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Beyond knowledge: violence as a structural determinant of adolescent sexual and reproductive health in Angola

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Abstract

Background: Evidence on adolescent sexual and reproductive health (SRH) in Angola remains scarce, particularly among younger adolescents who are frequently excluded from research. Context-specific data are needed to understand how SRH knowledge translates into behaviours and how structural factors shape adolescents' ability to act on this knowledge. This study aimed to describe SRH knowledge, behaviours, exposure to violence, and structural vulnerabilities among adolescents aged 11–17 years in Benguela Province, Angola.

Methods: We conducted a school-based cross-sectional study in October 2024 among 382 adolescents from urban (n = 282) and rural (n = 100) settings in Benguela Province, selected through systematic random sampling. A culturally adapted questionnaire assessed key SRH domains, including knowledge, sexual behaviours, contraceptive use, menstrual health, pregnancy and abortion, and experiences of sexual and gender-based violence (GBV). Data were analysed using descriptive and bivariate statistics to characterise patterns by sex and residence.

Results: Nearly all participants demonstrated adequate SRH knowledge (98.7%). However, only 18.1% reported using any contraceptive method, with pronounced gender disparities, particularly in urban settings (urban boys 34.0% vs. urban girls 7.7%; $p < 0.001$). Overall, 29.0% reported having engaged in sexual intercourse, and 8.1% reported risky sexual behaviours, including inconsistent condom use during sexual intercourse. Nearly half of adolescents (45.8%) reported experiences of sexual or GBV, with forced sexual acts disproportionately affecting boys, positioning violence as a key constraint on adolescents' sexual and reproductive agency. Menstrual-related barriers were widespread, affecting 63.5% of urban girls and 80.3% of rural girls, and included missing school or daily activities. Unintended pregnancy was reported by 2.4% of participants, and all reported abortions occurred in urban settings.

Conclusions: Despite near-universal SRH knowledge, adolescents face substantial barriers to adopting protective practices. Widespread exposure to violence emerges as a central structural determinant, operating alongside restrictive gender norms, limited access to youth-friendly services, and menstrual health challenges to constrain adolescents' ability to act on existing knowledge. Improving adolescent SRH in Angola will require moving beyond information-based strategies toward integrated, gender-responsive approaches that combine education with accessible services, menstrual health support, and comprehensive violence-prevention efforts.

1. INTRODUCTION

Adolescence is a critical stage in identity formation, the development of autonomy, and the beginning of experiences related to sexuality. During this stage, young people navigate decisions related to consent, protection and the exercise of their sexual and reproductive rights (SRR), in ways shaped by intersecting social, cultural and structural factors that may either enable or constrain their autonomy (1,2) Adolescence is not a homogeneous life stage; early adolescence, in particular, is characterised by

limited autonomy, high dependence on family and school environments, and distinct vulnerabilities that shape how sexual and reproductive health knowledge is understood and acted upon (3–5)

Access to accurate sexual and reproductive health (SRH) information has been shown to improve knowledge, reduce risk behaviours and increase contraceptive use (6,7). Comprehensive sexuality education (CSE) has therefore been promoted as a key strategy for supporting a safe and informed transition to adulthood (2,8).

However, growing evidence indicates that improvements in knowledge alone are often insufficient to produce sustained changes in behaviour, particularly in settings characterised by gender inequality, stigma and limited access to youth-friendly SRH services (1,9,10). This persistent knowledge–practice gap highlights the importance of examining the broader social and structural conditions under which adolescents make SRH-related decisions (11).

Across sub-Saharan Africa (SSA), adolescents, particularly girls, continue to face multiple, intersecting barriers to the exercise of their SRR(12). Gender inequality, restrictive social norms and limited access to youth-friendly SRH services have been consistently documented as key constraints across the region.

In parallel, adolescents are widely exposed to sexual and gender-based violence (GBV), which further undermines SRH outcomes by limiting agency, increasing biological risk and normalising coercive relationships. Recent studies in SSA report that between 40% and 70% of adolescents have experienced some form of sexual violence, including coercion, harassment or abuse by peers or adults (13,14). Despite its prevalence, violence is often treated as a parallel outcome rather than as a central structural determinant of adolescent SRH (12). This analytical separation risks underestimating how early exposure to coercion, abuse and forced sexual experiences shapes adolescents' sexual trajectories, particularly among boys.

Menstrual health represents another critical yet frequently neglected dimension of adolescent SRH. Across SSA, menstruation remains surrounded by stigma and inadequate resources and many girls miss school or experience shame and social isolation during menstruation due to pain, lack of sanitary materials or restrictive cultural norms (15–17). These barriers reinforce gendered educational and health inequalities from early adolescence.

In Angola, deep social inequalities, cultural barriers, and limited investment in adolescent health exacerbate these challenges. Despite increasing awareness of SRH, structural barriers continue to hinder the translation of knowledge into practice (6,10,18). National assessments, including the 2022 UNFPA evaluation (19) and the 2023–2024 IIMS survey (20) reported persistently high adolescent fertility rates and low use of modern contraceptives, particularly in rural areas.

Although studies across SSA have examined aspects of SRH knowledge and behaviour, most have been conducted in anglophone countries and focus on older adolescents or specific issues such as human immunodeficiency virus (HIV) or contraception (1,7,9). Evidence from Portuguese-speaking African

countries, particularly Angola, remains extremely limited, and very little is known about how younger adolescents understand SRH, negotiate sexual relationships or experience violence and structural constraints within school settings.

This study is framed within the CHANCE project (*Strategies to Improve the Knowledge and Attitudes of Young Angolans Regarding Sexual and Reproductive Health*) (21), funded by the European Union. The project aims to strengthen Sexual and Reproductive Health (SRH) among young people in Cubal and Lobito, with particular attention to girls and socially vulnerable groups.

This baseline study aimed to describe SRH knowledge, behaviours and structural vulnerabilities among adolescents aged 11–17 years in Benguela Province, Angola. By examining the intersection of knowledge, gender, violence and menstrual health, the study explicitly positions sexual and GBV as a core structural factor influencing adolescents' sexual and reproductive health trajectories.

2. MATERIAL AND METHODS

Study design and setting

This cross-sectional descriptive study was conducted in Benguela Province, Angola, within the framework of the CHANCE project (NDICI HR INTPA/2023/450 – 200). Data collection took place in October 2024 in two municipalities representing contrasting socioeconomic and service-access contexts. Lobito is a predominantly urban and peri-urban municipality with higher population density, greater school enrolment and comparatively better access to SRH services. Cubal represents a largely rural context characterised by greater socioeconomic vulnerability and more limited availability of youth-friendly health services.

The study design allows for the simultaneous assessment of knowledge, behaviours, and structural vulnerabilities among adolescents, providing a comprehensive snapshot of SRH outcomes in different context.

Population and sampling

The target population comprised 65,507 adolescents aged 11 to 17 years enrolled in lower and upper secondary education in the municipalities of Lobito (n = 55,799) and Cubal (n = 9,708). A representative sample of 382 adolescents was calculated using the Raosoft® statistical calculator, with a 95% confidence level and a 5% margin of error.

Although initial proportional allocation was 85% for Lobito and 15% for Cubal, the final sample (282 urban; 100 rural) was adjusted to reduce sampling error in the rural site and enable comparisons. Rural schools were therefore intentionally oversampled to enable urban–rural comparisons; analyses were not population-weighted.

Sampling strategy

Systematic random sampling was used. In each municipality, schools were selected in coordination with local educational authorities. Within selected schools, specific classes (turmas) were chosen based on scheduling feasibility and coordination with school staff and students were selected from class attendance lists using a fixed interval (every 5th student), with replacement when absent.

Data collection instrument

A structured questionnaire was developed by the research team, drawing on validated instruments from previous studies on SRH (22) and adapted to the Angolan context. To ensure the ethical formulation of sensitive questions and the appropriateness of language for adolescents, the questionnaire underwent a comprehensive expert review by the Child Abuse Unit and the STIs Unit of Vall d'Hebron University Hospital (Barcelona, Spain), with particular attention to items addressing sexuality, pregnancy, and experiences of violence. Local project partners also evaluated the tool for cultural relevance.

A pilot test was conducted with 38 adolescents (approximately 10% of the intended sample) in both urban and rural areas. Based on this feedback, the final questionnaire included 89 items across nine thematic sections: sociodemographic variables, pregnancy and abortion, SRH knowledge, sexual behaviour, GBV, menstruation, contraceptive use, sexual orientation and gender equality. The full questionnaire is provided as online supplemental material (Supplementary file 1).

Operational definitions

SRH knowledge was measured through statements on sexuality, pregnancy, menstruation, puberty, STIs, contraception, and fertility risks. Correct answers were scored as one and incorrect or "don't know" as zero (maximum score: 14), with scores ≥ 7 indicating adequate knowledge. Conceptually, knowledge was treated as a necessary but insufficient condition for protective practices and was therefore analysed in conjunction with behavioural and structural indicators rather than as a primary outcome.

Contraceptive use was defined as self-reported use of any pregnancy prevention method. Practices were assessed using a composite score (preventive behaviours = 1; risk behaviours = 0). Barriers were measured with a yes/no item, and attitudes toward contraception with Likert-scale items, where higher scores indicated more favourable views toward universal access.

Risky sexual behaviour was defined as self-reported behaviours associated with increased biological risk of sexually transmitted infections or unintended pregnancy,: including sex with an STI-positive partner, multiple concurrent partners, sex under the influence of alcohol or drugs, sex under threat or coercion, transactional sex, or lack of condom use in casual encounters.

Menstrual health barriers were assessed through four yes/no items asking whether menstruation had ever caused girls to miss school, miss work, avoid leaving home or other daily activities.

Pregnancy and abortion were assessed by asking whether respondents or their partners had ever experienced an unintended pregnancy and, if so, whether abortion had been used. Two binary variables

were created: history of unintended pregnancy and history of abortion, with abortion analysed only among those reporting an unintended pregnancy.

Experiences of sexual and GBV were defined as reporting any of the following in childhood: inappropriate touching, forced sexual acts, exposure to sexual acts at home, sexual advances by adults, attempted or completed penetration, forced participation in sexual activity, or inability to consent due to intoxication. These experiences were analysed independently from sexual risk behaviours to avoid conflation of distinct constructs.

Although items on sexual orientation and gender equality were included in the questionnaire, they were excluded from the analysis due to ethical and developmental considerations related to participants' age (11–17 years).

Data collection procedures

Before the study began, approval was obtained from the National Directorate of Public Health of Angola and communicated to the municipal education authorities in Lobito and Cubal, who authorised the selected schools to participate. Community activists then met with school principals to explain the study procedures, and school administrators coordinated the collection of parental informed consent for participating students.

Fieldwork took place in October 2024. In Cubal, surveys were conducted from 8–11 October; in Lobito, from 22–26 October. Teams included 14 data collectors in Cubal and 40 in Lobito, working in pairs under supervision. Each interview lasted approximately 35 minutes and was conducted in a private setting within school premises to ensure confidentiality. The questionnaire was administered with individual assistance from trained community activists experienced in working with children and sensitised to sexual and reproductive health topics. To safeguard participants' wellbeing, the instrument followed a progressive structure, so that children were not exposed to more sensitive sections unless necessary. All data were collected in a confidential environment and in a language familiar to the participants.

Data Management and Statistical Analysis

Categorical variables were described using absolute frequencies and percentages. Continuous variables were presented as means and standard deviations or medians and interquartile ranges, depending on the distribution. Normality was assessed using the Shapiro–Wilk test.

For bivariate analysis, Chi-square or Fisher's exact test was used to compare categorical variables, and Student's t-test or Mann–Whitney U test was applied to compare continuous variables, depending on their distribution. A p-value < 0.05 was considered statistically significant.

Data were entered into a secure database and analysed using IBM SPSS Statistics v.26 (IBM Corp., Armonk, NY, USA). There were no missing data for the main study variables, as non-responding students

were replaced during data collection to achieve the target sample size. Replacement was conducted using the same sampling interval to preserve randomness.

This study is reported in accordance with the STROBE guidelines for cross-sectional studies.

Patient and Public Involvement

Community stakeholders and adolescents contributed to the design and conduct of this study. The questionnaire was culturally adapted in partnership with local organisations and community activists with expertise in adolescent health to enhance contextual relevance, comprehension, and acceptability of sensitive measures. A pilot conducted with adolescents from urban and rural settings informed the refinement of the data collection tool.

Community activists facilitated data collection within schools, supporting ethically grounded and context-sensitive research practices. Adolescents were not involved in data analysis or interpretation. Findings will be disseminated to participating schools and local partners to promote community engagement and inform adolescent sexual and reproductive health programming.

Ethical considerations

The study protocol was approved by the relevant ethical and educational authorities in Angola (MINSA, n.º 25/CEMS/2024). Parental consent and student assent were obtained prior to participation. Participation was voluntary, and anonymity and data confidentiality were ensured throughout the process. Interviewers received specific training in child safeguarding and the ethical management of sensitive disclosures. A predefined referral pathway was in place to ensure that any disclosure of abuse, violence or immediate risk was managed confidentially and referred to appropriate local health or social protection services in accordance with national child protection protocols. The questionnaire included sensitive items on violence; the full instrument is available as supplementary material.

2. RESULTS

Seventeen schools were included in total (ten in Lobito and seven in Cubal), with a total of 382 adolescents aged 11 to 17 years (mean 14.3 SD ± 1.8). Most participants resided in urban areas 73.8%, (n = 282), while 26.2% (n = 100) lived in rural settings. SRH knowledge was high overall, with 98.7% (n = 377) demonstrating adequate knowledge.

Table 1 presents SRH indicators stratified by sex and place of residence.

In urban settings, boys were significantly more likely than girls to report having initiated sexual intercourse (45.0% vs 10.4%; $p < 0.001$) and contraceptive use (34.0% vs. 7.7%; $p < 0.001$). A similar pattern was observed in rural areas, although differences did not reach statistical significance (43.6% vs 28.6%; $p = 0.143$); contraceptive use: 28.2% vs. 16.4%, $p = 0.157$). Urban boys reported an earlier age at sexual debut than urban girls (mean ± SD: 12.4 ± 2.3 vs. 14.6 ± 1.4 years), although this difference was

not statistically significant. In rural settings, boys reported a significantly earlier sexual debut than girls (13.6 ± 2.5 vs. 15.5 ± 2 years; p = 0.03). Risky sexual behaviours were more frequently reported by boys, particularly in rural settings (17.9% vs 3.3%; p = 0.012).

Overall, 29% (n = 88) reported having engaged in sexual intercourse, among them 31 (35.2%) reported risky sexual behaviours, and 18 (58,1%) of them stated not using condoms during sexual intercourse in the past six months. Only 69 adolescents (18.1%) reported having used any contraceptive method, while only 38 (9.9%) reported consistent condom use during sexual intercourse, with higher prevalence in urban than rural areas (11.3% vs 6.0%; p = 1.80).

Disparities were also evident in menstrual health, 73.8% (n = 165) reported missing school, sports, or social activities due to menstruation, with significantly higher prevalence in rural compared with urban areas (80.3% vs. 63.5%; p < 0.001).

Beyond sexual behaviours and contraceptive practices, exposure to sexual and GBV emerged as a major pattern among adolescents and affected 45.8% (n = 175) with boys disproportionately affected (69.8% vs 32.2%; p < 0.001). Reports were more frequent in rural than urban settings (52.0% vs 43.6%), although this difference was not statistically significant (p = 0.184). Approximately one in four adolescents reported inappropriate touching before age 10, and forced sexual acts were significantly more common among boys in both urban (17.0% vs. 8.8%; p = 0.040) and rural areas (28.2% vs. 9.8%; p = 0.017). Overall exposure remained high across subgroups, particularly among rural boys (61.5%) and urban girls (50%). Specific forms of violence are detailed in Table 2.

Table 1
Sexual and reproductive health indicators by sex and place of residence among adolescents aged 11–17 years in Benguela Province, Angola

Indicator	Urban			Rural		
	Women (N = 182)	Men (N = 100)	*p* value	Women (N = 61)	Men (N = 39)	*p* value
Age at first sexual intercourse (mean ± SD, years)	14.58 ± 1.44	12.36 ± 2.26	0.13	15.50 ± 1.99	13.65 ± 2.52	0.033
Adequate SRH knowledge	182 (100%)	99 (99%)	0.18	58 (95.1%)	38 (97.4%)	0.558
Use of contraceptive methods	14 (7.7%)	34 (34%)	< 0.001	10 (16.4%)	11 (28.2%)	0.157
Has had sexual intercourse	12 (10.4%)	45 (45%)	< 0.001	14 (28.6%)	17 (43.6%)	0.143
Risky sexual behaviours	1 (0.5%)	8 (8%)	< 0.001	2 (3.3%)	7 (17.9%)	0.012
Menstrual barriers (girls only)	115 (63.5%)	NA	–	49 (80,3%)	NA	–
Unwanted pregnancy	4 (2.2%)	4 (4%)	0.38	1 (2.6%)	0 (0%)	0.209
Abortion	3 (1.7%)	3 (3%)	–	0 (0%)	0 (0%)	–
Has experienced violence	50 (50%)	73 (40.1%)	0.11	28 (45.9%)	24 (61.5%)	0.127

Footnotes

Values are presented as number (percentage) or mean ± standard deviation, unless otherwise specified.

Percentages for menstrual-related barriers are calculated among female participants only.

NA: not applicable.

"–": statistical comparison not performed due to absence of events or insufficient data.

Table 2
Prevalence of reported experiences of sexual and GBV among adolescents aged 11–17 years, by sex and place of residence in Benguela Province, Angola

Indicator	Urban			Rural		
	Girls (N = 182)	Boys (N = 100)	*p* value	Girls (N = 61)	Boys (N = 39)	*p* value
Inappropriate or uncomfortable touching before age 10 years	42 (23.1%)	27 (27%)	0.463	14 (23%)	9 (23%)	0.99
Unwanted sexual touching at any age	30 (16.5%)	22 (22%)	0.253	17 (27.9%)	11 (28.2%)	0.97
Forced sexual acts	16 (8.8%)	17 (17%)	0.040	6 (9.8%)	11 (28.2%)	0.02
Heard about inappropriate sexual acts at home	28 (15.4%)	20 (20%)	0.324	12 (19.7%)	5 (12.8%)	0.38
Family member or acquaintance tried to have sex with them	23 (12.6%)	24 (24%)	0.140	15 (24.6%)	15 (38.5%)	0.14
Attempted or completed penetration without consent	9 (4.9%)	7 (7%)	0.475	6 (9.8%)	7 (17.9%)	0.24
Forced to perform sexual acts through physical violence	7 (3.8%)	9 (9%)	0.073	7 (11.5%)	4 (10.3%)	0.85
Sexual acts under the influence of alcohol or drugs (no capacity to consent)	3 (1.6%)	2 (2%)	0.830	2 (3.3%)	1 (2.6%)	0.84
Footnotes: Values are presented as number (percentage).						

All indicators refer to self-reported experiences occurring at any time during childhood or adolescence.

p-values represent comparisons by sex within each place of residence.

3. DISCUSSION

This study provides one of the few available assessments of SRH knowledge, attitudes, and lived experiences among adolescents aged 11–17 in Angola, a population that remains largely under-represented in the literature.

One of the most concerning findings of this study is the widespread exposure to sexual and GBV, which helps explain why high levels of SRH knowledge do not translate into safer sexual practices in this population. Nearly half of all adolescents reported at least one form of violence, with particularly high prevalence among rural boys and urban girls. These levels are consistent with evidence from other SSA contexts reporting alarmingly high exposure to sexual violence during childhood and early adolescence

(37–39). Importantly, this study contributes to a growing body of evidence showing that boys' experiences of violence are both prevalent and under-recognised (38,40).

While much of the existing literature has focused on girls' victimisation, the high prevalence of forced sexual acts reported by boys in this study underscores the need for more inclusive prevention strategies. Recognising boys solely as potential perpetrators risks obscuring their exposure to violence and the harmful gender norms that shape their experiences (41). Evidence suggests that effective violence-prevention interventions are multilevel and gender-transformative, combining life skills education, family and community engagement and social norms change (42,43). Positive parenting and household stability further act as key protective factors (44), while school-based and empowerment-focused programmes show promise in promoting respectful relationships and reducing violence (45,46). Addressing violence among adolescents therefore requires moving beyond individual risk factors toward systemic, community-based approaches that engage both girls and boys (47–49).

The findings reveal a marked disconnect between near-universal SRH knowledge and limited adoption of protective behaviours, underscoring the role of structural and gendered constraints in shaping adolescents' capacity to exercise their SRR.

These findings should be interpreted in light of the wide age range included in the study, which spans early to late adolescence; although analyses were conducted for the sample as a whole, variations in autonomy and decision-making capacity across developmental stages are likely to shape how SRH knowledge translates into behaviour.

Despite almost all participants demonstrating adequate SRH knowledge, contraceptive use remained low, particularly among girls. This finding reinforces growing evidence from SSA challenging the assumption that information alone is sufficient to produce behavioural change during adolescence (23,24). Qualitative and review studies consistently show that fear of stigma, unequal power relations, restricted autonomy and limited access to youth-friendly services constrain adolescents' ability to act on the information they possess(25–27) In this context, the knowledge–practice gap observed in Benguela reflects systemic failures rather than individual shortcomings.

Gender disparities in contraceptive use were particularly pronounced in urban settings, where girls reported extremely low use compared with boys. This pattern likely reflects persistent gender norms that place responsibility for contraception on males while simultaneously limiting girls' decision-making power and access to services (28,29). Similar dynamics have been documented across SSA, where girls' reproductive agency is constrained by social expectations, partner control and fear of judgement within health services (8,30).

By contrast, boys reported earlier sexual initiation and higher engagement in risky sexual behaviours, aligning with dominant constructions of masculinity that valorise early and unprotected sexual activity (31,32)

The pronounced gender differences in age at sexual debut observed in this young population warrant particular attention. Early sexual initiation among boys has been associated with adverse relationship dynamics and increased vulnerability to coercion and violence in SSA settings (31). Given the high prevalence of reported violence in this study, early sexual experiences among boys may not always reflect agency or choice but could also occur within contexts of coercion, violence and normative pressures that remain largely under-recognised in SRH research. Conversely, girls' later sexual debut may reflect restrictive forms of social control rather than empowerment (32,33). These findings highlight the need for gender-sensitive SRH programmes that address harmful norms affecting both girls and boys, including norms that normalise male risk-taking and silence male vulnerability (34–36).

Menstrual barriers were also highly prevalent, especially in rural settings, where more than 80% of girls reported refraining from school or daily activities during menstruation. This mirrors findings from SSA showing that lack of sanitary products, inadequate water, sanitation and hygiene (WASH) facilities, and menstrual stigma contribute to absenteeism, discomfort, and psychosocial distress (50–52). The magnitude of menstrual barriers observed in this study indicates that menstrual health should be integrated into SRH programming not only through education, but also through the provision of materials and improvements in school infrastructure.

Reports of unintended pregnancy and abortion were relatively infrequent in this young adolescent population. However, the concentration of reported abortions in urban settings may reflect differential access to information and services, or greater social visibility of such events in urban areas. In the Angolan context, where abortion remains legally restricted, these findings underscore the importance of ensuring access to accurate information and confidential, youth-friendly SRH services from early adolescence. Previous evidence from Benguela suggests that unintended pregnancy and unmet contraceptive need increase substantially later in adolescence, highlighting the importance of early preventive interventions (53). Although grounded in the Angolan context, these findings reflect broader challenges observed across SSA, where early adolescence remains under-researched despite being a critical window for preventive SRH interventions.

Limitations

This study has several limitations. Its cross-sectional design precludes causal inference between SRH knowledge, behaviours and experiences of violence. Self-reported data may underestimate sensitive experiences despite confidentiality measures, and social desirability bias may have influenced reporting. Analyses were conducted at the individual level and did not account for clustering by school. Finally, the study included only school-going adolescents, limiting generalisability to out-of-school youth, who may experience even greater vulnerability.

CONCLUSIONS

This study demonstrates that adolescents aged 11–17 years in Benguela Province possess high levels of SRH knowledge but face substantial barriers to translating this knowledge into protective behaviours.

The findings highlight a persistent knowledge–practice gap shaped by gender norms, limited autonomy, restricted access to youth-friendly services, menstrual health constraints and widespread exposure to sexual and GBV.

Girls' particularly low contraceptive use, despite high levels of knowledge, reflects enduring gendered power imbalances that constrain decision-making and access to care from early adolescence. At the same time, boys' earlier sexual initiation, higher engagement in risky behaviours and high exposure to forced sexual acts reveal distinct and often overlooked vulnerabilities. Together, these patterns challenge simplified narratives that frame boys solely as risk-takers or perpetrators and girls solely as victims, underscoring the need for more nuanced, gender-responsive approaches.

The high prevalence of sexual and GBV across all subgroups, affecting nearly half of participants, emerges as a central finding of this study. Violence appears not as an isolated experience but as a systemic determinant shaping adolescents' SRH trajectories, limiting agency, normalising coercion and undermining the effectiveness of information-based interventions. These findings suggest that addressing adolescent SRH without explicitly confronting violence, particularly violence affecting boys, risks reproducing the very knowledge–practice gap that education-only interventions seek to close.

Menstrual health barriers were also highly prevalent, particularly in rural settings, where they contributed to school absenteeism and reduced participation in daily activities. These findings reinforce the need to recognise menstrual health as a core component of adolescent SRH and educational equity, requiring structural interventions beyond health education alone.

Overall, these results indicate that improving adolescent SRH in Angola requires moving beyond information-focused strategies toward integrated, gender-transformative public health approaches. Such approaches should combine comprehensive sexuality education with accessible, confidential and youth-friendly SRH services; systematic violence-prevention and response mechanisms; and menstrual health support, including the provision of sanitary materials and improvements in school infrastructure. Investing in early adolescence is critical to interrupting cycles of vulnerability and to advancing sexual and reproductive rights in under-resourced and under-researched contexts.

Declarations

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Conflict of Interest

The authors declare that they have no competing interests.

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Ethical statement

The study followed the Declaration of Helsinki and Good Clinical Practice guidelines, and was approved by the Ethics Committee of the Ministry of Health of Angola (MINSA, n.º 25/CEMS/2024). Written parental informed consent and adolescent assent were obtained prior to participation.

Availability of data and materials

De-identified data are available from the corresponding author upon reasonable request.

Author Contributions

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Implications and contributions

This study highlights major gaps between SRH knowledge and behaviour among adolescents in Angola, emphasising gendered barriers in contraception, menstrual health, and violence. By including younger adolescents and comparing urban–rural contexts, the findings provide evidence to guide more equitable, gender-transformative SRH programmes and inform education and health system responses targeting early adolescence.

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