



Introduction

The literature shows female sterilization is safer (has less complications) and at least as effective, if not more, in preventing unwanted pregnancies. The objective of this study was to analyze female-to-male surgical sterilization rates by region in Colombia, as an indicator of a health-related gender equity gap, using data from SISPRO, the official Ministry of Health database, which registers 500 million patient contacts per year, almost 3 million of which are classified as surgical procedures.

Materials and methods

We searched the SISPRO database for surgical sterilization procedures performed during the five-year period 2017 to 2021. For the analysis, Colombia was divided in 5 geographical regions (Amazon, Andes, Caribbean, Orinoco, and Pacific), and rates, based on 2019 population, as ascertained by DANE, the official statistics agency, were estimated for every 1000 females/males in each region. Costs, from a third-party payer perspective (the Colombian healthcare system) were converted into US dollars (USD) at the official exchange rate for 2019: 1 USD = 3,208 COP.

Results

During the five-year period, a total of 279,486 tubal sterilization procedures and 68,384 vasectomies were performed in Colombia, for an average female/male (F/M) ratio of 4.1. F/M ratios for each region varied notably, and were Amazon 7.7, Andes 3.0, Caribbean 26.0, Orinoco 3.9, and Pacific 5.9. Rates per 1000 males were more than 10 times higher in the Andes (4.04) than the Caribbean (0.36). Average cost, as reimbursed by the healthcare system to each health provider, was USD \$95.16 for the male procedure, and USD \$146.70 for females.



Figure. Map representing the female-to-male sterilization ratio by regions in Colombia, 2017-2021. Source: SISPRO

Number of female and male surgical sterilization procedures in Colombia 2017-2021

Department	Females	Males	Female / Male
Atlántico	11,566	471	24.56
Amazonas	7,966	1,033	7.00
Antioquia	24,646	6,252	3.94
Bogotá D.C.	61,686	31,836	1.94
Bolívar	8,265	662	12.48
Boyacá	7,101	1,735	4.09
Caldas	6,499	2,069	3.14
Caquetá	4,660	673	6.92
Cauca	5,709	619	9.22
Cesar	5,477	201	27.25
Chocó	1,518	30	50.60
Córdoba	9,109	227	40.13
Cundinamarca	11,540	2,085	5.53
Huila	14,084	1,280	11.00
La Guajira	3,502	72	48.64
Magdalena	6,427	260	24.72
Nariño	8,771	1,028	8.53
Norte de Santander	10,553	950	11.11
Orinoquía	8,559	2,174	3.94
Quindío	3,240	1,182	2.74
Risaralda	7,180	2,293	3.13
San Andrés	373	11	33.91
Santander	11,978	3,134	3.82
Sucre	7,077	92	76.92
Tolima	7,576	2,485	3.05
Valle del Cauca	29,470	6,398	4.61
Total	279,486	68,384	4.09

Conclusion

From an economic perspective, male surgical sterilization would be the dominant intervention: safer, less costly and at least as effective, as compared with the female counterpart. Incentives should be implemented to increase its acceptance, particularly in the Colombian Caribbean region.

Discussion

In Colombia, there is a significant disparity in surgical sterilization rates between different regions. For example, in the Andes region, for every male who is surgically sterilized, there are three females; however, in the Caribbean departments, this ratio is at least 12 to one, reaching almost 80 females for every male in Sucre.

The International Conference on Population and Development, held in Cairo in 1994, highlighted the importance of men taking shared responsibility and actively participating in responsible parenthood, sexual and reproductive behavior, and family planning.

In the realm of sexual and reproductive health, women often bear a heavier burden due to certain factors, such as menstrual issues, pregnancy, childbirth, breastfeeding and then being held to most responsibilities when raising children.

In terms of family planning, there are currently no male options for contraceptive pills or intrauterine devices. However, with permanent methods, like surgical sterilization, men could help reduce the gender-equity gap.

This study could contribute towards that goal, particularly by examining the reasons why Caribbean men are refusing vasectomy.

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