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INTRODUCTION

The **origins of surgery** date back to the activities carried out by the so-called **barber-surgeons**, who practiced their trade from the end of the Middle Ages (15th century). They organized themselves around monasteries to cut the hair of medieval monks in the form of the tonsure, which gave these individuals their distinctive appearance.

For the subsequent years, barbers and surgeons were almost indistinguishable in the work they performed. However, the Company of Barber Surgeons of London was established in 1540 by an Act of Parliament, which specified that barbers could cut hair and shave beards for those who requested the service, while surgeons were restricted to draining abscesses, immobilizing injured bones, and suturing wounds. As time passed, the division between barbers and surgeons became increasingly pronounced, with the latter maintaining the prerogative to dissect cadavers. Finally, the **Royal College of Surgeons of England** was founded in 1800, definitively establishing the presence of the surgeon as we know it today.

Similarly, another important milestone in the establishment of surgical specialties occurred in the Contemporary Era (19th century to the present day) with the work developed by the brothers **William J. Mayo and Charles H. Mayo**. They followed the path traced by their father, William W. Mayo, who predicted and championed the importance of practicing medicine and surgery through specialization. In this regard, the **Mayo Clinic**, located in Rochester, Minnesota since 1889, laid much of the foundation upon which medical specialization developed ¹.

Coloproctology: Global Development

Among the surgical specialties derived from **General Surgery**, **Coloproctology** has progressively developed and consolidated in various countries. Evidence of this consolidation is the emergence and growth of academic associations that unite these specialists:

- The **American Society of Colon and Rectal Surgeons**, founded in 1899, adopted its current name in 1973.
- The **Japanese Society of Coloproctology** has been organized since 1940.
- The **Brazilian Society of Proctology** has been operating since 1945 and boasts the largest membership among Latin American coloproctological societies, exceeding 1,600 members.

Societies that group different countries are also numerous:

- The **Latin American Association of Coloproctology** was founded in 1957, and most Latin American countries currently maintain representation within it.
- The **European Society of Coloproctology** is an organization that brings together 46 countries across the Western, Central, and Eastern regions of that continent and certifies as **Fellows** those who meet the established requirements.
- The **Asia-Pacific Federation of Coloproctology** is composed of 18 coloproctological societies, or those related to this discipline, corresponding to 16 countries.

Undoubtedly, **Coloproctology is a globally established surgical specialty** within the medical specialties.

Coloproctology in Venezuela

In Venezuela, **Coloproctology** has also developed steadily. The **Venezuelan Society of Coloproctology** was founded in October 1986, and its membership has grown from the initial 29 members to over 120 members as of 2022. The Society has held one

international congress, twelve national congresses, and numerous regional events. Furthermore, national training programs in Coloproctology have emerged, offering Venezuelan general surgeons the opportunity for local coloproctological training. In summary, just as in many other regions, the development of Coloproctology in Venezuela has been constant.

Public Perception and Recognition

The acceptance of a medical specialty requires that **patients and their relatives know and value it**. In this regard, several medical and surgical specialties are still in the process of gaining widespread recognition.

- A study in Ontario, Canada, on the public perception of **Maxillofacial Surgery** revealed that more than **25% of the general public was unaware of the specialty**. Even surveyed healthcare professionals did not sufficiently correlate the specialty with the clinical scenarios for which these specialists are trained ².
- A German study on general public attitudes toward **Bariatric Surgery** found that **72% of respondents would not recommend or personally seek treatment from this specialty** ³
- Similar results were found regarding **Interventional Radiology** in a survey at an academic hospital in San Diego, California. **65% of patients were unaware of the specialty**, and **72% of the general population did not identify the interventional radiologist as a medical doctor** ⁴.

These studies concluded that activities must be carried out to **increase public awareness of these disciplines**. Undeniably, practitioners of any medical specialty must strive to achieve this objective to firmly establish themselves in the consciousness of patients, healthcare professionals, health organizations, and healthcare cost payers.

Therefore, it is **useful to determine if the Venezuelan community is aware of Coloproctology**, because if not, organizations related to this specialty can plan strategies to increase that awareness. Although this research is conducted in a specific population—the Venezuelan public—this study may serve as an **incentive for coloproctologists in other communities to evaluate local awareness of the specialty**.

Problem to be Studied

The development of medical and surgical specialties is progressive, initially arising from the physicians who practice them and then seeking recognition from their peers. Concurrently, the general public progressively becomes aware of the specialty and begins to demand the attention of these specialists.

The perception among members of the Venezuelan coloproctological community is that, while Coloproctology has been **recognized as a surgical specialty by the Venezuelan Medical Federation** since 2001, a segment of the population in this country is unaware of its existence. During routine clinical activities, comments are continually heard from patients and their relatives, such as: "If I had known the specialty existed, I would have come sooner," "We didn't know there was a doctor dedicated to rectal diseases," or "How strange that a doctor dedicates themselves to this specialty." Furthermore, within Venezuelan healthcare providers, a specialist

referred to as a **coloproctologist** only occasionally appears, despite practicing as such in these institutions.

This issue has already been reported in a study conducted at a Coloproctology and endoscopy center in Bogotá, Colombia, where evaluators identified **center marketing and high market competition** as priority tasks the institution needed to address, as they posed a threat to the health center's growth ⁵.

Therefore, to evaluate the perception that Venezuelans are unaware of the existence of specialists in colon, rectum, and anus diseases, this study will explore the **recognition of Coloproctology as a surgical specialty** by administering surveys to people attending public and private health centers located in the Baruta municipality, Miranda state, from February to April 2023.

Importance

The **importance of primary medical care** is undeniable, but today, patients and their families demand to know the scope of medical or surgical specialties, either to consult directly or to discuss referral with their primary physician.

The care offered by medical specialties is **irreplaceable** due to the difficulty of exploring and treating certain organs, or when the complexity of the pathology exceeds the competence of the general practitioner. **Coloproctology satisfies both of these premises.**

- Goldstein ⁶ found that the **correct coloproctological diagnoses** made by general surgeons, family physicians, and physician assistants in a US healthcare organization were correct in an average of **48.6% of cases** (i.e., more than half were incorrect). A delay in diagnosis or appropriate treatment occurred in 25% of cases, and of these, 60% experienced some complication or persistence of symptoms. The author concluded that the **presence of a coloproctologist in healthcare organizations is imperative** to provide adequate care.
- A Spanish study evaluating diagnostic correlation for proctological pathology between Primary Care and Coloproctology Units found the diagnostic agreement for the most frequent diseases (hemorrhoids and anal fissure) was **weak** (Kappa index: \$0.34 \ IC95\% (0.26-0.43) and \$0.35 \ IC95\% (0.24-0.45), respectively). Furthermore, **44.3%** of patients did not have an anal examination, and a digital rectal examination was performed on only **36%** in Primary Care Units ⁷.
- A Cochrane Library systematic review ⁸ on the impact of the provider in the care of patients with colorectal cancer found that **coloproctologists or high-volume colorectal oncology surgeons achieved the best results** regarding five-year overall survival, operative mortality, and lower rates of intestinal ostomy formation.
- A retrospective study on emergency colectomies found **lower rates of postoperative morbidity** (\$45.0\% \ vs \ 56.7\%; \ p = 0.009\$) and **mortality** (\$6.7\% \ vs \ 16.4\%; \ p = 0.001\$) in patients operated on by colorectal surgeons versus non-coloproctology surgeons.

Thus, if people are **aware of Coloproctology as a specialty**, they can seek care from trained physicians, leading to **better diagnostic and treatment outcomes** for

colorectal diseases. This benefits patients, families, medical cost payers, and the community by increasing the efficacy of care.

Background

The growth of medical knowledge has driven the development of subspecialties, and it is crucial to confirm awareness among professionals, patients, and the general public, as the establishment of medical disciplines relies on public perception.

Researchers have examined awareness of various surgical and non-surgical subspecialties among **students**¹⁰ **healthcare professionals**^{11,12}, the **general public**^{13,14}, or **both population segments**^{2,15}.

- For students, the goal was to define necessary actions to attract them to the specialty.
- For professionals and the general community, the goal was to publicize the services offered.

Our study will evaluate the perception of the **general public** attending urban health centers. This provides a sample of individuals who value healthcare and are motivated to seek specialized medical care. Given that Venezuelan patients have access to specialized care, defining awareness of Coloproctology is valuable.

Should our hypothesis—that **awareness of Coloproctology among Venezuelans is low**—be confirmed, Venezuelan Coloproctology organizations should design and implement strategies to increase knowledge of the specialty.

Although qualitative research (focus groups¹⁶) has been used, most work has employed a **quantitative approach**, primarily the **survey**, administered in person^{17,13} or virtually^{14,18}. We will use a **personally administered survey** and data entry into relevant software.

In terms of data analysis, other studies compare results **between investigated groups**^{2,12,15,17}. Since we only survey the general public, our design will contrast the subject's responses **with themselves**: respondents should recognize and indicate six surgical subspecialties and simultaneously recognize or not recognize Coloproctology.

The cited studies consistently conclude that the perception of the evaluated surgical specialties is **low**. They propose that related organizations commit to **increasing and improving public and professional perception** of these disciplines, even recommending promotional strategies¹⁴. Our study, if it confirms the hypothesis regarding Coloproctology in Venezuela, will promote similar proposals for the specialty's organizations in the country.

Delimitation

The study will be conducted in **public and private health centers** in the Baruta Municipality, Miranda state, during February and March 2023. Subjects will be individuals in the **waiting room before their medical consultation**. Patients in Gastroenterology and General Surgery consultations will **not** be surveyed.

Hypothesis

Coloproctology is an academically and clinically recognized surgical specialty. However, the Venezuelan community is **not sufficiently aware** of it, and consequently, **does not seek attention from these specialists** when presenting with symptoms related to the organs addressed by this discipline.

METHODS

Study Type

This is an **observational, descriptive, and cross-sectional study**. It is a **quantitative research** project using the **survey** as the data collection tool. The objective is to generalize the results obtained from the observations to the target population ¹⁹.

Population and Sample

The population will consist of people seeking specialized medical attention in **public or private health centers** located in the Baruta Municipality. They will be surveyed while in the **waiting room** before their consultation, invited to respond by an individual outside the study (usually administrative personnel).

The sample will comprise individuals who respond to the survey during the period **between February and April 2023**, after the inclusion and exclusion criteria have been applied.

Inclusion and Exclusion Criteria

Inclusion Criteria

- Individuals attending a medical consultation with **specialists not related to the digestive tract** in public and private health centers in the Baruta municipality, Miranda state, Venezuela.

Exclusion Criteria

- Illiterate persons.
- Persons under 18 years of age.
- Persons with cognitive dysfunction that prevents them from understanding the survey.
- Persons working in healthcare (physicians or nursing professionals).
- Persons with a first-degree consanguineous relative (child, sibling, or parent) or spouse working in healthcare (physicians or nursing professionals).
- Persons with a history of chronic digestive tract diseases or diseases that have required hospitalization for medical or surgical treatment.

Proposed Statistical Treatment

Tables 1 and 2 show the **first consultations** (first-time visits) performed in the urban health centers used for surveying. Based on this, the number of surveys to be conducted at each site will be established (see Table 3).

Public Health Center	Total Consultations 2018	First Consultations 2018 – 60%	Total Consultations 2019	First Consultations 2019 – 60%
Ambulatorio Dr. José María Vargas (Las Minas)		18,073		25,275
IVSS La Trinidad	21,962	13,177	24,835	14,901

Table 1: First consultations performed in public health system centers in the Baruta Municipality during 2018 and 2019.

CMDLT Specialty	Total Consultations 2018	First Consultations 2018 – 60%	Total Consultations 2019	First Consultations 2019 – 60%
Gynecology	11,006	6,603	7,611	4,566
Internal Medicine	4,697	2,818	2,510	1,506
Cardiology	12,110	7,266	9,171	5,502
Pneumonology	3,239	1,943	1,971	1,182
Neurology	4,401	2,640	2,826	1,695
TOTAL	35,453	21,271	24,089	14,453

Table 2: First consultations performed in a private health system center (CMDLT) in the Baruta Municipality during 2018 and 2019.

Health Center	First Consultations 2018	First Consultations 2019	Total
Ambulatorio Dr. José María Vargas (Las Minas)	18,073 (34%)	25,275 (46%)	43,348 (40%)
IVSS La Trinidad	13,177 (25%)	14,901 (27%)	28,078 (26%)
Centro Médico Docente La Trinidad	21,271 (40%)	14,453 (26%)	35,724 (33%)
Total	52,521	54,629	107,150

Table 3. Information on the population to be surveyed.

Sample Size Calculation

The population will be **stratified** to minimize study bias. Table 4 presents the parameters for the significance level (α) and power ($1-\beta$) to obtain the standardized normal values (Z).

Table 4. Z Values

α (Significance Level)	Z	1- β (Power)	Z
0.05	1.96	0.80	0.84
0.01	2.58	0.90	1.28
0.10	1.64	0.95	1.64

The formula used for calculating the sample size is:

$$N = \frac{Z^2 \cdot p(1-p)}{e^2}$$

Where: N = Sample size; Z = Standardized normal value; p = Probability of success; e = Test error.

For a **finite population (PT)**, N is adjusted with the formula:

$$N_a = \frac{N}{1 + \frac{N}{PT}}$$

Applying these formulas, the resulting sample size is **684 individuals**, considering $\alpha = 0.05$, a power of 80% , an error of 15% , and a total population of $93,426$ people.

To account for data collection eventualities, a **\$10\% safety margin** will be added. Thus, the total sample must be **754 patients**.

Sample Stratification

The sample is stratified based on the percentages in Table 3:

Health Center	Percentage (%)	Sample Size
Ambulatorio Dr. José María Vargas (Las Minas)	40%	302
IVSS La Trinidad	26%	196
Centro Médico Docente La Trinidad	34%	256
Total	100%	754

Table 5. Information on the sample to be surveyed.

Pilot Test

A **pilot test** will be conducted with **76 patients** to verify the instrument's reliability. The distribution for each center is:

Health Center	Pilot Sample Size
Ambulatorio Dr. José María Vargas (Las Minas)	30
IVSS La Trinidad	20
Centro Médico Docente La Trinidad	26
Total	76

Table 6. Information on the pilot sample.

Individuals who respond satisfactorily will be included in the final analysis, provided that any subsequent changes to the survey are non-structural. The reliability check will also inform the choice of statistical analysis methods.

Human and Material Resources

The authors are **coloproctologists**, members of the Venezuelan Society of Coloproctology, or **medical residents** of the Coloproctology Post-graduate Program at CMDLT.

The authors' contributions:

- **Sergio Martínez-Millán:** Conception of original idea, work design, data acquisition and analysis, final drafting, and literature review.
- **Barbara González:** Data acquisition and analysis, final drafting, and literature review.
- **Peter Pappe:** Data acquisition and analysis, review, and final drafting.
- **Luis Angarita:** English translation, review, and final drafting.

This work **receives no external funding**, and the authors have **no conflict of interest**.

Data Recording

Data from the physical surveys will be registered in a **Google Docs form**. Each subject will be assigned an identification number (e.g., **SMBGLT01**: SM=Subject Initials; BG=Investigator Initials; LT=Center ID; 01=Sequence).

Health Center Identification

- **Public:** JV (Ambulatorio Dr. José María Vargas); SS (IVSS La Trinidad)
- **Private:** LT (Centro Médico Docente La Trinidad)

APPENDIX 1: PILOT SURVEY

The pilot survey is divided into four sections:

1. Demographic data
2. General knowledge of medical-surgical specialties

3. Knowledge of surgical subspecialties
4. Knowledge of Coloproctology

Survey Instrument

Dear Medical Consultation Attendee:

This survey is about medical specialties and is being administered to people attending a medical consultation. To complete the survey, you must meet the following requirements:

- Do not be studying a healthcare-related career (physicians or nursing professionals).
- Do not work in healthcare (physicians or nursing professionals).
- Do not have a first-degree consanguineous relative or spouse/partner who works in healthcare.
- Do not have a history of chronic digestive tract diseases or diseases that have required hospitalization.

This survey is being conducted by a group of Venezuelan medical researchers, and the results **will not affect you or the health center** you are attending.

There are **no correct or incorrect answers**; all responses are valid. We thank you in advance for your time and willingness to respond.

SECTION 1 OF 4 - IDENTIFICATION

Demographic Data (Anonymity is guaranteed)

Initial of your first and last name: _____

Age: _____ years Sex: Male Female Prefer not to state

SECTION 2 OF 4

- When you have symptoms that lead you to seek medical attention, do you think it is important to be seen by a specialist? Check with an X:

Not important Slightly important Neutral Important Very important

—

- Mention **three medical or surgical specialties**:

1. _____
2. _____
3. _____

- If you do not know any medical specialties, check here

SECTION 3 OF 4

Below, we list six symptoms. If you or a family member experienced them, please indicate **which specialist you would want to treat it**. Write the name of the specialty next to the symptom. You may repeat the specialty. If you are unsure, write the word **I DO NOT KNOW**. Spelling accuracy is not required; write it as you deem appropriate.

- Deformity in a finger

- Lump in the breast (possibly malignant)

- Excessively large breasts

- Severe head trauma

- Inability to urinate

- Deafness

-

SECTION 4 OF 4

Now we will indicate another six symptoms. If you or a family member experienced them, please indicate **which specialist you would want to treat it**. You may repeat the specialty. If you are unsure, write the word **I DO NOT KNOW**.

FINAL SURVEY

Estimado asistente a la consulta médica:

Dear Medical Clinic Attendee:

Esta encuesta trata acerca de especialidades en Medicina y se realiza a personas que asisten a consulta médica.

This survey is about Medical specialties and is directed at individuals attending a medical consultation.

La encuesta no afectara de alguna forma a usted o al centro de salud donde acude.

The survey will not affect you or the healthcare center you are attending in any way.

Por favor solo responda la encuesta si cumple los siguientes requisitos:

Please only answer the survey if you meet the following requirements:

- Ser mayor de 18 años

Be over 18 years old

- No estudiar Medicina o Enfermería

Do not study Medicine or Nursing

- No ser médico o profesional de Enfermería

Not be a physician or a Nursing professional

- No tener un familiar consanguíneo de primer grado (hijo, hermano o padres) o legal (esposo (a) o concubino (a) que trabaje como médico o profesional de Enfermería

Do not have a first-degree consanguineous (child, sibling, or parent) or legal (spouse or partner) relative who works as a physician or Nursing professional

- No haber padecido enfermedades digestivas que sean crónicas o que hayan requerido hospitalización para tratamiento médico o quirúrgico. Ejemplo: ulceras de estómago, hemorroides, fisura anal, cáncer de colon, absceso rectal, diverticulitis, cáncer de recto u otras enfermedades del aparato digestivo.

Have not suffered from chronic digestive diseases or diseases that required hospitalization for medical or surgical treatment. Example: stomach ulcer, hemorrhoids, anal fissure, colon cancer, rectal abscess, diverticulitis, rectal cancer, or other diseases of the digestive system.

OJO No hay respuestas correctas o incorrectas, todas son válidas

NOTE There are no correct or incorrect answers; all are valid

LE PEDIMOS ENCARECIDAMENTE QUE RESPONDA SIN LA AYUDA DE BUSCADORES EN LINEA, POR EJEMPLO GOOGLE

WE STRONGLY URGE YOU TO ANSWER WITHOUT THE HELP OF ONLINE SEARCH ENGINES, FOR EXAMPLE, GOOGLE

De antemano le agradecemos su tiempo y disposición para responderla.

We thank you in advance for your time and willingness to respond.

ENCUESTA

SURVEY

Cuando usted tiene algún síntoma o situación que lo lleva a buscar atención médica ¿le parece importante ser atendido por un especialista? Marque con una letra X:

When you have a symptom or situation that leads you to seek medical attention, how important is it to you to be treated by a specialist? Mark with an X:

No importante _____ Poco importante _____ Neutral _____ Importante _____ Muy importante _____

Not Important _____ Slightly Important _____ Neutral _____ Important _____ Very Important _____

A continuación, enumeramos 11 situaciones o síntomas y le pedimos que si usted o un familiar suyo las padeciera indique ¿Qué especialista desearía que lo atendiera?

Below, we list 11 situations or symptoms and ask you to indicate, if you or a family member suffered from them, which specialist you would want to treat them?

- Para indicarlo, por favor escriba solo UN tipo de especialista al lado de cada situación o síntoma.

To indicate this, please write only ONE type of specialist next to each situation or symptom.

- Puede repetir el mismo especialista para varias situaciones o síntomas.

You may repeat the same specialist for multiple situations or symptoms.

- Si no está seguro cual especialista desearía que atendiera la situación escriba: DESCONOZCO.

If you are unsure which specialist you would want to address the situation, write: I DO NOT KNOW.

- Comprendemos que el nombre de algunas especialidades puede ser difícil para deletrear; no se inhiba de anotarlas por eso, escríbelas como le parezca, lo importante es que la indique.

We understand that the names of some specialties may be difficult to spell; do not hesitate to write them down because of this, write them as you see fit, the important thing is that you indicate the specialty.

- Por último, conteste todas las preguntas a lo mejor de su parecer; por favor no deje línea en blanco.

Finally, answer all questions to the best of your knowledge; please do not leave any line blank.

1. Imposibilidad para orinar debido a próstata grande_____

Inability to urinate due to an enlarged prostate _____

2. Un niño de tres años con fiebre _____

A three-year-old child with a fever _____

3. Incapacidad para retener la evacuación (incontinencia fecal): _____

Inability to hold stool (fecal incontinence): _____

4. Tumor en el colon que resulta ser cáncer _____

Tumor in the colon that turns out to be cancer _____

5. Dolor en el abdomen debido a piedras en un riñón _____

Abdominal pain due to kidney stones _____

6. Aparición de un bulto en el área anal _____

Appearance of a lump in the anal area _____

7. Sangramiento a través del recto: _____

Bleeding through the rectum: _____

8. Falta de control del esfínter de la vejiga (incontinencia urinaria) _____

Lack of bladder sphincter control (urinary incontinence) _____

9. Estreñimiento severo que no mejora con remedios caseros _____

Severe constipation that does not improve with home remedies _____

10. Fractura del fémur luego de una caída _____

Fracture of the femur after a fall _____

11. Dolor al evacuar _____

Pain when defecating _____

Esta encuesta es anónima, pero por favor, le pedimos que indique los siguientes datos:

This survey is anonymous, but please indicate the following data:

Edad: _____ años Sexo: Masculino Femenino Prefiere no indicarlo

Age: _____ years Sex: Male Female Prefer not to indicate

FIN

END