



Research article

Characterisation of the sexual and reproductive health of an Afro-Colombian community, 2021–2022

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ABSTRACT

Objective: Basurú, a community in Chocó, Colombia, has significant women's sexual and reproductive health (SRH) problems, including high rates of adolescent pregnancy and perinatal morbidity/mortality. This study aims to characterise SRH in Basurú in the context of social determinants of health from 2021 to 2022.

Methods: A descriptive, observational, quantitative, cross-sectional study was conducted, using the Pan American Health Organization's Community Information System for Primary Health Care for data collection. Descriptive, bivariate and multivariate analyses of sexual and reproductive health (SRH) variables were performed using STATA 18 for statistical analysis.

Results: A total of 116 families were studied, including 386 individuals (M:200 and H:186). Of the population, 97.15 % were identified as Afro-Colombian. Of those over the age of 7, 14.46 % were illiterate, and the household head had an average of 4.58 years of education. Planning was reported by 27.6 % between the ages of 10 and 52. Men were less likely to plan than women (adjusted POR 0.421, $p = 0.029$). The most used methods were condoms and hormonal methods. Cervicovaginal cytology was reported by 28.35 % of women. Mammography was reported by 31.57 % of women over 35 years of age.

Conclusions: The population of Basurú has sociodemographic characteristics and lifestyles that respond to and are related to the regional dynamics of the Chocó department. Women in Basurú with a basic secondary education show a higher propensity to use family planning than men, while the use of pap smears and mammography still is relatively low.

1. Introduction

The Basurú community is located within the municipal boundaries of Istmina, in the Chocó department of Colombia ([Link view](#)). This department is predominantly inhabited by Afro-descendant and indigenous populations [1,2]. According to Colombia's National Population and Housing Census of 2018, Istmina had a population of 28,087, with 51.7 % being female and 48.3 % male [3]. Approximately 32 % of the population was aged between 0 and 14, which is 10 % higher than the national average [4]. According to the National Administration Department of Statistics (DANE), in 2018, 83.89 % of the population in the municipality lived with

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unsatisfied basic needs (UBN) [5]. This makes it the municipality in Chocó with the highest UBN population and the 14th municipality in the Colombia's country out of 1222 municipalities.

The Health Situation Analysis (ASIS) for this municipality in 2020 reported a crude birth rate of 15 children per 1000 inhabitants [6]. The birth rate for females aged 10–14 was 6 births per 1000, whereas for adolescents aged 15–19 it was 48 births per 1000 [6]. In 2018, Istmina had a maternal mortality rate of 226.2 per 100,000 live births, which is 4.99 times higher than the national rate (226,2 vs 45,29) [6,7]. Istmina's maternal mortality ratio is far from meeting the target of Sustainable Development Goal 3, which aims to have a maternal mortality ratio below 70/100,000 live births [8].

The aforementioned indicators could indicate the existence of sexual and reproductive health (SRH) issues in the Basuru community prior to the advent of the global pandemic caused by the SARS-CoV-2 virus. This pandemic has had a detrimental impact on the sexual and reproductive health care of millions of individuals worldwide [9]. A systematic review of the literature on the potential impacts of the Coronavirus Disease 2019 (Covid-19) pandemic on sexual and reproductive health care indicated that the pandemic would result in an increase in the number of unintended pregnancies, a rise in the incidence of unsafe abortions, a reduction in access to antiretroviral therapies for Human Immunodeficiency Virus (HIV), a decline in the uptake of cervical cancer screening, and an increase in violence against women and girls [9].

In the absence of evidence pertaining to the sexual and reproductive health status of the residents of Basurú during the pandemic, and in view of the fact that the municipality of Istmina, Chocó exhibited shortcomings in the provision of sexual and reproductive healthcare services to its population, the objective of this study was to characterise the sexual and reproductive health (SRH) of Basurú in the framework of the social determinants of health in 2021–2022.

2. Material and methods

2.1. Study design and participants

A cross-sectional, observational, and descriptive study was conducted on the families of Basurú community, comprising 150 families. The statistical tool OpenEpi was used to calculate the sample size to find a frequency in a population. The following parameters have been used.

- Population size: 150 families.
- Hypothetical frequency of the outcome factor in the population: 50 %. This proportion was chosen because specific data on the Basurú population were unknown, and this proportion ensures the largest possible sample.
- Confidence level: 95 %.
- Alpha error: 5 %.
- Design effect (DEFF): 1.

With these parameters, a minimum population of 109 families was estimated to be representative of the Basurú community.

The inclusion criteria comprised families who had resided in the community of Basurú for the previous two years. Families without a legal adult representative present during the administration of the instrument were excluded. A non-probabilistic convenience sampling was conducted because many inhabitants of this community were not present during data collection due to their involvement in mining activities, making it difficult to carry out a probabilistic sampling.

2.2. Instrument and data collection process

The Pan American Health Organization (PAHO) has developed an instrument called the Community-Based Information System for Primary Health Care (Sistema de Información de Base Comunitaria para la Atención Primaria de Salud, SIBCAPS) to identify the social determinants of health that may be affecting health [10]. This research utilised a version of the family card to characterise the social determinants of sexual and reproductive health in the Basurú community. The SIBCAPS Family Card has been endorsed by both the Pan American Health Organization (PAHO) [10] and the United Nations Children's Fund (UNICEF) [11] as a means of characterising the health status of a family within the context of primary health care in Colombia [12,13].

A three-day training programme was conducted for women community leaders in the department of Chocó, with the objective of equipping them with the necessary skills to utilise the instrument. Following this, they were tasked with implementing it within their respective communities. Data collection took place between May and July 2021.

The household records were organised in the Community-Based Information System (SIBACOM). SIBACOM manages information within and between families, generating indicators for public health and creating a database specifically focused on variables related to sexual and reproductive health.

2.3. Statistical analyses

Frequency measures and proportions were used for the descriptive analysis of qualitative variables (Appendix 1). For quantitative variables, the mean or median and standard deviation were used based on their distribution. In the bivariate analysis, we calculated the Prevalence Odds Ratio (POR) to assess associations between dichotomous variables and used the chi-square test to determine statistical significance.

The backward stepwise regression technique was employed to ascertain the variables to be integrated into logistic regression models for three dependent variables: contraceptive use, vaginal cytology in the last year and breast self-examination. Subsequently, the presence of multicollinearity was assessed by calculating the Variance Inflation Factor (VIF). Variables with a VIF value greater than 5 were excluded from the logistic regression analysis. The Hosmer-Lemeshow method was then used to assess goodness-of-fit. Finally, the classification accuracy of the model and the area under the curve were calculated to assess its predictive ability. The data were analysed with the statistical programme STATA 18.

2.4. Ethics consideration and consent statement

This study was conducted in accordance with the ethical principles set forth in the Declaration of Helsinki (1964, revised in 1975, 1983, 1989, 1996, 2000 and 2008) by the World Medical Association. Furthermore, the study was evaluated and approved by the Research Ethics Committee of the Universidad de los Andes (Act 1300 of 2021) and by the Ethics Committee of the School of Government of the Universidad de los Andes (meeting of December 14, 2021). The study was conducted in accordance with the ethical standards enshrined in Resolution 8430 of 1993 of the Colombian Ministry of Health. Prior to the commencement of the study, all participants were provided with an informed consent document, which they were required to read, understand and sign. In return for their participation, the community received financial compensation in the form of technical and material support for a productive project and the improvement of a community space. The women of the community indicated that they would utilise the compensation to fund a clothing design and tailoring course and the improvement of the community kitchen.

3. Results

3.1. Descriptive analysis

A total of 116 family characterisation sheets were completed, with a total of 386 people (F:200; M:186). Fig. 1 shows the population pyramid for the parish. It is progressive, with a predominantly broad base in the 10–14 age group (19.17 % of the population; F: 9.84 % and M: 9.33 %) and a decreasing percentage of the population with increasing age, with a narrowing at the top of the pyramid. It can also be seen that the percentage of the population in the age groups 50–54, 55–59 and 60–64 is relatively higher for women than for men (F: 2.07 %, M: 1.30 %; F: 2.33 %, M: 1.30 %; F: 2.85 %, M: 1.30 %).

Table 1 summarises the main characteristics of the population. In general, 50 % of families have a female head of household and the average number of persons per family is 3.32. 97.15 % of the population is Afro-descendant, 50.52 % has been displaced by violence and 14.46 % of the population over 7 years of age cannot read or write. 10.13 % of the population between the ages of 5 and 17 do not attend school and the average level of education of household heads is 4.58 years.

In the health sector, 83.68 % of the population is insured in the subsidised regime funded by the government, 3.37 % in the contributory regime which involves contributions from both the worker and the employer, as well as the government, and 12.95 % of

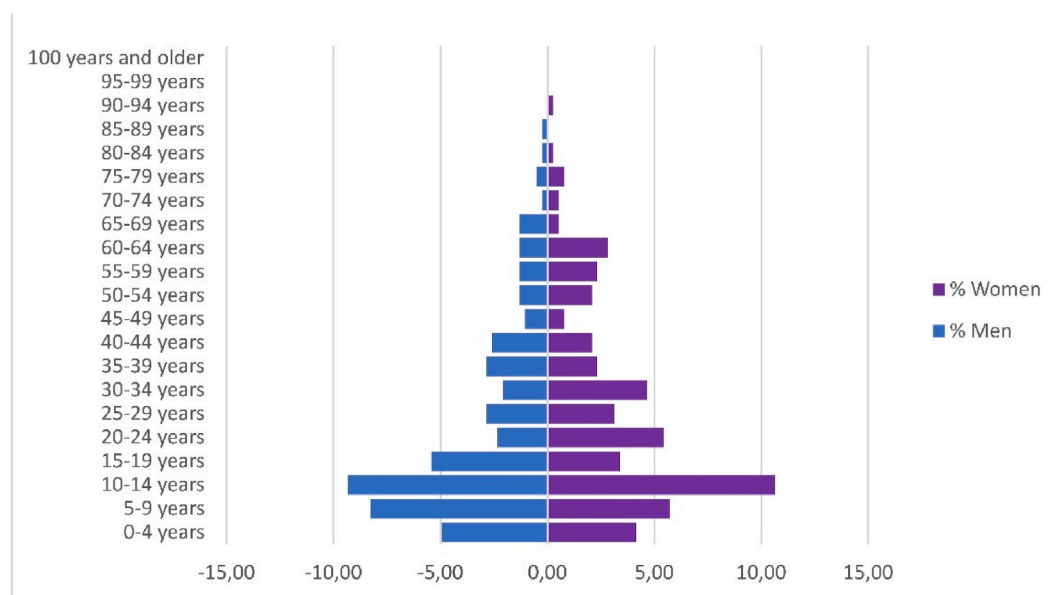


Fig. 1. Population pyramid of the surveyed Basurú community, Istmina, Chocó, Colombia, 2021.

Author's elaboration. Source: Community-Based Information System (SIBACOM) of the SIGIT Research Group - Faculty of Medicine - University of the Andes.

Table 1

Sociodemographic characteristics of the surveyed population of the Corregimiento de Basurú, Istmina, Chocó, in 2021.

Sociodemographic Characteristics of the Population (N = 386)	
Sex	Number (%)
Female	200 (51.85 %)
Male	186 (48.19 %)
Ethnic group	Number (%)
Afro-descendant	375 (97.15 %)
Mestizo-White	8 (2.07 %)
Indigenous	3 (0.78 %)
Special Attention Groups	Number (%)
Population Displaced by Violence	195 (50.52 %)
None	191 (49.48 %)
Disability	Number (%)
Percentage of the population with a disability	19 (4.92 %)
Sensory Disability	14 (3.63 %)
Physical Disability	3 (0.77 %)
Mental Disability	1 (0.26 %)
Multidisability (physical, mental, and sensory)	1 (0.26 %)
Average age (range)—years	26.00 (4 meses-92 years)
Life Course	Number (%)
Early Childhood (7 days–5 years)	58 (15.02 %)
Female	28 (7.25 %)
Male	30 (7.77 %)
Childhood (6–11 years)	64 (16.58 %)
Female	28 (7.25 %)
Male	36 (9.33 %)
Adolescence (12–17 years)	67 (17.35 %)
Female	33 (8.54 %)
Male	34 (8.81 %)
Youth (18–28 years)	58 (15.02 %)
Female	32 (8.28 %)
Male	26 (6.74 %)
Adulthood (29–59 years)	104 (26.94 %)
Female	59 (15.28 %)
Male	45 (11.66 %)
Old age (60 years and over)	35 (9.06 %)
Female	20 (5.17 %)
Male	15 (3.89 %)
Average number of people per household	3.32
Proportion of households headed by women (n = 116)	58 (50.00 %)
Occupation (n = 235)	Number (%)
Unemployed	13 (5.53 %)
Working	85 (36.17 %)
Studying	93 (39.57 %)
Household chores	44 (18.72 %)
Education Sector	Number (%)
Percentage of the population aged 5–17 not in education (n = 148)	15 (10.13 %)
Percentage over 7-year-olds who are unable to read or write (n = 311)	45 (14.46 %)
Average age of school enrolment	Years
Girls	6.41
Boys	7.10
Average years of education completed by the head of the household	4.58
Scholarship (Highest educational level achieved) (n = 235)	Number (%)
Primary Basic Education	118 (50.21 %)
Basic Secondary Education	117 (49.79 %)
Health Sector	Number (%)
Percentage of the population insured with the contributory regime.	13 (3.37 %)
Percentage of the population insured with the subsidised regime.	323 (83.68 %)
Percentage of the population not insured.	50 (12.95 %)

Author's elaboration. Source: Community-Based Information System (SIBACOM) of the SIGIT Research Group - Faculty of Medicine - University of the Andes.

the population is uninsured. Additionally, 4.92 % of the population has some form of disability, with sensory disability being the most prevalent at 3.63 %.

In terms of living conditions, the data indicates that 95.68 % of the dwellings were owned by families (109 dwellings). The vast majority of families, 99.14 %, obtained their drinking water from rainwater, while only 0.86 % reported drinking bottled water. With regard to excreta disposal, 73 households lacked adequate means, 42 were connected to a sewer, two had a toilet connected to a septic tank, and one had a toilet with no connection to a sewer or septic tank. The majority of families (95.68 %) reported disposing of their waste in the river or environment, while 3.44 % burned it.

After evaluating various variables related to sexual and reproductive health in the population of Basurú (see Table 2), it became apparent that most mothers with children under one year of age did not exclusively breastfeed their infants until they reached six months of age (66.67 % vs 33.33 %). Furthermore, two children between the ages of 1 and 14 exhibited signs of physical abuse. The community leaders provided advice to the family and guardians on how to handle these situations, proposing alternatives to physical violence.

In terms of family planning, it is evident that 72.34 % of the population aged 10–52 do not plan, with this percentage increasing to 89.81 % when only evaluating the population aged 10–19. When considering gender, women plan more than men in the population aged 10–52 (F: 32.8 % vs M: 21.82 %, $p = 0.061$). However, this pattern is reversed in the 10–19 population, where men report planning more than women (F: 9.8 % vs M: 12.28 %, $p = 0.683$).

The most used planning methods among women were hormonal methods, such as the pill and injection, accounting for 50.45 % of cases, followed by tubal ligation at 40.54 %. Among men who were planning, condoms were the most frequently used method, accounting for 79.16 % of cases. The most common reasons for not planning were not having a stable partner, not having decided, and men delegating the responsibility of planning to their partner, accounting for 14.12 %, 7.65 %, and 6.47 % of cases, respectively.

Among women aged 25–59, 28.36 % (IC95 % 18.72%–40.47 %) underwent a vaginal cytology test in the last year. This percentage drops to 15.38 % in women aged 60–69 and 8.33 % in women aged 10–24. Regarding breast self-examination, 37.85 % of women aged 35–59 performed the procedure, while only 20 % of women over 60 did so. The average number of live births for women of reproductive age (10–52 years) was 1.68 children per woman. At these same ages, the average number of abortions per woman was 0.19.

At the time of data collection, five women were pregnant. There were no pregnant women of advanced age. Of the pregnant women, one was a teenager and four were between 18 and 34 years old. Four of the pregnant women were receiving iron and folic acid supplements. In terms of prenatal check-ups, two women had their first check-up during the first trimester of pregnancy, two during the second trimester, and one woman had not yet received her first prenatal check-up. Of the four women who had received at least one prenatal check-up, three underwent an HIV test, and three followed the appropriate vaccination schedule for their gestational age.

3.2. Bivariate and multivariate analysis

3.2.1. Use of contraceptive methods

After the application of the backward stepwise regression method and the non-inclusion of variables due to multicollinearity, the resulting variables for the bivariate and multivariate analysis were sex, age range, schooling and occupation (Table 3).

The bivariate analysis indicated that individuals within the 18–28 and 29–52 age groups exhibited an elevated likelihood of utilising contraceptive methods in comparison to adolescents (crude POR 15.167, $p < 0.000$; 9.100, $p < 0.000$, respectively). Similarly, the data indicated that individuals with a basic secondary education were more likely to utilise contraceptive methods than those with only a basic primary education (crude POR 1.932, $p = 0.027$). Finally, the likelihood of contraceptive use was 81.7 % lower among those engaged in education at the time of the survey compared to those who were unemployed (crude POR 0.183, $p = 0.018$).

However, the application of logistic regression to the model resulted in a reduction in the POR estimator for the 18–28 and 29–52 age groups, although the results remained statistically significant (adjusted POR 10.031, $p < 0.000$; 5.736, $p = 0.002$, respectively). Additionally, male gender was found to be associated with a reduced likelihood of contraceptive use (adjusted POR 0.421, $p = 0.029$).

The Hosmer-Lemeshow test yielded a chi-square value of 10.39 with a p-value of 0.239. The model demonstrated a 72.34 % correct classification rate, with a sensitivity of 33.85 % and a specificity of 87.06 %. The area under the receiver operating characteristic curve was 0.773.

3.2.2. Vaginal cytology in the last year

Following the application of backward stepwise regression and multicollinearity analysis, only the variable “Victim of armed conflict” was retained for inclusion in the logistic regression model. Consequently, in the bivariate analysis, being a victim of armed conflict was associated, albeit non-significantly, with a 48.20 % lower probability of having undergone a vaginal cytology in the previous year (raw POR 0.518, $p = 0.171$).

3.2.3. Breast self-examination

The variables included in the bivariate and multivariate analysis were Age Range and Scholarship. In the bivariate analysis, the age groups 18–28 years and 29–52 years were found to be associated with a higher likelihood of performing a breast self-examination compared to adolescent women (Table 4). In the multivariate analysis, it was evident that women between the ages of 29 and 52 were 4.733 times more likely to perform a breast self-examination than women between the ages of 18 and 28. Similarly, having completed secondary school was associated with a higher chance of performing a breast self-examination compared to women who had only completed primary school (adjusted POR 2.787, $p = 0.037$).

The Hosmer-Lemeshow test yielded a chi-square value of 1.03 with a p-value of 0.795. The model demonstrated a 77.70 % correct classification rate, with a sensitivity of 0 % and a specificity of 100 %. The area under the receiver operating characteristic curve was 0.773.

4. Discussion

The 2021 Health Situation Analysis of the Department of Chocó reveals a stationary population pyramid, with an equal number of adults and young people [14]. This contrasts with the population pyramid of the Basurú community, as illustrated in Fig. 1. When

Table 2

Variables related to Sexual and Reproductive Health in the surveyed population of Basurú, Istmina, Chocó in 2021.

Sexual and reproductive health variables	
Exclusive Breastfeeding (EF)	Number (%)
Percentage of the population under one year of age that received EF up to six months (n = 6)	2 (33.33 %)
Percentage of the population under one year of age that did not receive EF until six months (n = 6)	4 (66.67 %)
Child physical abuse	Number (%)
Percentage of boys aged 1 to 4 exhibiting signs of abuse (n = 18)	0 (0.00 %)
Percentage of girls aged 1 to 4 exhibiting signs of abuse (n = 16)	1 (6.25 %)
Percentage of boys aged 5 to 14 exhibiting signs of abuse (n = 66)	1 (1.51 %)
Percentage of girls aged 1 to 4 exhibiting signs of abuse (n = 59)	0 (0.00 %)
Family planning	Number (%)
Percentage of people aged 10 to 52 who use contraception (n=235)	65 (27.66 %)
Female	37 (15.75 %)
Missing Value	4 (1.70 %)
Male	24 (10.21 %)
Percentage of people aged 10 to 52 not using contraception (n=235)	170 (72.34 %)
Female	84 (35.74 %)
Male	86 (36.60 %)
Percentage of people aged 10 to 19 who use contraception (n=108)	11 (10.19 %)
Female	4 (3.70 %)
Male	7 (6.49 %)
Percentage of people aged 10 to 52 not using contraception (n=108)	97 (89.81 %)
Female	47 (43.52 %)
Male	50 (46.29 %)
Contraception methods	Number (%)
Female (n=37)	
Hormonal Methods: Pill-Injection	22 (59.46 %)
Tubal Ligations	15 (40.54 %)
Male (n=24)	
Condom	19 (79.16 %)
Other methods of contraception that have not been specified	5 (20.84 %)
Reasons for non-use of contraceptive methods (n=170)	Number (%)
As they lack a stable partner.	24 (14.12 %)
They have not yet made the decision.	13 (7.65 %)
As they leave the responsibility to the couple	11 (6.47 %)
Due to concerns regarding potential side effects	9 (5.29 %)
Gestation	5 (2.94 %)
Due to sterility or infertility.	3 (1.76 %)
Due to contraindications.	3 (1.76 %)
Because they only engage in casual sexual encounters.	1 (0.59 %)
For other reasons	97 (57.06 %)
Missing Value	4 (2.36 %)
Vaginal Cytology	
Females aged between 10 and 24 years (n=72)	Number (%)
Yes	6 (8.33 %)
Normal Pap smear	6 (8.33 %)
Anormal Pap smear	0 (0.00 %)
No	66 (91.67 %)
Females aged between 25 and 59 years (n=67)	Number (%)
Yes	19 (28.36 %)
Normal Pap smear	17 (25.37 %)
Anormal Pap smear	2 (2.99 %)
No	48 (71.64 %)
Females aged between 60 and 69 years (n=13)	
Yes	2 (15.38 %)
No	13 (84.62 %)
Breast self-examination	Number (%)
Females aged between 35 and 59 years (n=37)	
Yes	14 (37.84 %)
No	23 (62.16 %)
Women aged 60 years or older. (n=20)	
Yes	4 (20.00 %)
No	16 (80.00 %)
Average number of live births for women aged 10–52 (n=120)	1.68
Average number of abortions among women aged 10–52 (n=117)	0.19
Gestation	
Pregnant women's age (n=5)	Number (%)
Pregnant women who are under the age of 18	1 (20.00 %)
Pregnant women aged between 18 and 34 years.	4 (80.00 %)
Pregnant women aged 34 years or older	0 (0.00 %)

(continued on next page)

Table 2 (continued)

Sexual and reproductive health variables	
Supplement the diet with iron and folic acid (n=5)	Numero (%)
Yes	4 (80.00 %)
No	1 (20.00 %)
Prenatal screening (n=5)	Numero (%)
Yes	4 (80.00 %)
Completed in the first quarter	2 (40.00 %)
Completed in the second quarter	2 (40.00 %)
No	1 (20.00 %)
HIV testing (n=4)	Numero (%)
Yes	3 (75.00 %)
No	1 (25.00 %)
Vaccination is appropriate for gestational age (n=4)	Numero (%)
Yes	2 (50.00 %)
No	2 (50.00 %)

Author's elaboration. Source: Community-Based Information System (SIBACOM) of the SIGIT Research Group - Faculty of Medicine - University of the Andes.

Table 3

A bivariate and multivariate analysis of contraceptive methods used by the Basurú survey population in Istmina, Chocó, in 2021.

Use of Contraceptive Methods	Crude POR	P> z	CI95 %	Adjusted POR [‡]	P> z	IC95 %
Sex						
Female	1			1		
Male	0.572	0.062	(0.318–1.027)	0.421**	0.029	(0.194–0.915)
Age Range						
10–17 years	1			1		
18–28 years	15.167***	0.000	(5.730–40.142)	10.031***	0.000	(3.511–28.653)
29–52 years	9.100***	0.000	(3.548–23.342)	5.736***	0.002	(1.945–16.910)
Scholarship						
Primary Basic Education	1			1		
Basic Secondary Education	1.932**	0.027	(1.078–3.465)	1.680	0.127	(0.862–3.276)
Occupation						
Unemployed	1			1		
Working	1.653	0.432	(0.472–5.792)	2.139*	0.082	(0.909–5.031)
Studying	0.183**	0.018	(0.045–0.748)			
Household chores	1.558	0.511	(0.415–5.844)			

[‡] Adjusted for Sex, Age Range, Scholarship and Occupation.

***p < 0.01, **p < 0.05, *p < 0.1.

Author's elaboration. Source: Community-Based Information System (SIBACOM) of the SIGIT Research Group - Faculty of Medicine - University of the Andes.

Table 4

A bivariate and multivariate analysis of Breast self-examination by the Basurú survey population in Istmina, Chocó, in 2021.

Breast self-examination	Crude POR	P> z	CI95 %	Adjusted POR [‡]	P> z	IC95 %
Age Range						
10–17 years	1			1		
18–28 years	10.454***	0.004	(2.109–51.830)	7.918**	0.012	(1.563–40.101)
29–52 years	10.925***	0.002	(2.396–49.821)	12.651***	0.002	(2.703–59.219)
Scholarship						
Primary Basic Education	1			1		
Basic Secondary Education	2.436**	0.038	(1.049–5.658)	2.787**	0.037	(1.065–7.292)

[‡] Adjusted for Age Range, Scholarship.

***p < 0.01, **p < 0.05, *p < 0.1.

Author's elaboration. Source: Community-Based Information System (SIBACOM) of the SIGIT Research Group - Faculty of Medicine - University of the Andes.

evaluating population size by life course, Basurú has a higher relative percentage in early childhood, childhood, and adolescence compared to the department of Chocó (15.02 % vs 11.61 %; 16.58 % vs 11.95 %; 17.35 % vs 13.34 %, respectively) [14]. This indicates that the population of Basurú is relatively younger than the population of Chocó.

In terms of ethnicity, 97.15 % of the population in the Basurú community identified themselves as Afro-Colombian, while 73.77 % of the population in the Chocó department identified themselves as black, mulatto, Afro-descendant or Afro-Colombian [14]. When comparing the populations victimized by forced displacement, it is evident that the population of Basurú has a higher percentage of victims of forced displacement than the department of Chocó (50.52 % vs 45.00 %) [14].

DANE reports that the illiteracy rate in Colombia is 5.19 % [15]. In Chocó department, the rate is 14.82 %, and in the municipality of Istmina, it is 11.16 % [15]. The illiteracy rate in Basurú is 2.78 times higher than that of Colombia, 0.976 times that of Chocó, and 1.29 times that of Istmina. Therefore, we can conclude that Basurú's illiteracy situation is similar to that of Chocó and relatively higher than that of Istmina and Colombia.

Based on data from the Ministry of Health and Social Protection of Colombia, the percentage of the Colombian population insured under the subsidised regime for 2021 is 47.15 %. In the department of Chocó, this percentage is 84.71 %, and in Istmina, it is 76.95 % [16]. The Basurú district has a population insured under the subsidised regime that is 36.53 percentage points higher than the national average in Colombia. This is 1.04 percentage points lower than the department of Chocó and 6.73 percentage points higher than the population of Istmina.

The 2015 National Demographic and Health Survey (NDHS) of Colombia revealed that 66.7 % of women aged 15 to 49 in the department of Chocó used some form of contraceptive method [14]. In the population of Basurú, 40.5 % of women of reproductive age used contraceptives. This suggests that the percentage of family planning is lower in the community of Basurú compared to Chocó.

The analysis of sexual and reproductive health variables revealed that only 37.84 % of women aged 35–59 and 20 % of women over 59 performed breast self-examination. These percentages are lower than the results presented in NDHS 2015, where 71.8 % of Colombian women performed breast self-examination [17].

The multivariate analysis revealed that the chance of using contraceptive methods was statistically related to being a woman, having secondary education and being over 17 years. The three variables have been previously linked in the literature to the use of contraceptive methods [17–23]. The results of the multivariate analysis of breast self-examination (higher prevalence odds with increasing age) are consistent with the recommendations set forth in the Clinical Practice Guide for early detection, comprehensive treatment, follow-up and rehabilitation of breast cancer published by the Ministry of Health and Social Protection of Colombia [24]. This guide recommends that women perform breast self-examination beginning at the age of 40 [24].

The primary limitation of the study is the small sample size, which makes it challenging to identify statistically significant differences in crucial health variables, such as insurance coverage under the contributory regime, prenatal care for pregnant mothers, and exclusive breastfeeding. Furthermore, recall bias may be present since each exposed variable is self-reported. Including healthy sexual and reproductive health practices as part of the social norm may lead to overestimation of associations. This is because affirmative reporting is facilitated when asking whether they are carried out or not [25].

Similarly, other variables related to sexual and reproductive health (access to abortion, sexually transmitted diseases and maternity services) were not included in the analysis of this study. This was due to two reasons: firstly, the instrument used (the SIBCAPS Family Card) does not address these issues, which represents a limitation of the study. The second reason is that the community is characterised by a high level of religious observance, which presents a challenge in addressing issues such as abortion. However, following this characterisation, this research co-constructed a community-based strategy for peer training in sexual and reproductive rights in the Basurú community. This co-construction enabled the exploration of these challenging issues.

Additionally, the lack of investigation into the initiation of sexual relations for the family planning variable may result in an underestimation of the percentage of planning at this age. One reason for not planning is not initiating sexual relations. The percentage for the vaginal cytology variable may be underestimated by the provided information. Furthermore, the calculation of POR only suggests possible associations and does not confirm them. Longitudinal studies are necessary to confirm these associations.

5. Conclusions

The community of Basurú, Istmina, Chocó, has socio-demographic characteristics similar to those of the municipality and department, but different from the national context. The characteristics it shares with the department of Chocó are its predominantly Afro-Colombian population, its state of forced displacement due to violence, its level of illiteracy and, finally, its access to the subsidised health system. These characteristics become social determinants that affect health, particularly sexual and reproductive health. Variables such as gender, age, education, and occupation were associated with SRH. Women are more likely than men to plan to use contraception, but the population aged 10–17 years is less likely to use contraception. Similarly, rates of vaginal cytology and breast self-examination were found to be low compared to the national context and international standards.

The findings of this study have two significant implications for public health in Colombia. The first implication is the necessity to enhance access to contraceptive methods for Afro-descendant populations residing in rural areas, such as the Basurú community. The findings of this study indicate that the Basurú population exhibits an even lower prevalence of contraceptive use compared to the department of Chocó, which is among the regions with the lowest rates of contraceptive use in Colombia. This lack of access to contraceptive methods may be a contributing factor to the elevated rates of unintended pregnancies and maternal mortality observed in the department of Chocó. Furthermore, the study demonstrated a low prevalence of breast self-examination among women over 35 years of age, underscoring the urgent need for awareness and educational campaigns on the significance of this self-examination. In light of these findings, it is imperative to implement initiatives that enhance access to and education on sexual and reproductive health, thereby strengthening the capacity of communities to make informed decisions.

This study is a pioneering effort to understand these relationships in the context of a dispersed rural community in the Chocó department. Only by understanding how these remote communities live can we propose solutions tailored to their context. For this reason, governmental and non-governmental researchers are urged to continue to deepen their knowledge of these communities to propose effective responses to their needs and achieve true health for all.

CRediT authorship contribution statement

Jhon Sebastián Patiño Rueda: Writing – review & editing, Writing – original draft, Project administration, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization. **Honorio del Carmen Buendía Rengifo:** Writing – review & editing, Writing – original draft, Methodology, Investigation. **Jovana Alexandra Ocampo Cañas:** Writing – review & editing, Writing – original draft, Project administration, Methodology, Investigation, Funding acquisition, Conceptualization.

Disclosure statement

No potential conflict of interest was reported by the authors.

In the course of preparing this work, the authors employed the DeepL Write tool with the objective of enhancing readability and language. Following the utilisation of this tool, the authors conducted a comprehensive review and editing of the content and accept full responsibility for the content of the publication.

Data availability statement

The database with anonymised information is available upon joint request to the Ethics Committee of the Universidad de los Andes (comite-etica-investigaciones@uniandes.edu.co) and to the corresponding author.

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Declaration of competing interest

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Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.heliyon.2025.e42388>.

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