Gender, sexually transmitted infections and HIV among adolescents and young people in the Couffo department, Benin: equal knowledge, unequal protection

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Abstract

In Benin, the HIV epidemic remains generalized at low prevalence but concentrates among adolescents and young people, with an early feminization of infection. This study compares young women and young men aged 18–24 in the Couffo department across three dimensions of STI/HIV prevention – knowledge, protective practices and sexual negotiation capacity – to inform the gender-sensitive programming of the Miitchité Project. A cross-sectional, descriptive and analytical survey

covered the department's six communes (N=851; 66.2% women), with multistage probabilistic sampling and analysis in SPSS 27 (chi-square, Fisher, t-test; α=5%). Knowledge was near parity, yet protection was systematically unfavorable to women: HIV testing 28.2% versus 41.0% (p<0.001), current male condom use 24.3% versus 52.1% (p<0.001), and more than one young woman in three felt unable to refuse intercourse without consequences. Equal knowledge does not yield equal protection: the gap reflects a deficit of female agency rather than information, calling for gender-transformative, spatially differentiated responses.

Résumé

Au Bénin, l'épidémie de VIH reste généralisée à faible prévalence mais se concentre chez les adolescents et les jeunes, avec une féminisation précoce de l'infection. Cette étude compare les jeunes femmes et les jeunes hommes de 18 à 24 ans du département du Couffo selon trois dimensions de la prévention des IST/VIH – connaissances, pratiques protectrices et capacité de négociation sexuelle – afin d'éclairer la programmation sensible au genre du Projet Miitchité. Une enquête transversale, descriptive et analytique a couvert les six communes du département (N=851 ; 66,2 % de femmes), avec un échantillonnage probabiliste à plusieurs degrés et une analyse sous SPSS 27 (khi-deux, Fisher, test t ; α=5 %). Les connaissances étaient quasi paritaires, mais la protection demeurait systématiquement défavorable aux femmes : dépistage du VIH 28,2 % contre 41,0 % (p<0,001), usage actuel du préservatif masculin 24,3 % contre 52,1 % (p<0,001), et plus d'une jeune femme sur trois s'estimait incapable de refuser un rapport sans conséquences. À connaissances égales, la protection demeure inégale : l'écart traduit un déficit d'agentivité féminine plutôt qu'un déficit d'information, appelant des réponses transformatives de genre et différenciées dans l'espace.

Keywords: *gender; sexually transmitted infections; HIV; female agency; female condom; youth; Couffo; Benin.*

Mots clés : *genre ; infections sexuellement transmissibles ; VIH ; agentivité féminine ; préservatif féminin ; jeunes ; Couffo ; Bénin.*

Introduction

In Benin, the HIV epidemic remains generalized but with low prevalence: prevalence among pregnant women is estimated at 0.83% in 2024, with vulnerabilities concentrated among adolescents and young people (Ministère de la Santé du Bénin, 2025). Those aged 15-24 represent 27.9% of newly detected cases among pregnant women (725 out of 2,594), and the active antiretroviral treatment cohort in this age group includes 3,103 women for 1,210 men (ratio 2.6:1), reflecting an early feminization of the infection (Ministère de la Santé du Bénin, 2025). This dynamic is accompanied by low male involvement in prevention, with only 18.82% of partners accepting testing (Ministère de la Santé du Bénin, 2025). At the regional level, young women aged 15 to 24 account for 63% of new HIV infections in sub-Saharan Africa, with an acquisition risk two to three times higher than that of their male counterparts (UNAIDS, 2023; Dellar et al., 2015; Birdthistle et al., 2019). This epidemiological asymmetry stems from a combination of biological, social and structural factors, including the physiological vulnerability of the vaginal mucosa, gendered power relations within couples, early unions, and economic dependence on the partner, which play a central role (Jewkes et al., 2010; Decker et al., 2015; Stoebenau et al., 2016).

Gender analysis of behaviours in sexual and reproductive health (SRH) cannot, however, be reduced to the observation of greater female vulnerability. Several recent studies have shown that gender gaps lie not so much in general knowledge of STIs and HIV - which tends to

converge under the effect of educational programmes - as in the translation of this knowledge into effective protective behaviours (Hindin & Fatusi, 2009; Wamoyi et al., 2016). It is precisely in this translation that power relations are embedded: the decision to use a condom, to be tested, or to consult for a suspicious symptom involves authority relations, differentiated social costs, and unequal margins of agency according to gender (Pulerwitz et al., 2000; Dunkle et al., 2006; Heise et al., 2019).

The Couffo department, located in southwestern Benin, presents a particularly relevant profile for gender analysis of STI/HIV-related behaviours. HIV prevalence among pregnant women reaches 1.07%, above the national average, with a strong urban-rural gradient (2.02% versus 0.20%), reflecting territorial and gender inequalities that have been poorly documented among young people (Ministère de la Santé du Bénin, 2025). The department combines high rurality, low schooling of young girls, a very low modern contraceptive prevalence rate (4.5% in 2017-2018), and high rates of early pregnancies, converging indicators of female vulnerability in SRH (INSAE & ICF, 2019; OSV, 2024).

Benin has a strong normative framework for SRHR - Law No. 2003-04 of 3 March 2003 on sexual and reproductive health, revised in 2021; Law No. 2005-31 of 5 April 2006 on the prevention, care and control of HIV/AIDS; the National Multisectoral Strategy for Adolescent and Youth SRH; and the norms and standards for "youth-friendly" services. However, no monitoring instrument disaggregates at the departmental level the knowledge, protective practices, and negotiation capacities of 18-24-year-olds by gender, an empirical gap that the present study seeks to fill. The

Miitchité Project (2025-2028), funded by the French Development Agency (AFD) and implemented in the department by the OSV-GRAFED-ROAJELF consortium, promotes the sexual and reproductive health and rights (SRHR) of adolescents and young people in the six communes of the department (Aplahoué, Djakotomey, Dogbo, Klouékanmè, Lalo and Toviklin), with gender equality as a guiding principle.

The present study pursues three objectives:

- to compare the levels of knowledge of STIs and HIV among young women and young men aged 18 to 24 in Couffo;
- to measure gender gaps in protective practices (HIV testing, condom use, recourse to care);
- to identify determinants linked to sexual negotiation capacity that may explain the unequal translation of knowledge into practices.

The research question is therefore: to what extent do knowledge of STI/HIV risks, protective practices (HIV testing and condom use), and sexual negotiation capacity differ between young women and young men aged 18 to 24 in the Couffo department? The guiding hypothesis is that the apparent parity of general knowledge masks a persistent asymmetry of protection, which originates in a deficit of female agency in the sexual sphere.

Theoretical framework

This study is anchored in two complementary theoretical traditions. The first is the capabilities approach, which

distinguishes the formal resources a person holds from her real freedom to convert them into achieved functionings (Sen, 1999 ; Nussbaum, 2000). Applied to sexual and reproductive health, this framework separates declarative knowledge - knowing that a protective behaviour exists - from the effective agency required to enact it: information is a resource, but its conversion into protection depends on the room for manoeuvre a person actually commands. Nussbaum's notion of combined capabilities is particularly apposite here, since it locates the obstacle not in the absence of a formally available option, but in the social and economic cost that can render that option practically non-viable for women.

The second tradition concerns the gendered structuring of this room for manoeuvre. Work on hegemonic masculinity has shown that sexual decision-making is embedded in asymmetric relations of authority that tend to assign the control of protective methods - and of the condom in particular - to men (Connell & Messerschmidt, 2005). Building on the sexual relationship power framework (Pulerwitz et al., 2000), recent reviews confirm that, among young people in sub-Saharan Africa, relationship power inequity remains a robust correlate of inconsistent condom use and of a limited capacity to negotiate the terms of intercourse (Closson et al., 2022). It is precisely because these constraints are relational rather than informational that the prevention literature has shifted towards gender-transformative approaches, which seek to modify the norms governing masculinity and femininity rather than merely to deliver knowledge (Dworkin et al., 2013 ; Jewkes et al., 2015 ; Stern & Heise, 2019). Read together, these two traditions

provide the analytical lens of the present study: where knowledge is equally distributed, residual gaps in protection are interpreted as gaps in agency, themselves rooted in gendered power relations - a hypothesis we test by confronting, indicator by indicator, the knowledge, practices and negotiation capacity of young women and young men.

Materials and methods

Study type, setting and period

A cross-sectional, descriptive and analytical study was conducted in the Couffo department between March and April 2026 as part of the baseline assessment of the Miitchité Project. All communes of the department (Aplahoué, Djakotomey, Dogbo, Klouékanmè, Lalo and Toviklin) were included.

Methodologically, the study follows a comparative, gender-disaggregated design. The three conceptual dimensions of the analysis - knowledge, protective practices, and sexual negotiation capacity - were each operationalized into measurable indicators drawn from the baseline questionnaire and systematically contrasted between young women and young men. Knowledge was captured through general items on the prevention and transmission of STIs and HIV and through a detailed four-item score on the signs of STIs; protective practices through HIV testing, recourse to care, and the use of the male and female condom; and negotiation capacity through indicators of experienced pressure, perceived ability to refuse intercourse, and exposure to unprotected sex. For the single indicator on which a territorial effect was hypothesized -

HIV testing - the gender comparison was further stratified by area of residence, the urban–rural difference being tested within each gender. This articulation between an explicit conceptual structure and a parsimonious set of comparable indicators is what allows the study to test whether an apparent parity of knowledge conceals an asymmetry of protection.

Population and sampling

The target population consisted of adolescents and young people aged 18 to 24 years inclusive, residing in the department for at least six months and having given their written informed consent. The sample size was calculated using the Schwartz formula (Schwartz, 1996) for an expected proportion of 50%, a confidence level of 95% and a precision of 5%, adjusted for cluster effects and non-responses, then distributed proportionally to the size of the young population in each commune. The final sample stands at 851 respondents, selected through a multistage probabilistic sampling design proportional to the size of the young population, combining the random selection of sites (schools, markets, apprenticeship workshops) and the systematic selection of respondents.

Analysis variables

Three sets of variables were retained for the gender analysis:

- Knowledge: general knowledge of STIs and HIV (Q16, Q23, Q26, Q27, Q33), knowledge of the condom as a contraceptive method (Q32, two distinct items for the male and female condom), and detailed knowledge of

STI signs (Q28, multiple-response item on 4 items: sores, discharge, abdominal pain, growths);
- Protective practice: HIV testing during the last twelve months (Q54), consultation for an STI among the sexually active (Q56), use of the condom as a previous contraceptive method (Q58) and a current one (Q60);
- Negotiation capacity and exposure to risks: pressure for sexual intercourse (Q65), history of sexual violence (Q66), confrontation with an unwanted marriage (Q67), perception of the capacity to refuse sexual intercourse without negative consequences (Q70), unprotected sexual intercourse (Q72) and sexual intercourse under the influence of alcohol or drugs (Q73).

Statistical analysis

Data were cleaned and then analysed with SPSS 27 software. Qualitative variables are presented as frequencies and percentages, compared by gender using Pearson's chi-square test, or Fisher's exact test in case of expected counts below 5. The additive score of knowledge of STI signs (out of 4) was compared between genders using Student's t-test. Conditional practice indicators (consultation for STI, condom use) are reported both for the sub-sample of sexually active respondents and for the entire sample, to allow both an epidemiological and a programmatic reading. The statistical significance threshold was set at $p < 0.05$.

Ethical considerations

The study obtained authorization from the Departmental Health and Educational Directorates of Couffo. Oral informed consent was obtained from each participant. Data confidentiality was ensured by anonymization at entry and restricted access to the analytical files. The sensitivity of questions on sexuality, HIV status and violence was the subject of specific attention in the training of interviewers, who were prepared to interrupt the interview and to refer respondents to competent psychosocial services in case of expressed need.

Results

The sample includes 851 young people aged 18 to 24, of whom 563 are women (66.2%) and 288 are men (33.8%). The results are organized around five dimensions of analysis: general knowledge and protective practices, detailed knowledge of STI signs, sexual negotiation capacity and exposure to risk, knowledge and use of condoms, and the urban-rural gradient of HIV testing. Table I consolidates all the indicators with their test statistics.

General knowledge of STIs/HIV and protective practices

Two complementary sets of indicators are examined: six items of general knowledge of STIs and HIV - preventability and treatability, sexual transmission of HIV, the right to demand condom use, the condom as protection against STIs, and the recognition of the male and female condom as contraceptive methods - and four indicators of protective

practice - HIV testing in the last twelve months, consultation for an STI, and current use of the male and female condom. This makes it possible to test the hypothesis according to which apparent parity on knowledge could conceal an asymmetry on practice.

On general knowledge, a near parity prevails: 99.3% of women and 99.7% of men know that STIs and HIV can be prevented and treated ($p=0.856$), and 97.7% versus 97.6% know that HIV is transmitted through unprotected intercourse ($p=1.000$). The only statistically significant gap concerns the right to demand condom use, slightly better recognized by men (99.0% versus 96.3%; $p=0.043$), although the levels remain very high on both sides. Knowledge of the male condom as a contraceptive method is universal among men (100.0%) and near universal among women (94.8%; $p<0.001$), while the female condom is known by about one person out of two in both groups (51.3% among women versus 47.9% among men; $p=0.384$). Protective practices, by contrast, reveal a systematic asymmetry. HIV testing during the last twelve months concerns only 28.2% of women versus 41.0% of men - a 12.7-point gap to the detriment of women ($\chi^2=13.49$; $p<0.001$) that runs counter to the higher expected HIV prevalence among young African women and to the privileged entry point that antenatal consultations should offer to female testing. Recourse to care for an STI follows the same logic (11.5% versus 16.7%; $p=0.048$). The largest gap concerns the current use of the male condom (24.3% versus 52.1%; $p<0.001$), while the female condom remains marginal on both sides (0.9% versus 1.0%; $p=1.000$).

Detailed knowledge of STI signs

Knowledge of STI signs (Q28) can be broken down into its four constituent items - genital sores, abnormal genital discharge, lower abdominal pain, and genital growths - to test whether the apparent equality of mean scores conceals a differentiated composition by gender. The two latter signs are of clinical importance: lower abdominal pain may indicate pelvic inflammatory disease, a complication of untreated STIs that compromises female fertility, while genital growths constitute the characteristic sign of human papillomavirus (HPV) infections, whose oncogenic strains are the leading cause of cervical cancer.

The mean STI-signs score is rigorously identical between the genders (2.56 versus 2.57; p=0.901), but its composition differs significantly. The two most general signs - genital sores (88.8% versus 92.7%; p=0.092) and abnormal genital discharge (81.5% versus 76.0%; p=0.073) - are recognized at very high and statistically equivalent levels in both groups. The differentiation appears on the two clinically more specific signs. Women are more knowledgeable about lower abdominal pain (63.1% versus 54.2%; p=0.015), a sign that concerns them more directly in their bodily experience. By contrast, they are significantly less knowledgeable about genital growths (22.2% versus 33.7%; p<0.001), even though this sign points to HPV infections - that is, to the leading cause of cervical cancer, the second most frequent cancer among women in sub-Saharan Africa (Bray et al., 2018; Sung et al., 2021). This HPV paradox - a clinical sign directly linked to a female cancer better known by men - signals a gendered hierarchization of clinical knowledge whose consequences could be heavy in terms of diagnostic delay.

Sexual negotiation capacity and exposure to risk

The dimension of agency articulates the connection between knowledge and protective practices. Four indicators capture both the experience of constraint and the perceived capacity to refuse: experience of pressure for sexual intercourse (Q65), victimization of sexual violence (Q66), perceived capacity to refuse sexual intercourse without negative consequences (Q70), and exposure to unprotected sexual intercourse (Q72). This sequence makes it possible to examine whether young women and young men face the same room for manoeuvre in their sexual interactions, and how this room for manoeuvre translates into exposure to risk.

These indicators bring to light a deficit of female agency in the sexual sphere. Nearly one young woman out of ten (9.6%) reports having experienced pressure for sexual intercourse, versus 5.2% among men ($p=0.037$). Above all, when asked whether they think they can refuse a sexual encounter without negative consequences, 65.5% of women answer affirmatively versus 73.6% of men ($p=0.021$): more than one young woman out of three thus estimates that she cannot refuse without suffering the consequences. The observation that exposure to unprotected intercourse (Q72) is statistically identical between genders (29.1% versus 28.5%; $p=0.904$) must be read in this light: it is precisely because the decision to use the condom belongs primarily to the man that women and men end up at comparable measured exposure - but with radically different margins of manoeuvre.

Knowledge and use of condoms

The condom is the only barrier method protecting simultaneously against unwanted pregnancies and the sexual transmission of STIs and HIV. Five indicators are available: knowledge of the male condom and of the female condom as contraceptive methods, ever use of the male condom, current use of the male condom, and current use of the female condom. Their juxtaposition contrasts knowledge - relatively undifferentiated by gender - with use - strongly polarized.

Knowledge of the male condom as a contraceptive method is almost shared by all respondents (94.8% of women versus 100.0% of men; $p<0.001$) but does not translate into equivalent use. The male condom has ever been used by 33.4% of women versus 56.2% of men ($p<0.001$), a 22.8-point gap that widens to 27.8 points on current use (24.3% versus 52.1%; $p<0.001$). This asymmetry is structural: the male condom, by construction, presupposes the cooperation of the man - a woman can wish for it, can propose its use, but cannot impose it if the man refuses. The female condom, which should theoretically offer a means of circumventing this asymmetry, should constitute the corrective tool of female agency. However, its current use remains marginal and gender-undifferentiated (0.9% among women versus 1.0% among men; $p=1.000$), even though approximately one person out of two knows it as a method in both groups (51.3% versus 47.9%; $p=0.384$). The female condom thus exists in the cognitive repertoire of young people in Couffo but is not appropriated as a tool of sexual autonomy - translating into the dependence of young women on male choice in matters of protection.

Urban-rural gradient of HIV testing

A major finding of this study is that the female disadvantage on HIV testing is not territorially homogeneous but strictly structured along the urban-rural axis. HIV testing rates are read by gender and by area of residence, with the statistical significance of the urban-rural gap assessed within each gender, and placed in epidemiological perspective against HIV prevalence among pregnant women in the department (Annuaire des statistiques sanitaires du Bénin 2024), with the departmental average (1.07%) and the national average (0.83%) as reference points.

The data reveal a strictly gendered urban-rural gradient. Among young women, access to HIV testing varies significantly by area of residence (36.6% in urban areas versus 24.9% in rural areas; p=0.007). Among young men, by contrast, no urban-rural gap appears (43.2% versus 39.9%; p=0.69). Place of residence thus weighs on testing behaviour for young women but remains without effect for young men: the territorial gradient is itself gendered. These figures confirm that the female gradient reproduces, at the level of testing behaviours, the gradient observed on HIV prevalence among pregnant women in the department (2.02% in urban areas versus 0.20% in rural areas), with the departmental average (1.07%) sitting above the national average (0.83%). Young rural women thus emerge as the doubly disadvantaged population: exposed to a less accessible testing infrastructure while certain urban pockets of the department concentrate a heavier epidemic dynamic. The double inequality - between the genders, and within the female gender between urban and rural - invites

a spatially differentiated programmatic response rather than a uniform departmental intervention.

Summary of indicators (Table I)

Table I consolidates the gender comparison of all indicators of knowledge, protective practice, and sexual negotiation, with the test statistics and significance thresholds for each. It presents both the absolute gap in percentage points and the p-value associated with the chi-square test, the Fisher test, or the Student t-test as appropriate.

Table I. Gender comparison of indicators of knowledge, practice and STI/HIV negotiation (n=851)

Indicator	Women (n=563)	Men (n=288)	Gap (pts)	p
General knowledge				
Knows STIs/HIV can be prevented and treated (Q16)	99.3%	99.7%	−0.4	0.856
Knows HIV is transmitted by unprotected sex (Q27)	97.7%	97.6%	+0.1	1.000
Knows the right to demand condom use (Q23)	96.3%	99.0%	−2.7	0.043
Condom identified as protection against STIs (Q33)	97.2%	99.3%	−2.1	0.071
Male condom known as a method (Q32)	94.8%	100.0%	−5.2	<0.001
Female condom known as a method (Q32)	51.3%	47.9%	+3.4	0.384
Detailed knowledge of STI signs (Q28)				
Genital sores	88.8%	92.7%	−3.9	0.092
Abnormal genital discharge	81.5%	76.0%	+5.5	0.073
Lower abdominal pain	63.1%	54.2%	+8.9	0.015
Genital growths	22.2%	33.7%	−11.5	<0.001
Mean STI-signs score (out of 4)	2.56	2.57	−0.01	0.901

Protective practices				
Had an HIV test (Q54)	28.2%	41.0%	−12.7	<0.001
Had an HIV test – urban area	36.6%	43.2%	−6.6	ns
Had an HIV test – rural area	24.9%	39.9%	−15.0	<0.001
Urban–rural gradient on HIV testing (within-gender p)	0.007	0.69	-	-
Consulted for an STI (Q56)	11.5%	16.7%	−5.1	0.048
Male condom ever used (Q58, % sample)	33.4%	56.2%	−22.8	<0.001
Male condom currently used (Q60, % sample)	24.3%	52.1%	−27.8	<0.001
Female condom currently used (Q60, % sample)	0.9%	1.0%	−0.1	1.000
Negotiation and exposure				
Experienced pressure for sexual intercourse (Q65)	9.6%	5.2%	+4.4	0.037
Victim of sexual violence (Q66)	2.0%	1.0%	+0.9	0.481
Believes able to refuse sexual intercourse (Q70)	65.5%	73.6%	−8.1	0.021
Had unprotected sexual intercourse (Q72)	29.1%	28.5%	+0.7	0.904

Pearson's χ^2 tests, or Fisher's exact test if expected counts < 5. Student's t-test for scores. Significance: p<0.05; p<0.01; p<0.001. Source: Baseline study of the Miitchité Project, 2026.

Discussion

This study brings to light a paradoxical configuration of gender in STI/HIV prevention among young people in Couffo: a parity of knowledge, an asymmetry of protection. Four elements of discussion follow from it.

The near parity of knowledge as a programmatic achievement

The fact that young women and young men in Couffo display near-identical levels of general knowledge of STIs and HIV constitutes an undeniable achievement of successive educational programmes and the interventions of civil society organizations. This parity contrasts with the massive gaps observed a few decades ago in West Africa, where knowledge of HIV transmission could be twice as low among young girls as among boys (Glick & Sahn, 2007; Cleland & Ali, 2006). It attests to the penetration of prevention messages in both populations. It remains, however, a fragile achievement once one examines the detail of knowledge and confronts that knowledge with practice.

The HPV paradox: a clinical warning signal

The fact that young men in Couffo know the sign "genital growths" significantly better than young women (33.7% versus 22.2%; $p<0.001$) constitutes a result that is both unexpected and concerning. Genital growths are characteristic of anogenital warts (condylomas) linked to human papillomavirus infection, certain strains of which are oncogenic and constitute the main cause of cervical cancer (Bray et al., 2018; Sung et al., 2021). Each year in sub-

Saharan Africa, 75,000 women develop cervical cancer and 50,000 die from it, making this cancer the leading cause of cancer mortality among women in the region (WHO, 2020). The fact that men know this sign better than women, while it concerns a predominantly female pathology, suggests two non-exclusive hypotheses: on the one hand, clinical manifestations of STIs are culturally more associated with the male body in educational programmes; on the other hand, women may experience greater reluctance to examine their own body to identify the signs. This result calls for a specific intervention, articulated with the global strategy of cervical cancer prevention adopted by the WHO (Bruni et al., 2023).

The inverted asymmetry of HIV testing and its territorial gradient

The 12.7-point gap unfavourable to women on the HIV test is probably the most counter-intuitive result of the study. It contrasts with the higher HIV prevalence among young African women, and with the expectation that antenatal consultations offer a privileged entry point for female testing. Several explanatory hypotheses converge. First, fear of a positive result and its social consequences - repudiation by the partner, family exclusion, community stigmatization - weighs more heavily on women due to their economic dependence and their exposure to violence (Musheke et al., 2013; Kalichman & Simbayi, 2003; Hatzenbuehler et al., 2011). Second, the offer of voluntary testing remains concentrated in urban centres and referral structures, hardly accessible to young rural women in Couffo. Third, within the sub-sample of women, part of the

most sexually active population (single mothers, young people in early unions) may be less identified by formal services than they should be. The contrast with the higher mobilization of single mothers on HIV testing, observed in an earlier analysis of this same study (62.1% versus 26.4% among other women), confirms that pregnancy is often the main occasion for female testing - which places nulliparous women in a particularly invisible position.

The stratified analysis highlights a strictly gendered urban-rural gradient: access to HIV testing varies significantly by area of residence among young women (36.6% in urban areas versus 24.9% in rural areas; p=0.007), but remains undifferentiated among young men (43.2% versus 39.9%; p=0.69). This female territorial gradient reproduces, at the scale of testing behaviours, the gradient observed in HIV prevalence among pregnant women in the department (2.02% versus 0.20%, source: Couffo DDS) and designates young rural women as the doubly disadvantaged population: exposed to a limited testing infrastructure, even as certain pockets of the territory concentrate a heavier epidemic dynamic. This double inequality - between the genders and within the female gender according to area - calls for a spatially differentiated programmatic response rather than a uniform intervention at the departmental level.

The condom and the deficit of female agency

The 27.8-point gap on current use of the male condom is revealing of the asymmetric character of decision control in sexual intercourse. The male condom, by construction, presupposes the cooperation of the man: the woman may wish for it, may propose its use, but she cannot impose it if

the man opposes it. The female condom theoretically offers a way around this asymmetry (Mantell et al., 2006), but its marginalization in the department (0.9% current use among women) - confirmed by the absence of a gender gap on its knowledge (51.3% versus 47.9%) - shows that this instrument is not appropriated as a tool of autonomy. This deficit is aggravated by the perception, among more than one young woman out of three, that she cannot refuse a sexual encounter without suffering the consequences. Sen and Nussbaum, in their conceptualization of capabilities, designate precisely this dimension as an infringement of positive freedom: the woman is not formally constrained, but the social and economic cost of refusal renders the option practically non-viable (Sen, 1999; Nussbaum, 2000). This is less a deficit of knowledge than a deficit of agency, that is to say of the effective capacity to translate a known norm into a chosen behaviour.

Programmatic implications

Four operational implications follow from these findings for the Miitchité Project. First, the extension of female HIV testing must constitute a priority, with particular emphasis on the rural areas of the department, articulated with proximity arrangements (mobile offers, confidential time slots, community testing led by female peers) and with strategies reducing the social cost of testing (explicit confidentiality assurance, training of providers in non-judgmental reception). Second, the female condom must be the subject of specific investment on both supply and demand: availability in sales points and free distribution points, training of providers, communication campaigns

targeting young women, practical demonstration. Third, the strengthening of sexual negotiation skills among young girls must be integrated into the modules of comprehensive sexuality education, through proven techniques (role-playing, situation simulation, peer workshops) that develop both the capacity for expression and awareness of rights. Fourth, work with young boys must accompany these interventions, to transform masculine norms associated with sexual decision-making and refusal of the condom (Pulerwitz et al., 2010). An intervention strictly centred on girls, without the parallel engagement of boys, risks shifting the burden of transformation onto girls without modifying its conditions of possibility.

Strengths and limitations

This study benefits from a sample of 851 young people covering exhaustively the six communes of the department, allowing fine stratification by gender. The systematic distinction between knowledge, practice and negotiation, operationalized through specific indicators, constitutes a methodological added value for SRH surveys in the West African context. Several limitations must, however, be noted. The reporting of sensitive behaviours relies on self-declaration and is susceptible to social desirability bias, likely to operate differently according to gender - men may over-declare condom use as a marker of responsible masculinity, while women may under-declare experienced pressure for fear of judgment. The cross-sectional nature of the study prevents any causal inference: we document an asymmetry without being able to disentangle the mechanisms at play. Finally, the absence of attitudinal

variables specific to STIs/HIV in the questionnaire - measurement of stigma, perception of personal risk, attitude toward the partner - limits the depth of the explanatory analysis. A complementary qualitative study among young women in the department would allow the documentation of the psychosocial mechanisms at work in the observed deficit of protection.

Conclusion and recommendations

The gender-based analysis of STI/HIV indicators among young people in the Couffo department reveals a paradoxical configuration: a near-parity of general knowledge coexists with a systematic asymmetry of protection. This asymmetry is not explained by a deficit of information among young women, who master the principles at the same level as men; it reflects a deficit of agency in the sexual sphere, which limits the translation of knowledge into effective behaviour. The data particularly highlight three findings: a 12.7-point gap unfavourable to women on HIV testing, a 27.8-point gap on current male condom use, and the perception, among more than one young woman out of three, that she cannot refuse a sexual encounter without suffering the consequences. Added to this is a strictly gendered urban-rural gradient on HIV testing (36.6% versus 24.9% among young women; p=0.007, with no corresponding gap among men), which designates young rural women as a doubly disadvantaged population. Finally, an HPV paradox calls for specific intervention: women know genital growths less well than men, a sign nevertheless characteristic of infections carrying

female oncogenic risk. Based on these results, six recommendations can be formulated:

- deploy a targeted strategy of extending HIV testing among young women in the department, with particular emphasis on rural areas, through proximity and confidential arrangements articulated with existing health structures;
- invest specifically in the promotion of the female condom as a tool of health autonomy, on both supply and demand, with provider training, improved availability and communication campaigns dedicated to young women;
- integrate into the modules of comprehensive sexuality education a "sexual negotiation" component based on proven techniques (role-playing, simulations, peer workshops), targeting young girls as a priority;
- engage young boys in a transformation of masculine norms associated with the refusal of the condom and with sexual decision-making, through interventions parallel to the activities aimed at girls;
- integrate into the educational modules a specific focus on the signs of human papillomavirus infection and their link with cervical cancer, in articulation with the national HPV vaccination strategy;
- complement the mid-term and final evaluations of the Miitchité Project with a qualitative component among young women in the department, in order to document the psychosocial mechanisms of the observed deficit of agency.

Taken as a whole, this study moves from a documented epidemiological asymmetry - the early feminization of HIV in a low-prevalence but territorially contrasted department - to its behavioural underpinnings, showing that the disadvantage of young women lies neither in what they know nor, for most indicators, in where they live, but in their capacity to act on what they know. Its contribution is therefore twofold. On the scientific level, by systematically separating knowledge, practice and negotiation, and by reading their discordances through the joint lens of the capabilities approach and of gender power relations, it offers an analytical template that other baseline surveys in West Africa can replicate; it also documents two configurations rarely described together - an HPV-knowledge paradox unfavourable to women and a strictly gendered urban–rural gradient in HIV testing. On the social level, by objectifying that information campaigns have largely succeeded while protection remains unequal, it provides the Miitchité Project and comparable actors with a directly actionable diagnosis: the priority is no longer to inform young women, but to expand their effective power to protect themselves - through community-based testing in rural areas, genuine availability of the female condom, the teaching of negotiation skills, and the parallel engagement of young men in transforming the norms of masculinity.

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