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# SEXUAL AND REPRODUCTIVE HEALTH AMONG YOUNG WOMEN AND ADULT UNIVERSITY STUDENTS ON THE ECUADORIAN COAST

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## ABSTRACT

*Sexual and reproductive health remains a priority global challenge, especially in young populations from low- and middle-income countries. This study aimed to evaluate sexual and reproductive health practices among university students on the Ecuadorian coast. We assessed sociodemographic characteristics, contraceptive behaviors, service access, and abortion experiences in a cross-sectional observational study. A total of 4,156 participants, comprising 59.2% aged 18–23 years, 79.9% male, and 79.6% rural residents. Nearly half (47.5%) had never attended sexual health checkups, and 38.7% had never accessed specialized services. Abortion was reported by 8.3% of women, with younger women (18–23 years) showing a higher likelihood compared to those aged 24–29 (aRRR = 0.449;  $p < 0.001$ ). Contraceptive use in the past year was reported by 58.8% of participants, predominantly condoms (44.1%), while 41.2% reported non-use, mainly due to personal preference (52.3%). Only 20.3% felt very informed about HIV and STI prevention, while 28.1% reported poor or no knowledge. Older youth (24–29 years) demonstrated greater awareness of free contraceptives ( $p = 0.000$ ) but paradoxically reported lower engagement with services (aRRR = 2.917;  $p < 0.001$ ). These findings highlight younger students as the most vulnerable group, underscoring the need for targeted strategies to expand preventive care, especially in countries with scarce resources.*

**KEYWORDS:** Sexual And Reproductive Health, Contraception, HIV, Abortion, University Students, Ecuador.

## 1. INTRODUCTION

Sexual and reproductive health in young people and adults is a priority global challenge (Hassan & Golub, 2025; Kobeissi et al., 2021). There is a high number of teenage pregnancies, sexually transmitted infections (STIs), and unsafe sexual behavior (Gamelia et al., 2023). Sociodemographic factors can define vulnerability to worse sexual and reproductive health outcomes (Butts & Dokras, 2023). For example, gender, sexual orientation, ethnicity, living in underdeveloped or developed countries (Sousa et al., 2021; Butts, 2021; Butts & Dokras 2023). Furthermore, access to information and public services contributes to young people's awareness, self-responsibility, and self-care (Leekuan et al., 2022). Sexual and reproductive health represents a component of well-being during early adulthood, particularly within academic settings.

Abortion represents a critical component of sexual and reproductive health (Cohen et al., 2021; Maxwell et al., 2021). Sexual health education in many regions fails to provide appropriate education for young adults (Walters & Lavery, 2022; Caruso et al., 2023). Limited access to contraception, abortion, and prevention of sexually transmitted infections is the problem (Ayamolowo et al., 2024). Risky sexual behavior is typical among youth and young adults (Chandra et al., 2024; Karle et al., 2023; Mahoto et al., 2025). In Peru, between 2015 and 2019, approximately one-third of adolescents aged 15 to 19 who became sexually active experienced at least one pregnancy (Caira-Chuquineyra et al., 2023). Unplanned pregnancy rates remain high in low- and middle-income countries (Ahinkorah et al., 2021; Aragaw et al., 2023).

In Latin America, early sexual initiation, low use of contraceptive methods, and infrequent sexual health check-ups (Roman Lay et al., 2021). The socioeconomic conditions of the population seem to influence risky sexual behaviors (Gutiérrez & Trossero, 2021). Understanding how young people navigate contraception, STI prevention, and health services provides insight into broader public health challenges (Brisson & Volesky-Avellaneda, 2024). The Human Immunodeficiency Virus (HIV) remains a significant public health problem (Li & Zhang, 2023). Latin America has been overwhelmingly affected by sexual and gender minorities, such as gay, bisexual, and other men who have sex with men and transgender women (Torres et al., 2023).

In Ecuador, problems with access to public and private sexual and reproductive health services are a limitation (Gutiérrez et al., 2019). In 2024, an estimated 40.8 million people worldwide were living

with HIV, of whom 5.3 million were unaware of their HIV status (UNAIDS, 2025). In Chile, confirmed HIV cases increased during 2021, and health authorities recorded 5,401 new positive diagnoses in 2022 (Instituto de Salud Pública de Chile, 2023). In Ecuador, there is limited information on the sexual and reproductive health of young people and adults. Thus, this study aims to evaluate sexual and reproductive health practices among university students on the Ecuadorian coast.

## 2. MATERIALS AND METHODS

### 2.1. Variables

Age groups (18–23 years, 24–29 years), sex (female, male, intersex), area of residence (urban, rural), ethnicity (other, white, unknown, indigenous, mestizo, montubio, Black or Afro-descendant), religion (other, Catholic, Christian, Evangelical, none), marital status (widowed, married, divorced, single, cohabitation), nationality (other, Ecuadorian), employment (yes, no), gender (non-binary, female, male), sexual orientation (other, bisexual, heterosexual, homosexual), and the 12 questions of the questionnaire.

### 2.2. Statistical Analysis

Descriptive statistical analyses were conducted using absolute frequencies (n) and percentages (%). Subsequently, a binary logistic regression model was employed to identify sociodemographic factors associated with the questions “Have you used any contraceptive method in the past year?” and “Do you know where to access contraceptive methods for free?”. Adjusted odds ratios (AORs) and 95% confidence intervals (95% CI) were reported for these associations. To examine the relationship between sociodemographic variables and the remaining survey questions, a multivariate multinomial logistic regression model was used, given the unordered categorical nature of the outcome variables. The results were presented as adjusted relative risk ratios (aRRRs) with corresponding 95% confidence intervals. Only results with p-values less than 0.05 were considered statistically significant, with particular attention given to the consistency between the direction of the effect (aRRR > 1 or < 1) and confidence intervals that did not include the null value. All data processing and statistical analyses were performed using SPSS software, ensuring traceability, reproducibility, and proper documentation of the analytical procedures.

## 3. RESULTS

The sociodemographic characterization of population reveals a predominantly young, male, rural, and heterosexual. A total of 4156 participants,

59.2% between 18 and 23 years old, while 79.9% reported being male. Likewise, 79.6% reside in rural areas. Although the majority identify as heterosexual (85.6%), a notable proportion of participants reported diverse sexual orientations, including 8.4% who self-

identify with another orientation and 3.9% as bisexual, highlighting the need for inclusive and non-discriminatory approaches in healthcare provision (table 1).

**Table 1: Sociodemographic Characteristics of the Study Population.**

Variables	Frequency (n=4164)	Percentage (%)
<b>Age groups</b>		
18 - 23 years	2461	59.2
24 - 29 years	1695	40.8
<b>Sex</b>		
Male	3320	79.9
Female	823	19.8
Intersex	13	0.3
<b>Area of residence</b>		
Rural	3307	79.6
Urban	849	20.4
<b>Ethnicity</b>		
White	71	1.7
Unknown	13	0.3
Indigenous	41	1.0
Mestizo	2721	65.5
Montubio	1234	29.7
Black or Afro-descendant	59	1.4
Other	17	0.4
<b>Religion</b>		
Catholic	2800	67.4
Christian	394	9.5
Evangelical	220	5.3
None	591	14.2
Other	151	3.6
<b>Marital Status</b>		
Married or Common-law union	325	7.8
Divorced	30	0.7
Single	3054	73.5

Regarding cultural and structural aspects, the population is primarily mestizo (65.5%) and montubio (29.7%), groups that reflect the country's ethnic composition represents a social context that must be considered in health strategies. The presence of minority groups such as Indigenous peoples (1.0%), Afro-descendants (1.4%), and intersex individuals (0.3%) demands an intercultural approach to ensure equity and inclusion. Religious beliefs, with Catholicism being predominant (67.4%). Additionally, the fact that 73.5% identify as single and over half are unemployed (56.26%) suggests potential risk scenarios related to casual relationships, economic dependence, and reduced autonomy in caring for sexual and reproductive health (Table 1).

Table 2 reveals that half of the respondents (47.5%) reported never undergoing SRH check-ups, and 38.7% have never accessed any SRH services—

highlighting a critical lack of routine care. Although 58.8% reported contraceptive use in the past year, a substantial 41.2% did not, and condoms were the preferred method among those sexually active (44.1%). Notably, 52.3% of non-users cited preference or pleasure as the main reason, while only 3% cited lack of knowledge, indicating behavioural rather than structural barriers. Concerning information sources, the internet and social networks (43.9%) were the most common, whereas only 30.1% relied on institutions. 8.4% of participants had no information source at all. When asked about methods preventing both pregnancy and sexually transmitted infections, 84.8% correctly identified condoms, though misconceptions persisted, with 4–6% attributing this protection to pills or implants. Only 20.3% of participants felt very informed about HIV and STI prevention, while 28.1% reported poor or no knowledge, suggesting significant educational

needs. Additionally, 8.3% of women re-reported having had an abortion, underscoring the importance of accessible, non-judgmental reproductive health services.

**Table 2: Research Questions about Sexual and Reproductive Health Access In Young Adults.**

Variables	Frequency (n=4164)	Percentage (%)
Have you had an abortion? (women only)		
No	3194	76,9
Not applicable	615	14,8
Yes	347	8,3
Where do you get information about sexual and reproductive health?		
Friends	52	1,3
Family	650	15,6
Institutions (Local governments, Municipality, NGOs, Youth groups, Educational institutions, Health services)	1249	30,1
Internet and social networks	1823	43,9
None	349	8,4
Series or movies	33	,8
In your opinion, which of the following contraceptive methods prevent both pregnancy and sexually transmitted infections?		
Oral contraceptives (pills)	370	8,9
Contraceptive implant	261	6,3
Condom	3525	84,8
How informed do you feel about HIV and STI prevention methods?		
Somewhat informed	2145	51,6
Very informed	844	20,3
Not informed at all	152	3,7
Poorly informed	1015	24,4
Have you used any contraceptive method in the past year?		
No	1712	41,2
Yes	2444	58,8
What are the main reasons you do not use contraceptive methods?		
Religious or cultural beliefs	10	,2
Desire to become pregnant	175	4,2
Lack of knowledge or understanding of contraceptive methods	124	3,0
Lack of economic resources	65	1,6
By preference/taste/pleasure	2173	52,3
Not sexually active	1609	38,7
If you have sexual relations, which contraceptive method do you prefer to use?		
Withdrawal or rhythm method	218	5,2
Intrauterine Device (IUD) (Copper T)	32	,8
Contraceptive implant	330	7,9
I do not have sexual relations	825	19,9
Contraceptive pill or injection	895	21,5
Emergency pill	25	,6
Condoms	1831	44,1
Have you accessed any of the following sexual health services?		
Reproductive system exam	131	3,2
Breast examination	456	11,0
None	2019	48,6
Guidance on contraceptive methods	681	16,4
Pap smear	741	17,8
Prefers not to answer	128	3,1
How often do you get sexual and reproductive health checkups?		
Annually	1599	38,5
Never	1975	47,5
Every six months	582	14,0
Where do you usually go to receive sexual and reproductive health services?		
Public health center	1627	39,1
I have not used it	1610	38,7
Private health services (clinic, doctor's office, private hospital)	919	22,1

Note: Questionnaire items

About the question “Have you had an abortion?” (Table 3), women aged 24–29 show a lower likelihood of having had an abortion compared to the 18–23 age group (aRRR = 0.449; p < 0.001), reflecting a pattern in which the experience of abortion is at younger ages within the analysed group. Regarding the gender variable, the model reveals a highly significant finding: women, compared to the reference category

(non-binary), are more likely to have reported an abortion (aRRR = 17778.000; p < 0.001). These findings confirm that age influences the likelihood of abortion, suggesting that reproductive decisions and associated risks among younger women, and they underscore gender as a central biological and social determinant.

**Table 3: Multivariate Multinomial Logistic Regression Performed to Obtain Adjusted Relative Risk Ratios (aRRRs) and their 95% Confidence Intervals (95% CIs) to Assess the Question “Have You Had an Abortion?” (Women Only).**

Variables	Does not apply				Yes			
	aRRR (95% CI)			p Value	aRRR (95% CI)			p Value
	OR	LL	UL		OR	LL	UL	
<b>Age groups</b>	Reference				Reference			
18 - 23 years	Reference				Reference			
24 - 29 years	1.165	0.805	1.687	0.418	<b>0.449</b>	<b>0.288</b>	<b>0.702</b>	<b>0.000</b>
<b>Sex</b>	Reference				Reference			
Female	Reference				Reference			
Male	8.020E-13	0.000	.c	0.960	1.549E-13	0.000	.c	0.958
Intersex	1.280E-06	0.000	.c	0.973	6.304E-06	0.000	.c	0.976
<b>Area of residence</b>	Reference				Reference			
Urban	Reference				Reference			
Rural	1.189	0.776	1.820	0.426	0.910	0.549	1.510	0.716
<b>Ethnicity</b>	Reference				Reference			
Other	Reference				Reference			
White	1.526	0.113	20.621	0.750	0.157	0.004	5.809	0.315
Unknown	3.203E-07	0.000	.c	0.987	2.457E-15	2.457E-15	2.457E-15	
Indigenous	0.427	0.021	8.740	0.581	0.201	0.006	6.968	0.376
Mestizo	0.563	0.048	6.635	0.648	0.232	0.013	4.230	0.324
Montubio	0.600	0.050	7.182	0.687	0.282	0.015	5.238	0.396
Black or Afro-descendant	0.227	0.013	3.997	0.311	0.263	0.009	7.386	0.433
<b>Religion</b>	Reference				Reference			
Other	Reference				Reference			
Catholic	0.721	0.350	1.484	0.374	0.751	0.286	1.970	0.561
Christian	0.805	0.349	1.857	0.612	0.929	0.308	2.806	0.897
Evangelical	0.508	0.168	1.539	0.231	0.625	0.163	2.401	0.494
None	0.475	0.209	1.078	0.075	0.549	0.186	1.617	0.277
<b>Marital Status</b>	Reference				Reference			
Widowed	Reference				Reference			
Married	0.610	0.034	10.866	0.737	0.202	0.007	5.706	0.348
Divorced	2.093	0.074	59.483	0.665	0.679	0.014	32.305	0.844
Single	0.353	0.021	5.858	0.468	0.067	0.003	1.746	0.104
Cohabitation	0.484	0.028	8.463	0.619	0.150	0.005	4.139	0.262
<b>Nationality</b>	Reference				Reference			
Other	Reference				Reference			
Ecuadorian	0.845	0.096	7.429	0.879	0.617	0.043	8.887	0.723
<b>Employment</b>	Reference				Reference			
Yes	Reference				Reference			
No	1.039	0.728	1.482	0.834	1.070	0.699	1.637	0.756
<b>Gender</b>	Reference				Reference			
Non-binary	Reference				Reference			
Female	12384672.559	0.000	.c	0.968	<b>17778.000</b>	<b>17778.000</b>	<b>17778.000</b>	<b>0.000</b>
Male	219505.804	0.000	.c	0.976	11362.800	11362.800	11362.800	
<b>Sexual Orientation</b>	Reference				Reference			
Other	Reference				Reference			
Bisexual	0.464	0.121	1.783	0.263	0.378	0.081	1.755	0.214
Heterosexual	1.016	0.431	2.394	0.971	0.798	0.315	2.019	0.634
Homosexual	1.165	0.366	3.714	0.796	0.770	0.164	3.625	0.741

Relative risk ratios adjusted for age groups, Area of residence, Ethnicity, Religion, Marital Status, Nationality, Employment, Gender and Sexual Orientation. Values in bold are of statistical significance.

Regarding the question “In your opinion, which of the following contraceptive methods prevent both pregnancy and sexually transmitted infections?” (Table 4), significant differences were observed by marital status and sexual orientation. Married, divorced, and single participants were less likely to identify family, contraceptive implants, pill methods

(all  $p = 0.000$ ), suggesting that marital status may shape perceptions of re-productive health information. Sexual orientation also played a relevant role: bisexual individuals were more likely to select the condoms as prevent methods ( $aRRR = 3.771$ ;  $p = 0.016$ ), as were heterosexual participants ( $aRRR = 1.869$ ;  $p = 0.005$ ).

**Table 5: Multivariate Binary Logistic Regression Performed to Obtain Adjusted Odds Ratios (aORs) and their 95% Confidence Intervals (95% CIs) for the Question “Have You Used Any Contraceptive Method in the Last Year?”**

Variables	aRRR (95% CI)			p Value
<b>Age groups</b>	Reference			
18 - 23 years				
24 - 29 years	<b>1.347</b>	<b>1.168</b>	<b>1.554</b>	<b>0.000</b>
<b>Sex</b>	Reference			
Female				
Male	1.132	0.300	4.276	0.855
Intersex	1.592	0.855	2.964	0.143
<b>Area of residence</b>	Reference			
Urban				
Rural	1.113	0.943	1.315	0.207
<b>Ethnicity</b>	Reference			
Other				
White	0.586	0.157	2.190	0.427
Unknown	2.146	0.922	4.997	0.077
Indigenous	1.407	0.853	2.322	0.182
Mestizo	1.550	0.932	2.577	0.092
Montubio	1.831	0.875	3.835	0.109
Black or Afro-descendant	0.774	0.247	2.428	0.660
<b>Religion</b>	Reference			
Other				
Catholic	0.894	0.712	1.122	0.333
Christian	0.816	0.608	1.094	0.174
Evangelical	1.033	0.854	1.250	0.739
None	0.966	0.676	1.381	0.849
<b>Marital Status</b>	Reference			
Widowed				
Married	<b>0.275</b>	<b>0.127</b>	<b>0.597</b>	<b>0.001</b>
Divorced	<b>0.366</b>	<b>0.276</b>	<b>0.484</b>	<b>0.000</b>
Single	<b>1.547</b>	<b>1.115</b>	<b>2.146</b>	<b>0.009</b>
Cohabitation	0.839	0.194	3.618	0.813
<b>Nationality</b>	Reference			
Other				
Ecuadorian	0.899	0.318	2.542	0.840
<b>Employment</b>	Reference			
Yes				
No	<b>1.761</b>	<b>1.536</b>	<b>2.019</b>	<b>0.000</b>
<b>Gender</b>	Reference			
Non-binary				
Female	1.350	0.225	8.095	0.743
Male	1.528	0.233	10.000	0.658
<b>Sexual Orientation</b>	Reference			
Other				
Bisexual	<b>1.464</b>	<b>1.053</b>	<b>2.036</b>	<b>0.023</b>
Heterosexual	0.754	0.428	1.329	0.329
Homosexual	1.418	0.954	2.107	0.084

Odds ratios adjusted for age groups, Area of residence, Ethnicity, Religion, Marital Status, Nationality, Employment, Gender and Sexual Orientation. Values in bold are of statistical significance.

The analysis of the question “Have you used any contraceptive method in the past year?” (Table 5) shows that age significantly influences contraceptive behavior. Participants aged 24–29 were more likely to report contraceptive use than those aged 18–23 (aRRR = 1.347; 95% CI: 1.168–1.554;  $p = 0.000$ ). Marital status was also a strong determinant: married individuals (aRRR = 0.275;  $p = 0.001$ ) and divorced individuals (aRRR = 0.366;  $p = 0.000$ ) were less likely to use contraceptives, while single individuals were more likely to report use (aRRR = 1.547;  $p = 0.009$ ). Unemployment was associated with greater contraceptive use (aRRR = 1.761;  $p = 0.000$ ), and bisexual participants were more likely to have used contraception compared to other orientations (aRRR = 1.464;  $p = 0.023$ ). These patterns underscore the influence of socio-demographic and economic factors on contraceptive practices.

Finally, in response to the question “If you have sexual relations, which contraceptive method do you prefer to use?” (Table 6), age, sex, ethnicity, marital status, employment status, and sexual orientation were all significant factors. Participants aged 24–29 were more likely to report not having sexual relations ( $p = 0.000$ ). Male participants were less likely than females to prefer the contraceptive implant ( $p = 0.000$ ), contraceptive pills or injections ( $p = 0.000$ ), the emergency pill ( $p = 0.000$ ), or condoms ( $p = 0.001$ ), and more likely to report abstinence ( $p = 0.005$ ). Ethnicity emerged as a strong determinant, with all ethnic groups—White, Unknown, Indigenous, Mestizo, Montubio, and Afro-descendant—showing significant associations with multiple contraceptive methods (all  $p = 0.000$ ). Single participants were more likely to prefer the emergency pill ( $p = 0.000$ ), while unemployed individuals were less likely to prefer contraceptive pills or injections ( $p = 0.003$ ). Regarding sexual orientation, heterosexual individuals were less likely to choose the emergency pill ( $p = 0.005$ ), and homosexual individuals were less likely to prefer contraceptive pills or injections ( $p = 0.011$ ). These findings reflect how intersecting social, cultural, and identity-related factors shape contraceptive preferences.

When we evaluated the sources of sexual and reproductive health information (Supplementary 1. Where do you get information about sexual and reproductive health?), bisexuals ( $p = 0.016$ ) and heterosexuals ( $p = 0.005$ ) were more likely to rely on internet/social media, while married and divorced. Single participants less often cited family, implants, or social networks (all  $p = 0.000$ ). Supplementary 2. How informed do you feel about HIV and other STI prevention methods? Participants aged 24–29 were

less likely to feel very knowledgeable ( $p = 0.005$ ) and more likely to feel little informed ( $p = 0.017$ ). Supplementary 3. What are the main reasons why you do NOT use contraception? Ecuadorians were less likely to report “pleasure/preference” as a reason ( $p = 0.000$ ). Supplementary 4. Who recommended the contraceptive method to you? Participants aged 24–29 were less likely to receive physician counselling ( $p = 0.004$ ), while unemployed and bisexual individuals more often relied on social networks ( $p = 0.043$ ;  $p = 0.044$ ). Supplementary 6. How often do you have sexual and reproductive health check-ups? Participants aged 24–29 and hetero-sexual more frequently reported no check-ups (both  $p = 0.000$ ).

Supplementary 7. Where do you primarily go for sexual and reproductive health services? Participants aged 24–29 (aRRR = 2.917;  $p < 0.001$ ) and those who were married, divorced, or single (all  $p < 0.001$ ) were less likely to use services. Men were less likely to use private services (aRRR = 0.119;  $p = 0.028$ ). Finally, the Supplementary 8. Do you know where you can access free contraceptive methods? Those aged 24–29 ( $p = 0.000$ ), single ( $p = 0.027$ ), and unemployed ( $p = 0.033$ ) were more informed. In contrast, rural residents ( $p = 0.015$ ), those who were divorced ( $p = 0.002$ ), and individuals with no religious affiliation ( $p = 0.001$ ) were less informed.

#### 4. DISCUSSION

Overall, among university students, younger participants (18–23 years) emerged as the most vulnerable group for sexual and reproductive health. The highest gaps in preventive check-ups and access to specialized health services, with nearly half of the population never attending them. Younger women reported a greater likelihood of abortion compared to those aged 24–29, confirming concentrated risks in early adulthood. Condom use predominated, but many reported no contraceptive use, with personal preference cited more often than structural barriers. Knowledge of HIV and STI prevention was limited, and misconceptions about contraceptive methods persisted despite widespread reliance on digital information sources. On the other hand, older youth (24–29 years) showed greater knowledge of free contraceptives but did not seek health services. These results highlight barriers beyond awareness about sexual health.

In our results, women aged 18–23 years demonstrated the highest probability of re-reporting abortion. These rates highlight that the early reproductive age is a critical period of vulnerability for unintended pregnancy and reproductive risks. Sexual activity among university students represents

a high-risk behavior due to developmental factors such as impulsivity (Jahanfar & Zendehdel, 2024). Between 2010 and 2014, 59% of unintended pregnancies ended in abortion in developed regions, compared with 55% in developing regions (Bearak et al., 2018). Younger people who experience induced abortion face physical and emotional challenges after the procedure (Tang). Younger people who undergo induced abortion often face not only physical and psychological challenges but also profound concerns related to future reproductive health (Tang et al., 2024).

Notably, younger participants (18–23 years) demonstrated higher self-reported knowledge of HIV and STI prevention compared with those aged 24–29. Although the knowledge did not consistently translate into safer practices, this suggests that awareness alone is insufficient without parallel behavioral interventions and accessible preventive services. Young people represent a vulnerable group to HIV (Licata et al., 2022; Ueda et al., 2020). A survey conducted in Sweden showed that less than 58% of participants knew that condom use prevents HIV, revealing significant educational gaps (Tirado et al., 2024). In Spain, a study reported limited knowledge about key issues, such as the importance of dual protection methods for HIV prevention (Moreno-García et al., 2025). Participants aged 24–29 years are significantly more likely to report contraceptive use. The condom is the most frequently used method. However, male participants were significantly less likely to prefer condoms as their contraceptive method. Dual protection (condom plus contraceptive) is little known and underutilized, because a condom generates distrust in couples, preventing effective, safe sexual practices (Tenza et al., 2024).

Young adults aged 24–29 were less likely to undergo Pap smears, indicating a gap in preventive care. Our findings indicate that young adults aged 24–29 years were less likely to receive contraceptive counselling from a physician. These patterns reflect gaps in sexual health education and accessibility of medical counselling for younger people (McGuire et al., 2024). Lack of resources in low-middle countries, such as Ecuador, may contribute to these results. Upper-middle-income Latin American countries face significant challenges in ensuring equitable access to sexual and reproductive health care for young people (Dávila et al., 2025; Garbett et al., 2023). Our findings reveal a paradox in which older youth are more informed and know where to access free contraceptives, yet they demonstrate lower engagement with services. University students

underutilize sexual and re-productive health services (Wube et al., 2025). The main reasons why these populations did not use sexual and reproductive health services are cultural, social, and economic barriers (Mutea et al., 2020; Wube et al., 2025). Health centers in university settings may help reduce sexual health disparities among students (Olson et al., 2024). The results of this study are part of a project that implemented a sexual and reproductive health center for university youth on the Ecuadorian coast.

## 5. LIMITATIONS AND STRENGTH

The main limitations are that the cross-sectional and self-reported design represents a bias. Questions about social desirability underestimate sensitive behaviors such as abortion or contraceptive non-use. The survey did not include detailed clinical information, such as history of sexually transmitted infections, gynaecological conditions, or mental health comorbidities, which may influence sexual and reproductive health practices. We restricted the study population to university students, which may not represent all young adults in Ecuador. Despite these limitations, this is the first large-scale analysis of sexual and reproductive health practices among university students on the Ecuadorian coast. A significant strength is the high number of responders. This study offers a comprehensive assessment of sociodemographic determinants and contraceptive behaviors, providing essential evidence to guide inclusive, youth-focused sexual and reproductive health interventions in Ecuador.

## 6. CONCLUSION

This cross-sectional study evaluated sexual and reproductive health among young and adult university students on the Ecuadorian coast. Overall, younger participants (18–23 years) represent the vulnerable group, showing greater risks of abortion, lower service use, and limited preventive checkups. In summary, nearly half of the students had never accessed sexual health services, despite high awareness of contraceptive availability. A sociodemographic analysis confirmed that gender, sexual orientation, and marital status strongly influenced contraceptive use, preferences, and information sources. Condom use predominated, but many reported no contraceptive use, with personal preference out-weighting structural barriers. Our results highlighted the need to expand preventive care, strengthen sexual health, and implement youth-focused interventions to reduce vulnerability.

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