

Knowledge of Modern Contraceptive Methods and Its Determinants among Female School Adolescents in Garoua, Cameroon, 2026

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Abstract

Background: Knowledge of modern contraceptive methods is a prerequisite for informed reproductive choices among adolescents. In northern Cameroon, where early pregnancy and school dropout rates are high, data on adolescents' contraceptive knowledge and its sociodemographic determinants are scarce. **Aim:** To assess the level of knowledge of modern contraceptive methods, identify prevailing myths and misconceptions, and determine factors associated with adequate knowledge among female school adolescents in Garoua. **Methods:** Cross-sectional analytical study conducted from January to April 2026 in eight secondary educational institutions of Garoua, selected by simple random sampling (computer-generated random numbers) from a sampling frame of all private and public schools in Garoua. The study targeted female adolescents, who bear the principal burden of early pregnancy; a total of 301 female adolescents aged 10 - 19 years and enrolled in secondary school were included. Knowledge was assessed using a 16-point composite score, which combined the number of correctly cited modern methods (max 8) with 8 binary knowledge items. A score $\geq 8/16$ was defined as adequate knowledge. Bivariate analyses (χ^2 , Fisher) and multivariate logistic regression were used to identify independent determinants ($p < 0.05$). **Results:** Mean knowledge score was $4.1 \pm 2.8/16$; only 12.6% of adolescents had adequate knowledge. The female condom (36.9%) and the male condom (33.9%) were the most well-known methods, while emergency contraception (5.3%) and intrauterine devices (4.3%) were largely unknown. Pervasive misconceptions included the

belief that contraception causes permanent infertility (48.3%), that the pill is 100% effective (32.0%), and ignorance of emergency contraception's 72-hour window (73.8%). School was the main source of information (55.5%), followed by health personnel (22.7%), with parents accounting for only 6.7%. In multivariate analysis, adherence to traditional religion was independently associated with lower odds of adequate knowledge (aOR = 0.16; 95% CI: 0.04 - 0.70; $p = 0.015$), while high school level (vs middle school) showed a strong positive association that narrowly missed significance (aOR = 4.45; 95% CI: 0.96 - 20.72; $p = 0.057$); age, parental discussion and information source were not significant after adjustment. **Conclusion:** Female school adolescents in Garoua exhibit very low levels of contraceptive knowledge, dominated by deep-rooted misconceptions. Adherence to traditional religion was independently associated with poorer knowledge, and high school level showed a strong positive association. Strengthening structured sexuality education from middle school onwards, debunking myths, engaging traditional and community leaders, and training health personnel and teachers as primary information providers represent priority interventions.

Keywords

Contraception, Knowledge, Female Adolescents, Adolescent Girls, Determinants, Misconceptions, School, Garoua, Cameroon

1. Introduction

Adolescents constitute a key population for global reproductive health. The World Health Organization (WHO) estimates that approximately 16 million adolescent girls give birth each year, the vast majority in low and middle-income countries [1]. Complications associated with pregnancy and childbirth constitute one of the leading causes of death among girls aged 15 - 19 years, and infants born to adolescent mothers have an increased risk of neonatal mortality [2]. Beyond the vital risk, early pregnancy disrupts educational pathways, generates economic vulnerability and increases exposure to sexually transmitted infections (STIs), including the human immunodeficiency virus (HIV) [3] [4].

In Cameroon, the modern contraceptive prevalence rate remains low, ranging between 16% and 19% nationally [5] [6]. This situation is exacerbated in the North region, where the persistence of early marriage, patriarchal norms and limited access to structured sexuality education reinforce youth vulnerability [5] [7]. Knowledge of modern contraceptive methods, their mechanisms, effectiveness, indications and effects constitutes a fundamental prerequisite for any informed practice [8] [9]. The Knowledge-Attitudes-Practices (KAP) conceptual model provides that knowledge, while not sufficient on its own, remains a necessary step in the chain leading to safer sexual behaviors [10].

Several Cameroonian studies have reported a knowledge deficit among young

people [7] [11] [12], with a worrying persistence of misconceptions, particularly the fear of infertility induced by hormonal contraceptives and the confusion between contraceptive and abortifacient methods [11] [13]. However, most of these works have been conducted in southern urban areas (Yaoundé, Douala, Buea) or university settings [12] [14]. Few studies are available in the northern part of the country, such as those from Maroua [11], which suggest an even more marked deficit. Yet the city of Garoua, capital of the North region, with over 600,000 inhabitants and a wide school network, has not been the subject of an in-depth analysis on this topic.

Identifying the sociodemographic determinants of adequate knowledge is essential to target educational interventions [15] [16]. With this aim, the present study sought to: 1) measure the level of knowledge of modern contraceptive methods among female school adolescents in Garoua; 2) map the main misconceptions and knowledge gaps; 3) describe the information sources used; and 4) identify the sociodemographic factors associated with adequate knowledge.

2. Methods

2.1. Study Design, Period and Setting

This was a cross-sectional descriptive and analytical study conducted from 1st January to 30th April 2026 in the city of Garoua, capital of the North region of Cameroon. The reporting of this manuscript follows the STROBE (Strengthening the Reporting of Observational Studies in Epidemiology) guidelines for observational studies [17].

2.2. Sampling Frame and Selection of Institutions

A two-stage sampling design was applied. In the first stage, an exhaustive list of all secondary educational institutions of Garoua city was obtained from the Regional Delegation of Secondary Education. This sampling frame comprised 27 colleges (lower secondary, 6e–3e), 14 high schools (upper secondary, 2nde–Tle). Each institution was assigned a unique identification number. A simple random selection was then performed using a computer-generated random number table (random number function in Microsoft Excel[®], with a fixed seed for reproducibility), stratified by educational level. Four colleges, four high schools (mixing public and private institutions to capture socioeconomic diversity), yielding a total of eight institutions for the study. Substitution rules were defined a priori in case of refusal of an institution; no substitution was needed in practice.

2.3. Population and Individual Sampling

The target population comprised female adolescents aged 10 to 19 years, regularly enrolled in one of the selected secondary institutions. Because early pregnancy, school dropout and the associated reproductive-health consequences fall principally on adolescent girls, the study was designed to assess contraceptive knowledge specifically among female adolescents. Inclusion criteria were: 1) being a female

pupil in one of the eight selected secondary institutions; 2) being aged 10 - 19 years; and 3) providing informed consent (minor's assent and parental consent for participants under 16 years). Exclusion criteria were: 1) refusal to participate; 2) inability to read and write French; 3) absence for more than three days per week; 4) male sex; and 5) age above 19 years or enrolment at the tertiary (university) level, so as to restrict the sample to secondary-school adolescents consistent with the study definition. Within each selected institution, the sample size was allocated proportionally to the institution's enrollment, then stratified by class level. Within each stratum, a simple random sampling was performed using class registers as sampling frames.

The sample size was calculated using Schwartz's formula, considering an expected prevalence of 30% adequate contraceptive knowledge among adolescents [7], a precision of 5% and an alpha risk of 5%. With a 10% inflation for non-response, the minimum required sample size was 356, rounded up to 400. During data collection, 373 questionnaires were obtained. To align the analytic sample with the study definition (female secondary-school adolescents aged 10 - 19 years), 33 male respondents, 28 respondents older than 19 years and 12 respondents enrolled at the tertiary level were excluded; after these exclusions, 301 female adolescents constituted the final analytic sample. Denominators vary slightly across individual items because of item-level non-response and are reported for each variable.

2.4. Data Collection Tool and Variables

A structured, anonymous and self-administered questionnaire in French was used. It was developed from validated instruments from the literature [7] [11] [15] and adapted to the local context. The questionnaire included four sections relevant to the present analysis: 1) sociodemographic characteristics (age, sex, educational level, religion, family situation, source of income, marital status); 2) sexual history (prior sexual intercourse, age at first intercourse); 3) knowledge about modern contraceptive methods; 4) preferred information sources and discussion of sexuality with parents. The questionnaire was pre-tested on 40 adolescents from a non-selected institution to assess clarity and internal consistency. Six interviewers, previously trained over two days and supervised by two principal investigators, ensured data collection. The mean completion time was 25 to 35 minutes.

2.5. Knowledge Score

The level of knowledge was assessed using a 16-point composite score, calculated by adding: 1) the number of contraceptive methods correctly cited by the respondent from an open list (eight possible methods: pill, male condom, female condom, injectable, implant, intrauterine device (IUD), emergency contraception, and the natural/fertility-awareness method), with one point per method; and 2) the number of correct answers to eight binary (Yes/No/Don't know) factual statements

regarding the effectiveness, mode of use and effects of contraceptive methods. The structure of the score (eight free-recall items plus eight factual items, summing to 16) was adapted from the composite knowledge instrument used by Tchoumkou *et al.* in Yaoundé [7] and from items recommended by the WHO Illustrative Questionnaire for Young People [10], so as to capture both spontaneous awareness (breadth of methods) and applied factual understanding (effectiveness, indications, dual protection, emergency window). The natural/fertility-awareness method was retained in the free-recall list because the local context still presents it as a contraceptive option to adolescents and because its inclusion mirrors the source instruments; the overall outcome is therefore best described as “contraceptive knowledge” rather than “modern-method knowledge” in a strict sense, and we have used this broader wording in the score description. The $\geq 8/16$ cut-off corresponds to obtaining at least half of the maximum score and was defined a priori, consistent with the threshold used in comparable Cameroonian and West African KAP studies [7] [11] [18] to distinguish adequate from inadequate knowledge. Three levels were also defined a priori for descriptive purposes: poor knowledge ($< 8/16$), moderate (8 - 11/16) and good ($\geq 12/16$). The instrument was pre-tested on 40 adolescents from a non-selected institution; following the pretest, two ambiguous items were reworded and the final 16-item set was retained without further modification. In the present female sample, the internal consistency of the eight binary factual items was modest (Cronbach’s $\alpha = 0.60$), a limitation that is acknowledged below. For multivariate analyses, the dependent variable was dichotomized into adequate knowledge ($\geq 8/16$) versus inadequate ($< 8/16$).

2.6. Statistical Analysis

Data were entered into Microsoft Excel[®] and analyzed using SPSS version 26.0. Qualitative variables were described as counts and percentages, and quantitative variables as means \pm standard deviation. Bivariate comparisons were performed using χ^2 or Fisher’s exact test for categorical variables, and Student’s t-test or ANOVA for mean score comparisons. A multivariate logistic regression was conducted to identify independent determinants of adequate knowledge. Because the analytic sample was restricted to female adolescents, sex was not included as a covariate. Variables retained in the final model were those with $p < 0.20$ in bivariate analysis and those judged clinically relevant (age, educational level, religion, parental discussion, main information source, sexual activity). Adjusted odds ratios (aOR) are presented with their 95% confidence intervals. The significance threshold was set at $p < 0.05$. Because pupils were sampled within eight schools, the data have a two-stage hierarchical structure; clustering by institution was not explicitly modelled (e.g. through mixed-effects or generalised estimating equations), which may underestimate standard errors and is acknowledged as a limitation. School type (public vs private) was recorded at the institution level and was intended as a proxy for socioeconomic context; however, individual-level socioeconomic indicators (household income, parental occupation and education)

were not collected in sufficient detail to be used as covariates, and were therefore not entered into the multivariable model. School type itself was examined only as a contextual sampling characteristic and was not analysed as an individual-level determinant of knowledge, because it was considered too crude a proxy for socioeconomic position; this is acknowledged as a limitation. All variables were handled by complete-case analysis. Missing data were limited for most variables (age 0%, religion 1.0%, family situation 1.3%, sexual activity 2.0%, educational level 3.7%) but were higher for parental discussion of sexuality (13.0%) and for the main information source (20.9%); the corresponding analyses should be interpreted with this in mind. The bivariate analyses are based on the analytic sample of 301 female adolescents, with denominators that vary across items because of this item-level non-response and are reported for each variable in the tables. The multivariable logistic regression was restricted to participants with complete data on all covariates included in the model ($n = 245$).

2.7. Ethical Considerations

The protocol obtained approval from the Regional Ethics Committee for Human Health Research of the North region as well as administrative authorizations from the school and academic authorities. Written informed consent was obtained from each participant; minor's assent and parental consent were required for participants under 16 years. Confidentiality was guaranteed by the anonymity of the questionnaires and computer coding of the data, in accordance with the Declaration of Helsinki [19].

3. Results

3.1. Sociodemographic Characteristics

A total of 301 female adolescents were included. The mean age was 16.5 ± 2.0 years (range: 10 - 19 years). High school students represented 82.1% of the sample, followed by middle school students (17.9%). Christianity was the predominant religion (54.4%), followed by traditional religion (22.8%) and Islam (21.5%). More than six adolescents in ten (62.6%) lived with both parents, and 84.7% were single. A minority (13.6%) reported having had sexual intercourse (**Table 1**).

Table 1. Sociodemographic characteristics of the study population ($N = 301$).

Variable	Modality	n	%
Age (mean \pm SD)	16.5 \pm 2.0 years	—	—
Age group	10 - 14 years	42	14.0
	15 - 17 years	153	50.8
	18 - 19 years	106	35.2
Educational level	Middle school (6e–3e)	52	17.9
	High school (2nde–Tle)	238	82.1

Continued

	Christianity	162	54.4
Religion	Traditional religion	68	22.8
	Islam	64	21.5
	Other	4	1.3
	Sexual activity	Yes	40
Discussion of sexuality with parents	Never	159	60.7
	Sometimes	58	22.1
	Often	45	17.2

3.2. Overall Level of Knowledge

The mean knowledge score was 4.1 ± 2.8 out of 16 (range: 0 - 13; median: 4). According to the a priori thresholds, only 12.6% of adolescents ($n = 38$) reached an adequate level of knowledge ($\geq 8/16$); 87.4% had an inadequate level. Notably, 11.6% obtained a moderate score (8 - 11/16) and only 1.0% a good score ($\geq 12/16$). More than four adolescents in ten (41.5%) were unable to name any modern contraceptive method.

Regarding individually recognized methods, the female condom (36.9%) and the male condom (33.9%) ranked highest, followed by the pill (28.6%) and the injectable (22.6%). Long-acting reversible methods implant (10.3%) and IUD (4.3%) as well as emergency contraception (5.3%) remained largely unknown (**Figure 1**).

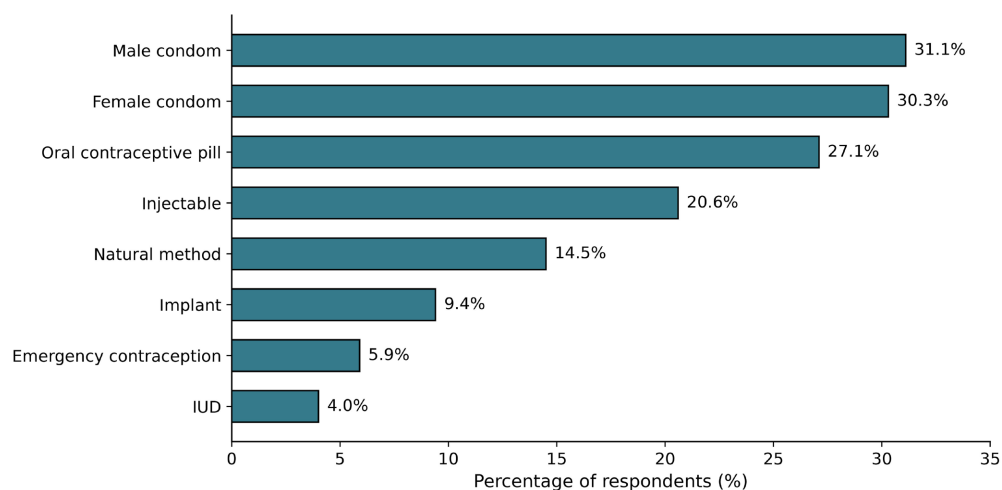


Figure 1. Modern contraceptive methods known by female school adolescents in Garoua (N = 301).

3.3. Detailed Responses to Knowledge Items

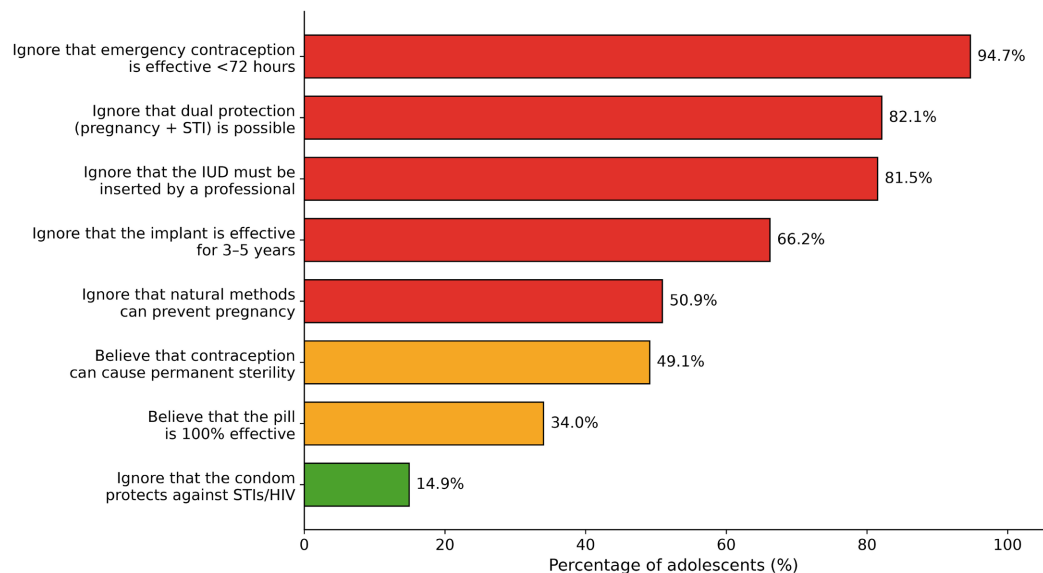
The protective role of condoms against STIs/HIV was the best mastered item (83.5% correct answers). Conversely, only 24.4% of respondents correctly knew that the pill is not 100% effective, and only 26.2% knew the 72-hour window for emergency contraception (**Table 2**).

Table 2. Female adolescents' responses to knowledge items on contraception (N = 301).

Item	Correct answer	% correct	% incorrect
The condom protects against STIs/HIV	Yes	83.5	16.5
The pill is 100% effective	No	24.4	75.6
The implant is effective for 3 - 5 years	Yes	29.5	70.5
The IUD must be inserted by a professional	Yes	33.2	66.8
Emergency contraception is effective < 72 h	Yes	26.2	73.8
Dual protection is possible	Yes	27.6	72.4
Natural methods can prevent pregnancy	Yes	46.2	53.8
Contraception can cause permanent infertility (false)	No	13.4	86.6

3.4. Predominant Misconceptions and Knowledge Gaps

Analysis of the prevalence of misconceptions revealed a massive diffusion of myths: 48.3% of adolescents thought that contraception could cause permanent sterility, 32.0% believed that the pill was 100% effective, 73.8% were unaware of the effectiveness window of emergency contraception, and 72.4% misunderstood the concept of dual protection (Figure 2).

**Figure 2.** Prevalence of misconceptions and knowledge gaps regarding contraception (N = 301).

3.5. Information Sources

School constituted the main source of information (55.5%), followed by health personnel (22.7%), parents (6.7%), friends (5.9%), social networks (4.6%) and traditional media (4.6%). The mean knowledge score varied according to the main information source: it was higher among adolescents informed by health personnel (4.9 ± 2.6) or by school (4.5 ± 2.7) than among those whose main source was friends (3.9 ± 2.7) or parents (3.8 ± 3.4) (Figure 3).

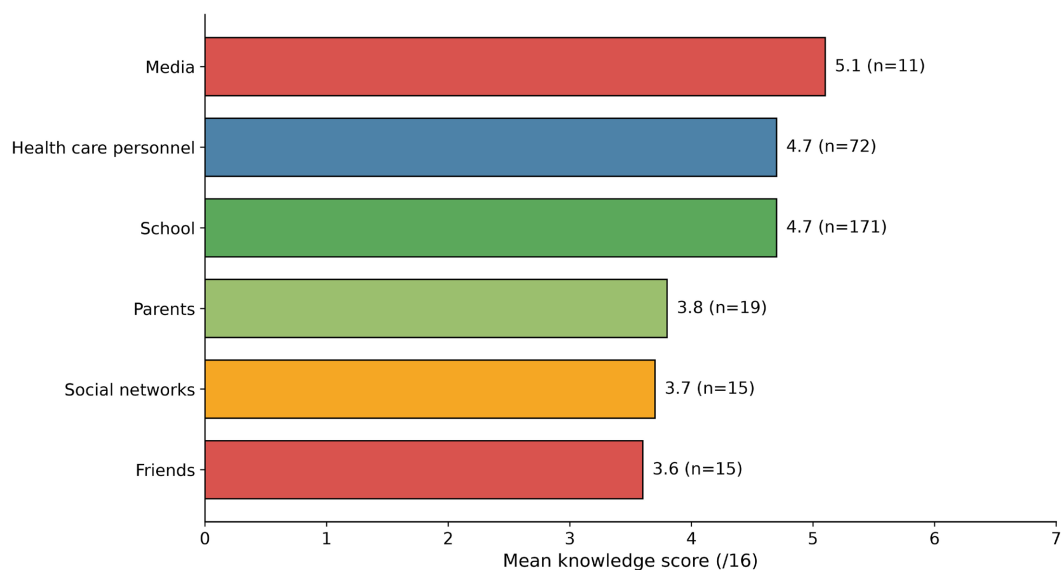


Figure 3. Mean knowledge score according to the main information source on contraception.

3.6. Sociodemographic Variations of the Score

The knowledge score varied according to age (3.1 in 10 - 14 years vs 4.2 in 18 - 19 years), educational level (2.9 in middle school, 4.4 in high school), religion (4.3 in Christians, 4.1 in Muslims, 3.5 in adherents of traditional religion) and the frequency of parental discussion on sexuality (3.8 never vs 5.3 sometimes vs 4.4 often) (**Figure 4**). In-depth bivariate analyses are presented in **Table 3**.

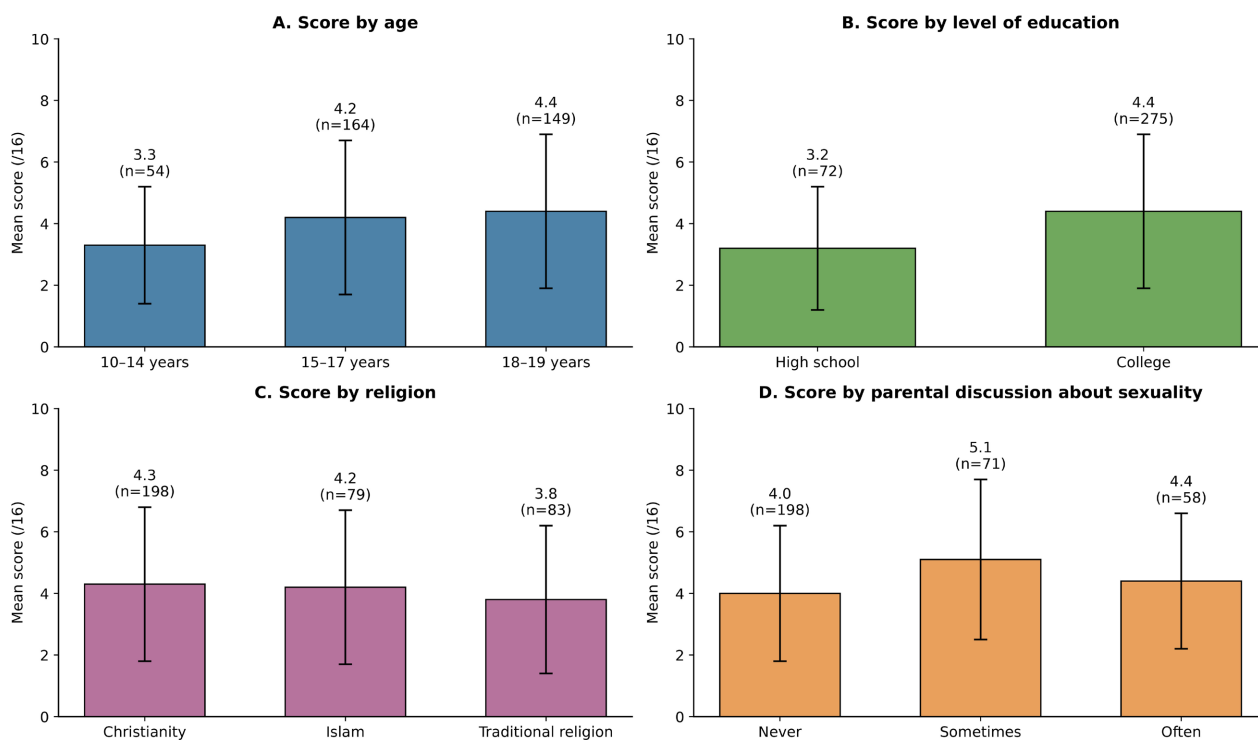


Figure 4. Variation of the knowledge score according to sociodemographic characteristics.

3.7. Bivariate and Multivariate Analysis of Determinants

In bivariate analysis, several factors were associated with adequate knowledge: high school level (15.1% vs 3.8% in middle school; crude OR = 4.46; $p = 0.038$), adherence to traditional religion, which was associated with markedly lower odds (4.4% adequate vs 15.2% in other religions; crude OR = 0.26; $p = 0.021$), and, at the $p < 0.20$ threshold, at least occasional parental discussion (19.4% vs 10.7% never; $p = 0.068$) and older age ($p = 0.165$). Islam, sexual activity and school as information source were not significantly associated with the level of knowledge (Table 3).

Table 3. Factors associated with adequate knowledge ($\geq 8/16$) bivariate and multivariate analyses.

Variable	Adequate/ total (%)	Crude OR [95% CI]	p (uni)	aOR [95% CI]	P (multi)
Age (per additional year)	—	1.15 [0.95 - 1.39]	0.165	0.98 [0.78 - 1.24]	0.876
High school (vs middle school)	36/238 (15.1)	4.46 [1.04 - 19.13]	0.038	4.45 [0.96 - 20.72]	0.057
Religion: Islam (vs other)	7/64 (10.9)	0.80 [0.34 - 1.92]	0.833	1.20 [0.48 - 3.00]	0.700
Religion: traditional (vs other)	3/68 (4.4)	0.26 [0.08 - 0.86]	0.021	0.16 [0.04 - 0.70]	0.015
Sexual activity (yes vs no)	6/40 (15.0)	1.23 [0.48 - 3.16]	0.617	1.20 [0.43 - 3.35]	0.726
Parental discussion (\geq sometimes)	20/103 (19.4)	2.01 [1.00 - 4.06]	0.068	1.71 [0.82 - 3.57]	0.150
Source: school (vs other)	20/132 (15.2)	1.50 [0.76 - 2.96]	0.295	1.26 [0.61 - 2.62]	0.538

Note: The multivariate model adjusted for age, educational level, religion (traditional vs other), parental discussion, school as information source and sexual activity ($n = 245$); sex was not included because the sample comprised only female adolescents.

In multivariate analysis, adherence to traditional religion was independently associated with lower odds of adequate knowledge (aOR = 0.16; 95% CI: 0.04 - 0.70; $p = 0.015$). High school level (vs middle school) retained a strong positive association that narrowly missed conventional significance (aOR = 4.45; 95% CI: 0.96 - 20.72; $p = 0.057$), most likely reflecting limited power given the small number of middle-school participants. Age, parental discussion, school as information source and sexual activity were not significant after adjustment. The overall model was statistically significant (likelihood-ratio $p = 0.005$).

4. Discussion

4.1. A Marked Cognitive Deficit in the Northern Context

The level of knowledge observed in Garoua is markedly lower than that reported

in other Cameroonian works. Tchoumkou *et al.* in Yaoundé [7] found that more than 60% of young people could cite three modern methods or more. Akoku *et al.* [14] and Nkoum *et al.* [12] also documented higher levels of knowledge in Cameroonian university contexts, attributed to broader exposure to awareness campaigns and a more diverse urban environment. In Maroua, in the same northern region, Foumane *et al.* [11] found a deficit, but less pronounced than the one described here. Our results are closer to those observed in rural or semi-urban areas of West Africa [18] [20] and in the Democratic Republic of Congo [21], where sociocultural barriers to the dissemination of sexual information remain particularly strong.

This contextual disparity likely reflects factors specific to northern Cameroon: a conservative social model, strong taboos around premarital sexuality, limited reproductive-health NGO presence, and a school sexuality-education curriculum that is unevenly applied [5].

4.2. Persistence of Structuring Myths

The near-epidemic prevalence of the contraception-induced sterility myth comparable to that reported in Maroua [11] and Senegal [18], is particularly damaging, since fear of future infertility is a documented driver of non-use among adolescents in sub-Saharan Africa [16]. The widespread unawareness of emergency contraception further deprives adolescents of an essential catch-up tool after unprotected intercourse. Similarly, the low recognition of long-acting reversible methods is regrettable, as IUDs and implants are among the most effective options and the best suited to adolescents because of their independence from adherence [9]; these gaps, also documented across African studies [13] [16], partly reflect the cultural perception that such methods are reserved for married women who have already given birth.

4.3. Religion and Educational Level as Determinants of Knowledge

In the adjusted analysis, adherence to traditional religion was independently associated with markedly lower odds of adequate knowledge (aOR = 0.16), identifying girls of traditional faith as a particularly underserved group. This is consistent with the strong sociocultural taboos surrounding adolescent sexuality in northern Cameroon and suggests that community and religious belief systems shape access to reproductive-health information as much as formal schooling does. Alongside this, high school level retained a strong positive association with adequate knowledge (aOR = 4.45) that narrowly missed conventional significance ($p = 0.057$), most plausibly because of limited statistical power given the small number of middle-school participants in line with the work of Nkoum *et al.* [12] and Halle-Ekane *et al.* [13], which point to prolonged school exposure as an essential vector for acquiring reproductive-health knowledge. The loss of significance, after adjustment, of other variables (age, parental discussion, school as source) suggests that their crude effect is largely mediated by educational level and

religious background. Together, these findings call for early intervention from middle school, where the deficit is most pronounced, combined with the explicit engagement of traditional and religious communities, in line with international recommendations [3] [15] and within the existing but unevenly implemented Cameroonian National Strategy for Adolescent and Youth Reproductive Health.

4.4. Information Sources: Levers and Blind Spots

School emerged as the main source of contraceptive information, an encouraging finding that supports structured school-based interventions. However, the marginal role of parents reveals a deficit in intra-family communication, well documented in African settings [21] [22]. The bivariate association of parental discussion with higher scores did not survive adjustment, likely reflecting confluence with educational level more educated parents being both more inclined to dialogue and to keep their children in school longer.

The marginal role of social networks and traditional media in contrast to other African urban contexts [16] likely reflects unequal digital access in the North region and points to a need for targeted media strategies.

4.5. Implications for Practice and Public Health

Our results argue for an integrated package of interventions: systematic integration of a sexual and reproductive health module into the curriculum from grade 6, with explicit deconstruction of prevailing myths; training of teachers and school health personnel; targeted campaigns on little-known methods (emergency contraception, long-acting reversible methods); active engagement of traditional and religious leaders as allies, given the markedly lower knowledge observed among girls of traditional faith; and creation of youth-friendly clinics, as recommended for adolescent SRH services [3]. The strong demand for information expressed by adolescents themselves constitutes a receptive ground on which these interventions can rely.

4.6. Strengths and Limitations

The strengths of this study lie in its randomized stratified multicenter sampling, the use of a composite score combining free recall and factual knowledge items, and the use of adjusted multivariate analyses. Several limitations should nevertheless be noted. First, the study was deliberately restricted to female adolescents, who bear the principal burden of early pregnancy; while this focus is consistent with the study's aim and avoids the bias of an unbalanced mixed-sex sample, it means the findings cannot be generalized to male adolescents, whose contraceptive knowledge and its determinants may differ and warrant dedicated study. Second, the internal consistency of the eight binary factual items was only modest in this sample (Cronbach's $\alpha = 0.60$), so the factual component of the score should be interpreted with caution and the instrument would benefit from further psychometric refinement. Third, the relatively small number of middle-school par-

ticipants ($n = 52$) limited statistical power, which is the most likely reason that the substantial positive association of high-school level with adequate knowledge did not reach conventional significance after adjustment. Fourth, the self-reported nature exposes to social desirability bias, likely to particularly affect the reporting of information sources and sexual activity. Fifth, the cross-sectional nature does not allow causal inference; for example, the effect of educational level may be partly confounded by unmeasured family socioeconomic factors. Although the sampling strategy deliberately mixed public and private institutions to capture socioeconomic diversity, individual-level socioeconomic indicators (household income, parental education and occupation) were not collected with sufficient granularity to be used as covariates, and school type alone was considered too crude a proxy to substitute for them; future work should incorporate these variables. Sixth, pupils were nested within eight schools, but clustering by institution was not modelled in the regression, which may have led to a modest underestimation of standard errors for institution-level predictors. Finally, the assessment of knowledge by closed-ended questionnaire may underestimate or overestimate actual understanding, and a qualitative complement (focus groups) would be useful to explore underlying representations.

5. Conclusion

Female school adolescents in Garoua show a major deficit of contraceptive knowledge, dominated by deep-rooted misconceptions particularly the myth of induced sterility and by limited awareness of emergency contraception and long-acting reversible methods. Adherence to traditional religion was independently associated with poorer knowledge, while high school level showed a strong positive association that did not quite reach significance. From a public health standpoint, these findings underscore the need for structured sexual and reproductive health education integrated from middle school onwards, explicitly targeting the deconstruction of myths and engaging schools, health personnel, and traditional and religious community actors. Future work should extend the analysis to male adolescents, incorporate individual-level socioeconomic indicators, and evaluate the effectiveness of targeted educational interventions in the northern Cameroonian context.

Authors' Contributions

IR conceived the study, SD supervised data collection, IR and AM performed the statistical analysis and drafted the manuscript. NC, FE, and OC contributed to study design, field supervision and EM did the critical revision of the manuscript. All authors read and approved the final version.

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Conflicts of Interest

The authors declare no conflict of interest related to this study.

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