypertension, and type 2 diabetes mellitus. This unit addresses risk factors such as obesity, sedentary lifestyles, fatty liver, dyslipidemia, diabetes, hypertension, and smoking. It closely monitors young patients with vascular risks to prevent a second cardiovascular episode, ensuring compliance with pharmacological treatment and lifestyle recommendations. Additionally, the hospital organizes conferences to inform the public about heart attack risk factors in women, focusing on raising awareness of cardiovascular risks and promoting healthy habits. Bariatric surgery is positioned as an effective treatment option for obesity (Móstoles, n.d.).
A study conducted at the Hospital San Vicente de Paúl in Caldas (Antioquia, Colombia) evaluated patients' knowledge of cardiovascular risk factors. A validated and reliable questionnaire with ten questions was used to assess patients' knowledge of cardiovascular diseases, lifestyles, and risk factors.
The questionnaire consisted of two parts. The first gathered sociodemographic information about the patient, such as name, age, gender, marital status, education level, lifestyle habits (smoking, physical activity), known diseases, weight classification according to body mass index (BMI), time since diagnosis, and time enrolled in the cardiovascular risk program. The second part consisted of ten multiple-choice questions related to major cardiovascular risk factors. Each correct answer received a score of 1, while incorrect answers received a 0. Scores of 6 or more were considered adequate knowledge, and scores below 6 indicated inadequate knowledge.
The results of the study demonstrated the usefulness of the questionnaire in measuring patient knowledge about cardiovascular risk factors and the effectiveness of educational

How to cite this article:?: Montoya-Garatejo Valentina , Rodríguez-Castillo Ana, Cardiovascular Diseases As A Consequence Of Obesity In The Young Population Of The Sagrada Familia Hospital, Toro – Valle, Basic Health Sciences Journal Revista, 2(3):62-82 , August 2024, ISSN 2981-5800.

interventions in this area (Areiza. M, 2018).

Additionally, the Colombian Journal of Endocrinology describes the 24-hour dietary recall as a practical tool. This method records food intake quantity and timing and helps monitor adherence to interventions. It has been found that foods contributing most to weight gain, in order of frequency, include snacks, processed and unprocessed meats, fats (like butter), and sweets due to their high energy density. On the other hand, foods most associated with weight loss were vegetables, fruits, whole grains, and yogurt.

Balanced hypocaloric diets with moderate restriction have shown the best long-term benefits and adherence compared to diets that solely restrict simple sugars. Group education sessions also proved effective, with patients losing an average of 0.2 kg per session attended. Another increasingly useful tool is psychological intervention, such as behavioral therapy, which helps patients develop skills for achieving a healthy weight, reducing stress, and encouraging self-care. Controlled studies have shown up to 10 kg of weight loss after six months of psychological intervention (Ciro, et al. 2020, p.17), especially when combined with other habit changes.

There are several recommended intervention strategies. One of the most endorsed, according to the AHA (2013) and Canadian (2020) clinical guidelines, is the 5A model, derived from motivational interviewing. This model includes five steps: Firstly, Ask if the patient agrees to discuss their weight, avoiding negatively connoted terms like “obesity.”; secondly, Assess health status and weight impact on psychosocial well-being with specific questions on mental health and mechanical, metabolic, and economic factors; thirdly, Advise through psychoeducation tailored to individual needs; in the fort step, agree on behavioral goals to improve adherence and build confidence.

Assist by identifying and managing facilitators such as social, medical, emotional, and economic elements that support treatment.

Finally, a study titled “Use of Social Media as a Strategy to Promote Healthy Eating in Adolescents” was conducted with students aged 11 to 14 at a school in Chile. The program used WhatsApp to send weekly guides over four weeks, which students had to complete and submit proof of participation. Week one focused on water intake and physical activity, encouraging at least 30 minutes of walking and drinking 6 to 8 glasses of water per day. Week two addressed nutrition labeling, sodium intake, and simple carbohydrates. In the final week, the emphasis was on fiber, calcium, minerals, and vitamins while reducing fats and fried foods to protect cardiovascular health. Students were encouraged to create healthy recipes, and the best entries received positive reinforcement as prizes (Olivares, 2019). This highlights the potential of using ICTs (Information and Communication Technologies), especially among adolescents, to informally guide them

How to cite this article:?: Montoya-Garatejo Valentina , Rodríguez-Castillo Ana, Cardiovascular Diseases As A Consequence Of Obesity In The Young Population Of The Sagrada Familia Hospital, Toro – Valle, Basic Health Sciences Journal Revista, 2(3):62-82 , August 2024, ISSN 2981-5800.

toward disease prevention and healthier lifestyles.

DISCUSSION

The research conducted at the Hospital Sagrada Familia in Toro, Valle del Cauca, despite being carried out with a small sample of the population, demonstrated a connection between obesity and the risk of developing cardiovascular diseases among young people and adolescents in both rural and urban settings. This highlights the urgent need to address obesity from an early age as a preventive measure against various diseases, not only those of cardiovascular origin.

The study found that in 2023, a total of 1,224 patients were enrolled in the cardiovascular risk program, of which 12 were between the ages of 15 and 28. Among them, 4 fell within the obesity range and 6 were overweight. In terms of gender, there was a significant number of female patients with overweight and obesity at all ages studied—higher than in the male population. Overweight among women was more prevalent at the ages of 19, 23, and 28, while obesity was more frequent at 23, 26, and 27 years of age. In the male population, cases of overweight and obesity were also found, with the highest rates of overweight occurring at 28, 27, and 25 years, and obesity at 23, 26, and 28 years of age.

According to Torres and others, the consumption of "junk food" and saturated fats, followed by a lack of regular physical activity, promotes the onset of various diseases. Adolescents (15 to 17 years old) are at a greater cardiovascular risk compared to preadolescents and younger adolescents, considering that physical inactivity and sedentary behaviors increase significantly with age, particularly due to the indiscriminate use of new technologies. Furthermore, it is noted that the female gender is associated with a higher cardiovascular risk c**ompared to the male population.**

These findings emphasize the importance of implementing health promotion strategies and disease prevention measures. However, these strategies must be innovative and tailored to the age group they intend to target. The method used to deliver information will significantly influence whether a patient is more or less receptive to the guidelines. The focus must always be on promoting healthy lifestyles from childhood, with the goal of preventing and managing diseases in the future—especially within the specific demographic group analyzed in this study.

Another key finding from the data reviewed is the impact of the work environment on population health. There is a growing body of evidence linking long working hours, persistently high stress levels, night shifts, and cardiovascular diseases or overweight/obesity. This should progressively lead to the development of policies aimed at improving these conditions. It must be considered that if the young population is not protected soon, the workforce may significantly decline in the future, affecting—among other things—the economic stability of countries.

CONCLUSIONS

The research conducted at the Hospital Sagrada Familia in Toro, Valle del Cauca, although carried out on a small sample of the

How to cite this article:?: Montoya-Garatejo Valentina , Rodríguez-Castillo Ana, Cardiovascular Diseases As A Consequence Of Obesity In The Young Population Of The Sagrada Familia Hospital, Toro – Valle, Basic Health Sciences Journal Revista, 2(3):62-82 , August 2024, ISSN 2981-5800.

population, demonstrated a correlation between obesity and the risk of developing cardiovascular diseases among young people and adolescents in both rural and urban contexts. It also highlights the urgent need to address obesity from an early age as a preventive measure to reduce the risk of developing various pathologies—not only cardiovascular in origin. As evidenced in the analysis of various articles, there is a high prevalence and incidence of other disorders as well, including psychiatric, musculoskeletal, and oncological conditions—particularly the latter, which are appearing at increasingly younger ages.

From a statistical perspective, in 2023, a total of 1,224 patients were seen in the cardiovascular risk program, 12 of whom were between the ages of 15 and 28; of these, 4 were classified as obese and 6 as overweight. Regarding the health promotion and prevention programs, the data show that across all age groups studied, there was a significant number of female patients with overweight and obesity—surpassing the figures seen in the male population. It was also found that overweight among women was most prevalent at ages 19, 23, and 28, while obesity was more common at ages 23, 26, and 27. Among men, the most frequent ages for overweight were 28, 27, and 25, and for obesity, 23, 26, and 28 years. It is important to note that due to irregular medical attendance by some patients, the true prevalence of obesity in the study population may be underestimated.

The results obtained underscore the importance of implementing innovative health promotion and disease prevention strategies that are appropriate for the target age group. The method used to communicate information will greatly influence how receptive patients are, especially if aligned with education in healthy lifestyles from childhood. This will help prevent and control diseases in the future, particularly within the demographic studied. Moreover, these findings highlight the need for proper follow-up and timely interventions to prevent and manage overweight and obesity throughout different life stages.

Another important finding, based on the reviewed data, is the impact of work conditions on public health. The increasing association between long working hours, high and persistent stress levels, night shifts, and the development of cardiovascular diseases and obesity calls for the progressive implementation of policies aimed at improving this aspect. If young populations are not protected in time, there will likely be a notable reduction in the future workforce, which could affect, among other things, the economic stability of countries.

To conclude, the investigation into cardiovascular risks stemming from obesity in young individuals provides a deeper understanding of the relationship between the two and highlights the importance of adopting preventive measures. It reminds us of the vital role that preventive and occupational medicine plays in identifying risk factors, encouraging interventions to avoid obesity and its cardiovascular implications, educating and raising awareness in the population, and supporting the implementation of public policies and programs focused on this issue. All these combined efforts have the potential to reduce obesity prevalence in youth and improve their long-term health.

How to cite this article:?: Montoya-Garatejo Valentina , Rodríguez-Castillo Ana, Cardiovascular Diseases As A Consequence Of Obesity In The Young Population Of The Sagrada Familia Hospital, Toro – Valle, Basic Health Sciences Journal Revista, 2(3):62-82 , August 2024, ISSN 2981-5800.

REFERENCES

Acosta.L, P. J. (S.F). *Hospital Universitario Nacional de Colombia*.

Areiza. M, O. E. (2018). Conocimiento y factores de riesgo cardiovascular en pacientes ambulatorios. *Revista Colombiana de cardiología.*

Ávila, M. A. (2020). Factores de riesgo cardiovascular en adultos jóvenes mexicanos. *Archivos de cardiología de México* .

Ciro, V., Díaz, J., Duque, J., Guerrero, S., Jiménez, H., Mora, S., . . . Villegas, I. (2020). Obesidad en adolescentes y adultos jóvenes.

Ferreyra, E. C. ((2018)). Estimación del porcentaje de grasa corporal en función del índice de masa corporal y perímetro abdominal: fórmula Palafolls. Medicina de familia. *Medicina de familia. SEMERGEN* .

García, C. C. (2021). Niveles de actividad física y gasto frente a pantallas en escolares: diferencias de edad y género. *Universidad y Salud.*

Jebeile, H., Kelly, A., O'Malley, G., & Baur, L. (2022). Obesidad en niños y adolescentes: epidemiología, causas, evaluación y manejo. 3. Doi: HTTPs://doi.org/10.1016/S2213-8587(22)00047-X

Móstoles, E. H. (s.f). *Hospital Universitario de Móstoles.* . Obtenido de https://www.comunidad.madrid/hospital/mostoles/

Olivares, M., & Chávez, E. (2019). Uso de las redes sociales como estrategia de promoción de alimentación saludable en adolescentes. *Revista Cubana de Informática Médica*.

Palacios, C., Morales, J., García, L., & Badiel, M. (2020). Prevalencia y caracterización del riesgo cardiovascular en una población rural.

Perak, A., Ning, H., Khan, S., Bundy, J., Allen, N., Lewis, C., . . . Lloyd Jones, D. (2020). Asociaciones de la salud cardiovascular de los adolescentes tardíos o de los adultos jóvenes con la enfermedad cardiovascular prematura y la mortalidad. doi:https://doi.org/10.1016/S2213-8587(22)00047-X

Pimentel, A., Villarreal, E., Galicia, L., & Vargas, E. (2021). Factores laborales asociados a sobrepeso y obesidad en adultos jóvenes. *Rev. Asoc Esp Med Trab*,

Torres, A., Illera, D., Acevedo, D., Cadena, M., Meneses, L., Ordoñez, P., . . . Pastás, M. (2018). Riesgo cardiovascular en una población adolescente de Timbío, Colombia.

How to cite this article:?: Montoya-Garatejo Valentina , Rodríguez-Castillo Ana, Cardiovascular Diseases As A Consequence Of Obesity In The Young Population Of The Sagrada Familia Hospital, Toro – Valle, Basic Health Sciences Journal Revista, 2(3):62-82 , August 2024, ISSN 2981-5800.