

Awareness of Unintended Pregnancy and Sexually Transmitted Infections among Adolescents and Young Adults in Douala IV Municipality in Cameroon

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Abstract

Unintended pregnancy and sexually transmitted infections (STIs) remain major public health concerns among adolescents and young adults, particularly in sub-Saharan Africa. This study assessed the level of awareness regarding unintended pregnancy and STIs among youths aged 15 - 24 in Douala IV municipality, Cameroon. A cross-sectional survey was conducted with 400 participants selected through stratified random sampling from schools, households, and health centers. Data were collected using a structured questionnaire and analyzed using SPSS version 25.0. Results indicated that although 78% of respondents had heard of unintended pregnancy, only 54% could correctly identify at least two modern contraceptive methods. Awareness of STIs was higher, with 85% recognizing the term, yet only 47% could identify common STI symptoms. Risky sexual behaviors, such as early sexual debut, multiple partners, and inconsistent condom use, persisted despite this moderate awareness. School-based education and parental discussions were the primary sources of information. However, 60% of respondents reported never receiving formal sexual education. The findings reveal significant knowledge gaps and misconceptions that contribute to poor sexual health outcomes. Strengthening comprehensive sexuality education and youth-friendly services is critical to enhancing informed decision-making and reducing reproductive health risks in this vulnerable population.

Keywords

Unintended Pregnancy, Sexually Transmitted Infections, Adolescents,

Douala IV

1. Introduction

Adolescence and early adulthood represent critical developmental stages marked by increased autonomy, identity formation, and experimentation, including in matters of sexuality and reproductive health. However, inadequate access to accurate sexual health information, coupled with social and economic vulnerabilities, exposes young people to significant reproductive health risks, notably unintended pregnancy and sexually transmitted infections (STIs). These conditions continue to burden health systems in sub-Saharan Africa and disproportionately affect adolescents and young adults, particularly in urban low-resource settings like Douala IV, Cameroon.

Globally, the World Health Organization (WHO) estimates that approximately 16 million adolescent girls give birth each year, with the vast majority (95%) occurring in low- and middle-income countries [1]. Many of these pregnancies are unintended, often resulting from low contraceptive uptake, poor negotiation skills in sexual relationships, and inadequate knowledge about reproductive health. Similarly, adolescents account for a significant proportion of the estimated 374 million new cases of curable STIs diagnosed annually worldwide [2]. These statistics underscore the urgent need to assess and improve awareness and education around sexual and reproductive health (SRH) issues in this age group.

In Cameroon, the 2018 Demographic and Health Survey revealed that 23% of adolescents aged 15 - 19 had already begun childbearing, and contraceptive prevalence among sexually active unmarried young women was just 33% [3]. Moreover, over 60% of adolescents were unaware of symptoms of common STIs, and misconceptions about modes of transmission persisted [4]. These gaps in knowledge contribute to delayed diagnosis and treatment, stigma, and high rates of transmission, particularly in urban areas experiencing rapid population growth, social inequality, and under-resourced health services.

Urban municipalities like Douala IV face compounded challenges. Characterized by dense population, high youth unemployment, and limited access to youth-friendly health services, this district mirrors many of the structural determinants that influence adolescent health in similar contexts across Africa. According to UNFPA, urban youth often experience higher rates of unintended pregnancies and STIs due to early sexual debut, transactional sex, and lack of parental guidance or effective sexual education [5]. These structural and behavioral determinants must be addressed through context-specific data and targeted interventions.

Awareness plays a critical role in shaping sexual behavior and choices. However, studies have shown that awareness alone does not necessarily translate into healthy practices if not accompanied by comprehensive sexuality education, supportive environments, and access to services. Bearinger *et al.* [6] emphasized that

adolescents' awareness of reproductive health issues is often fragmented, with limited understanding of biological processes, contraception, and STI prevention. In many urban African settings, knowledge is gained through peers, social media, or informal sources, leading to misconceptions and poor decision-making.

In Cameroon, access to school-based sexuality education remains limited and inconsistently implemented. Tchouakam *et al.* [7] found that less than half of the surveyed secondary schools in urban areas provided structured sexual education programs, and those that did often omitted discussions around contraception, consent, or STIs due to sociocultural taboos. This absence of structured and culturally appropriate education continues to impair adolescents' ability to make informed reproductive health decisions.

Furthermore, many adolescents in Douala IV reportedly feel excluded from health systems. The WHO's Global Health Sector Strategy on STIs 2022-2030 identifies lack of youth-friendly services, confidentiality concerns, and fear of judgment as major barriers to care seeking among adolescents [8]. This is corroborated by Cameroon's Ministry of Public Health, which, in its 2022 Annual Report on Reproductive Health, acknowledged low attendance rates among youth in health centers offering STI screening and counseling [4].

A study by Diouf *et al.* [9] conducted in West Africa found that while many young people had heard of STIs, a detailed understanding of symptoms, long-term consequences, and treatment options was generally poor. This knowledge gap was associated with risky behaviors such as unprotected sex and reluctance to seek care. Such findings reinforce the need to distinguish between superficial awareness and in-depth knowledge, both of which are essential for behavioral change.

In addition, the persistence of multiple sexual partnerships and low condom use among youth has been linked to limited risk perception. Chandra-Mouli *et al.* [10] argue that awareness programs must address not only biological facts but also social factors, such as peer influence, gender norms, and alcohol consumption. In Douala IV, where nightlife and alcohol use are prevalent among out-of-school youth, these influences can undermine health messages and reinforce risky behavior patterns.

Gender inequalities further exacerbate awareness gaps. According to Kramer *et al.* [11], adolescent girls are particularly vulnerable due to power imbalances in sexual relationships, which limit their ability to refuse sex or negotiate condom use. Gendered expectations around fertility, as well as fear of rejection or violence, can lead to concealment of sexual activity and avoidance of health services, thereby reducing opportunities for accurate information acquisition and support.

Jewkes and Morrell [12] highlight how coercive or transactional sex—a reality for many adolescent girls in urban Africa—undermines autonomy and contributes to reproductive health risks. In such settings, awareness is not only a matter of knowledge dissemination but also of empowerment and protection. Comprehensive interventions that combine education, access to services, and community support structures are essential.

International frameworks like UNESCO's 2018 Technical Guidance on Sexuality Education provide a roadmap for countries to strengthen adolescent SRH awareness and behavior. In Cameroon, however, UNICEF's 2020 review found that less than 30% of schools had integrated these guidelines into their curricula, and resistance from teachers, parents, and religious leaders remained a significant obstacle [13] [14].

Finally, addressing awareness issues among urban youth requires an understanding of their social ecology. Pathfinder International [15] notes that effective programming must consider the unique pressures and influences within urban settings—peer norms, media exposure, lack of recreation, and social instability. UN-Habitat's urban profile of Douala affirms that youth in informal settlements face higher exposure to early sexual activity, substance abuse, and poor health outcomes, driven by poverty and marginalization [16].

In response, the Cameroonian Ministry of Health has developed the Adolescent and Youth Health Action Plan 2021-2025, which aims to expand youth-friendly health services, improve community engagement, and enhance sexuality education. However, implementation remains in the early stages and is limited in scope [17].

Given this context, this study aims to assess the level of awareness regarding unintended pregnancy and STIs among adolescents and young adults in Douala IV municipality. By identifying knowledge gaps and information sources, the research provides evidence to support improved programming and targeted interventions for this vulnerable group.

2. Materials and Methods

2.1. Study Design and Setting

This study employed a descriptive cross-sectional design aimed at assessing awareness of unintended pregnancy and sexually transmitted infections (STIs) among adolescents and young adults in Douala IV municipality. Douala IV, located in the Littoral Region of Cameroon, is a densely populated urban district characterized by socio-economic diversity, limited access to youth-friendly health services, and a youthful demographic.

2.2. Study Population

The target population consisted of adolescents and young adults aged 15 to 24 years residing in Douala IV at the time of the study. This age group was chosen based on WHO and national definitions of adolescence and youth. Participants were both male and female, in-school and out-of-school, and represented a mix of social backgrounds.

2.3. Sample Size and Sampling Technique

A sample size of 400 participants was determined using the Cochran formula for cross-sectional surveys, assuming a 50% prevalence of awareness, a 95% confi-

dence interval, and a 5% margin of error.

Stratified random sampling was used to ensure representation across age groups, sex, school attendance status, and neighborhoods. Within each stratum, participants were selected proportionally and randomly using school rosters, household listings, and health facility registers.

These lists were treated as distinct sampling strata, and no individual could be selected from more than one source. To ensure this, unique identifiers (name, age, and location) were used to cross-check entries and avoid duplicate inclusion. This process maintained the integrity and representativeness of the stratified sampling design.

2.4. Data Collection Tools and Procedures

Data were collected using a structured, pre-tested questionnaire developed in English and French. The tool included closed- and open-ended questions assessing:

- Sociodemographic characteristics
- Knowledge and awareness of unintended pregnancy (definition, causes, prevention, consequences)
- Knowledge and awareness of STIs (transmission, symptoms, prevention, treatment)
- Sources of sexual health information
- Exposure to sexuality education
- Perceived access to youth-friendly services

The questionnaire was reviewed by reproductive health experts and piloted on 20 participants in a neighboring district to refine clarity and ensure cultural relevance. To determine correct awareness levels, a “correct definition of unintended pregnancy” was considered as identifying it as a pregnancy that is either unwanted or mistimed. Similarly, “correct identification of STI symptoms” required participants to name at least two medically recognized symptoms, such as genital discharge, ulcers, or burning during urination. Trained data collectors administered the questionnaire in face-to-face interviews in a private setting to ensure confidentiality and maximize response accuracy.

2.5. Inclusion and Exclusion Criteria

Inclusion criteria:

- Adolescents and young adults aged 15 - 24
- Resident in Douala IV for at least 6 months
- Provided verbal and written informed consent (or assent for minors with guardian consent)

Exclusion criteria:

- Individuals unwilling to participate
- Respondents with cognitive or language difficulties that hindered comprehension

2.6. Data Analysis

Data were entered and cleaned using Microsoft Excel and exported to SPSS ver-

sion 25.0 for analysis. Descriptive statistics (frequencies, percentages, means, and standard deviations) were computed to summarize awareness levels. Cross-tabulations were used to assess associations between awareness and variables such as age, sex, and educational level.

Correct responses were operationalized as follows:

- Unintended pregnancy: participants had to define it as either unwanted or mistimed
- STI symptoms: participants had to name at least two typical symptoms, such as genital discharge, ulcers, or painful urination

These definitions were applied consistently to ensure reliable measurement and reproducibility. Chi-square tests were used to assess statistical significance at the 95% confidence level ($p < 0.05$).

2.7. Ethical Considerations

The study was approved by the Institutional Review Board (IRB) of the University of Yaoundé I and authorized by the Douala IV District Health Service. All participants were informed about the objectives, benefits, and risks of the study. Confidentiality and anonymity were guaranteed. For participants under 18, parental consent and individual assent were obtained.

3. Results

A total of 400 adolescents and young adults aged 15 to 24 years were surveyed in the Douala IV municipality. The results below summarize their awareness of unintended pregnancy and sexually transmitted infections (STIs), along with related behaviors and access to sexual health services.

As shown in **Table 1**, while 78% of respondents had heard of unintended pregnancy, only 56% could correctly define it. Although 72.5% were aware of at least one modern contraceptive method, just 54% could name at least two. STI awareness was high at 85%, yet less than half (47%) could correctly identify typical symptoms.

Table 1. Awareness and sexual health indicators among adolescents and young adults (N = 400).

Indicator	Frequency (n)	Percentage (%)
Heard of an unintended pregnancy	312	78.0
Correctly defined unintended pregnancy	224	56.0
Aware of at least one contraceptive method	290	72.5
Aware of at least two contraceptive methods	216	54.0
Heard of STIs	340	85.0
Correctly identified STI symptoms	188	47.0

Continued

Heard of HIV/AIDS	370	92.5
Uses a condom consistently	160	40.0
Knows where to access sexual health services	210	52.5
Received formal sexual education	160	40.0

Consistent condom use was reported by only 40% of participants, and a similar proportion (40%) had received formal sexuality education. While 92.5% had heard of HIV/AIDS—reflecting the effectiveness of public health campaigns—only 52.5% knew where to access sexual health services, indicating ongoing barriers to care.

In addition to awareness levels and behaviors, respondents were asked about their sources of sexual health information. As shown in **Figure 1**, the majority cited schools (62%) and parents or guardians (48%) as their primary sources. Notably, a substantial portion (40%) reported never receiving formal sexual education, underscoring inconsistent exposure to structured information.

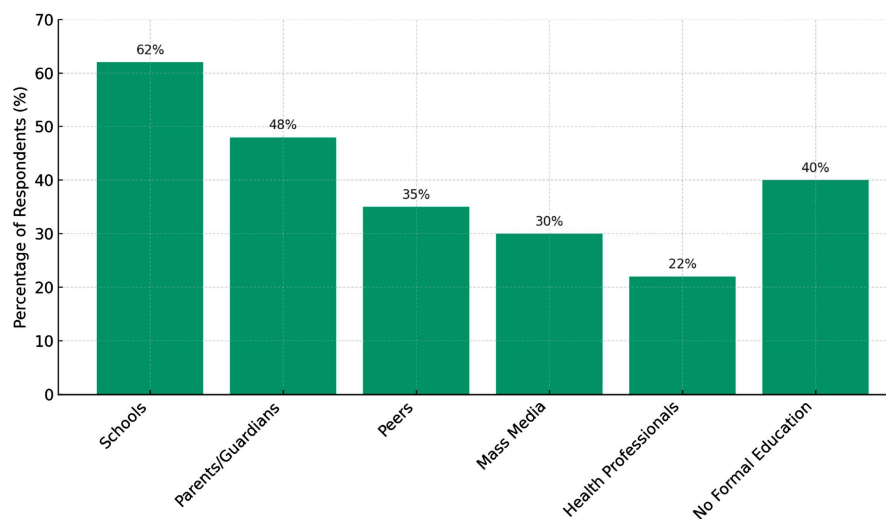


Figure 1. Sources of sexual health information amongst the respondents.

4. Discussion

This study assessed awareness of unintended pregnancy and sexually transmitted infections (STIs) among adolescents and young adults in Douala IV municipality. While general awareness levels were moderately high—78% for unintended pregnancy and 85% for STIs—gaps in detailed knowledge, protective behaviors, and access to formal sexual education were evident. These findings align with global trends that indicate adolescents often recognize reproductive health concerns but lack the tools and support to act on this awareness [1] [2].

In Cameroon, the 2018 Demographic and Health Survey similarly reported that most adolescents were aware of pregnancy and STIs, including HIV/AIDS [3]. However, this study found that only 54% could name at least two modern contra-

ceptive methods, 47% could identify typical STI symptoms, and just 40% used condoms consistently. These patterns reflect a well-documented “know-do” gap where basic awareness does not translate into safe practices [4] [5].

Multiple factors contribute to this inconsistency. Limited risk perception among adolescents, particularly when symptoms are not apparent, reduces motivation for protective behaviors. Gender power dynamics also constrain decision-making, especially for girls. In contexts where sexual relationships are coercive or male-dominated, adolescents may be unable to insist on condom use despite being informed [10] [12].

Stigma and misinformation further impede safe practices. Adolescents often fear being judged for discussing or seeking contraception, and they may lack access to confidential, nonjudgmental health services. Nearly half of the study’s participants did not know where to access sexual health care—echoing findings from WHO and the Ministry of Public Health in Cameroon, which cite lack of youth-friendly services as a major barrier to care [4] [8].

These barriers highlight the need for comprehensive, youth-centered interventions. Effective programming must go beyond information dissemination to include life skills education, community support, and accessible health services. Addressing structural and psychosocial determinants—such as gender norms, peer pressure, and limited access to care—is essential for converting awareness into protective behaviors [6] [9] [15].

Another major finding was that 40% of respondents had never received formal sexual education, despite 62% citing schools and 48% citing parents as their main information sources. This suggests a gap between potential and actual delivery of sexuality education. Prior studies in Cameroon confirm that such programs are inconsistently implemented and often avoid crucial topics due to sociocultural sensitivities [7]. To improve outcomes, it is essential to engage both schools and families. Teachers and parents need culturally sensitive training to facilitate open, accurate, and age-appropriate discussions. When supported effectively, these channels can enhance knowledge retention and promote safer behaviors [13] [14].

The findings also point to gender disparities in sexual health outcomes. Jewkes and Morrell argue that unequal power relations and sexual coercion reduce girls’ ability to act on health knowledge [12]. In urban Cameroon, transactional sex and early sexual debut remain prevalent, further limiting the effectiveness of awareness efforts unless coupled with empowerment strategies.

While HIV/AIDS awareness was exceptionally high (92.5%), knowledge of other STIs was notably lower. This likely reflects a historical emphasis on HIV in health education and funding, possibly creating a false sense of security regarding other STIs. A balanced, integrated approach to STI education is necessary, as recommended by WHO [7].

Social context also plays a significant role. Urban environments like Douala IV, marked by informal settlements, digital media influence, and high youth mobility, both shape and complicate health messaging. Pathfinder International and UN-

Habitat emphasize the need for peer-led and media-informed interventions tailored to urban youth realities [15] [16].

Despite national policies such as the Ministry of Health's Adolescent and Youth Health Action Plan 2021-2025 [17], implementation remains limited. A multi-sectoral response is required to address persistent gaps in knowledge, behavior, and service access among urban youth.

5. Limitations

Several limitations must be acknowledged. First, self-reported data may be influenced by social desirability bias. Second, the cross-sectional design limits the ability to infer causality. Third, findings may not be generalizable beyond Douala IV due to its unique urban dynamics. Future studies using longitudinal designs and broader geographic coverage could provide more comprehensive insights.

6. Conclusion

Although adolescents and young adults in Douala IV show moderate awareness of unintended pregnancy and STIs, this awareness is often superficial and insufficiently linked to protective behaviors. Addressing this requires coordinated, holistic interventions encompassing education, empowerment, and equitable access to youth-friendly services.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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