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Knowledge, attitudes, and practices of adolescents regarding sexuality and reproductive issues in the Cordillera administrative region of the Philippines

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Abstract

Background: This study investigates the knowledge, attitudes, and practices (KAP) concerning reproductive health (RH) and sexuality among in- and out-of-school adolescents in the Cordillera Administrative Region (CAR), Philippines. **Methods:** Using a quantitative, cross-sectional approach, this study examined 739 in- and out-of-school adolescents who were recruited through snowball and simple random sampling. **Results:** Statistically significant differences were noted in the knowledge, attitudes, and practices regarding sexuality based on age. Age was associated with knowledge, attitudes, and practices concerning RH. Educational attainment toward sexuality also caused statistically significant changes in knowledge, attitudes, and practices. The KAP regarding sexuality and sex only showed statistically significant differences in attitudes and RH and sex to attitudes. Schooling produced statistically significant differences in knowledge, attitudes, and practices regarding sexuality; for RH, statistically significant differences were found only in knowledge and attitudes. **Conclusion:** The results can inform educational campaign development, which can be used when devising appropriate behavioral change materials suitable for and responsive to the needs and demands of the CAR adolescents.

Keywords: adolescents, attitudes, knowledge, practices, reproductive, sexuality

Introduction

Global statistics confirm that the adolescent age group comprises about 1.2 billion individuals, or around one-sixth of the world's total population,¹ thus indicating a promising future for the world's economy. However, adolescents explore their environment during their developmental transition, and they tend to do so under the influence of their peers and social media. This places them at risk of early pregnancy, which may result in sexually transmitted diseases and even abortions. Indeed, according to Finer and Philbin,² 16% of teenagers have had sex by age 15, compared with one-third of those aged 16, nearly half (48%) of those aged 17, 61% of those aged 18, and 71% of those aged 19 years. Moreover, according to World Health Organization (WHO)³ estimates, globally, 3 million young girls aged 15–19 go through risky abortions each year. Meanwhile, there are 16 million girls aged 15–19 who give birth every year, accounting for 11% of all deliveries. Unfortunately, these childbirths comprise almost a quarter of the problem incidents associated with pregnancy and delivery, including unsafe termination of pregnancy.⁴

According to research, unplanned pregnancies at a young age may predispose adolescents to poor health outcomes because of the lack of information. For

example, unprotected premarital sex may lead to pregnancy complications, sexually transmitted diseases, the unsafe termination of pregnancy,⁵ the death or disability of the mother,⁶ and other social consequences that can have a high economic cost for both the adolescents and their families.⁷ These problems have resulted in the emergence of many interventions, such as the multi-sectoral approach of providing reproductive health (RH) information services,⁸ adolescent-friendly services,⁹ continuing education programs for peer education and RH counseling,¹⁰ a program for generating positive changes in sexual behaviors among adolescents,¹¹ and a safer sex program focused on sexual behaviors.¹² Studies that have focused on conceptualizing and providing intervention delivery strategies have demonstrated improvements in adolescent sexuality and RH.^{13,14} However, such interventions may not translate directly to all settings due to certain factors that have not been considered. In fact, despite available interventions, aggregated data from 144 countries suggested that the risk of death related to pregnancy is at least three times higher among adolescents aged 15–19 compared to those aged 20–24 years.¹⁵

In December 2014, a youth congress sponsored by the Center for Health (CHD)-Cordillera Administrative Region (CAR) Regional Office identified adolescent

problems related to sexuality and RH. These include premarital sex that may lead to pregnancy; alcohol consumption; cigarette smoking; substance abuse (e.g., marijuana, shabu, and methamphetamines); and social networking that gives them access to pornography. The adolescents' workshop was conducted in the locality of the CAR. Prior to the current study, out-of-school youth have been found to face issues in terms of gaining access to knowledge related to sexuality and RH, including where to get help in relation to these problems. Meanwhile, the assumption that the in-school adolescents have better practices and more knowledge about sexuality and RH was not accepted by the workshop. Moreover, it has been suggested that, under the revised edition of the International Technical Guidance on Sexuality Education, given the efficacy of comprehensive sexuality education,¹⁶ similar information must be disseminated to in- and out-of-school adolescents. At the same time, however, the challenges to delivering curriculum-based approaches out of schools must be considered.¹⁷ Taking this into consideration, strategies must also be designed so that they are suitable to the needs of adolescents in- and out-of-school. Therefore, this study aimed to investigate the knowledge, attitudes, and practices (KAP) regarding sexuality and RH issues among in- and out-of-school adolescents in the CAR of the Philippines. To the best of our knowledge, this study is the first in the locality; thus, its main objective is to provide information for the development of a suitable health service in the region that is targeted toward adolescents. More importantly, this study also aims to provide health-workers with a greater understanding of the adolescents' actual situation. Finally, the findings can help stakeholders develop appropriate interventions that can improve the delivery of adolescent-friendly services at the community level.

Methods

This study employed a quantitative, cross-sectional approach combined with demographic information to examine the knowledge levels, attitudes, and practices of adolescents regarding sexuality and RH issues. This research was conducted using a two-group population approach featuring in- and out-of-school adolescents of the CAR. The in-school adolescents group came from one of the most populated high schools in the city of Baguio and the municipality of Pennurabia, Abra Province. The out-of-school adolescents included the villages within Pennarubia and the barangays of Baguio City. Simple random sampling was used for the in-school group, whereas snowball sampling was used for the out-of-school groups. The researchers used the sample size online calculator (<https://www.surveysystem.com/sscalc.htm>) with a 95% confidence interval (CI) to identify the number of participants. Each of the participants was assigned a random number using the random number generator to select the sample thereafter.

The criteria for the identification of the aforementioned locations were based on several considerations: permission from the local authorities and leaders of the indigenous peoples, the safety of the researchers from insurgencies during the data gathering period, the schools' willingness to participate, and the results of a recent Department of Health survey. A total of 739 adolescents recruited based on the following inclusion criteria: (1) skills in reading, understanding, and writing; (2) submission of the signed written consent from a parent/guardian; and (3) the subject's willingness to participate.

A self-made instrument was created by the researchers based on a literature review and other instruments used in similar but validated studies. Further, data from the Department of Health in the CAR Regional Office were used to construct the questionnaire. The instrument was translated into Ilocano, the primary language used in the region. Afterwards, forward translation and back-translation were conducted by two panels of experts who have doctoral degrees in language communication. The questionnaire was subjected to a series of validations by the panel of experts, who have well-rounded experience in psychometric testing, worked as research consultants, and possessed a strong background in maternal and child health. The first round of validity testing was conducted by reviewing each question to determine how well it fits the purpose of the survey and the clarity with which the question is stated. The recommendations in the first round were integrated in the second round to improve the content's relevance. Content validity was conducted after the face validity, particularly S-CVI/UA. The questionnaire yielded an S-CVI/UA score of 0.821, which showed agreement with all the items.

The questionnaire consisted of two parts: (1) the demographic information, such as age, sex, grade level, educational attainment, and schooling status, and (2) the questionnaire regarding KAP on sexuality and RH issues. To assess knowledge, a 20-item, multiple-choice test was designed, which was divided into 10 items each for sexuality and RH. One mark was given for every correct answer. Scores were transmuted into a scale with a range of 0–0.19, very low; 0.20–0.39, low; 0.40–0.59, fair; 0.60–0.79, high; and 0.80–1.00, very high. The attitudes questionnaire has 20 items, with 10 items each for sexuality and RH issues. This was measured with a 4-point Likert scale (1.00–1.74, strongly agree; 1.75–2.49, disagree; 2.50–3.24, agree; and 3.25–4.00, strongly agree). The questions related to practices also consisted of 20 items, with 10 items each for sexuality and RH. This was measured with a 3-point Likert scale (1.00–1.66, not practiced; 1.67–2.33, sometimes practiced; 2.34–3.00 always practiced).

The final tool was subjected to a pilot test, after which the Cronbach's alpha values were calculated. For the pilot testing of the instrument, 20 out-of-school youths and 20 in-school youths participated. These respondents, however, did not participate in the actual survey. For the knowledge portion, the sexuality and RH issues questionnaire both yielded a Cronbach's alpha coefficient of 0.81. For the attitude questionnaire, sexuality had 0.78 and RH had 0.79. The questions related to practices had Cronbach's alpha coefficients of 0.81 and 0.79 for sexuality and RH issues, respectively.

Prior to conducting the data collection, the researchers presented the protocol to the Ethics Committee of the Health Research and Development Consortium (CHRDC-REC0212016). Upon securing approval, the researchers sought permission from the local authorities of the indigenous people in Abra and Baguio City. Thereafter, an orientation was scheduled wherein the parents and adolescents were requested to attend. The purpose and method of the study were presented during the orientation along with the adolescents' rights to confidentiality, anonymity, and privacy as well as their right to withdraw at any time. The parents and guardians were requested to sign the consent form if they decided to allow their children to participate in the research. This research was conducted from October 2015 to January 2016. This study obtained ethical clearance from the Cordillera Regional Health Research and Development Consortium.

We used frequency and percentage to analyze the respondents' demographic information. For the questions about knowledge, the data were analyzed using the average rating, whereas the attitudes and practices data were examined using the weighted mean. The differences in the demographic information were analyzed using analysis of variance (ANOVA). To examine sex and schooling status, we used the independent-samples t-test. The accepted level of significance was $p < 0.01$.

Results

Among the sampled adolescents, the majority (226, $n = 739$) were under 16 years; there were 212 under 15, 136 under 14, and 165 under 13 years of age. There were fewer females than males, with a total of 363 for the former and 376 for the latter. Most of the sampled adolescents (256) were in their fourth year of high school (remaining batch of the old educational system prior to K-12), 194 were in the eighth grade, 193 were in the third year of high school, and 96 were in the seventh grade. Furthermore, the majority of the respondents (634) were in-school, while only 105 were out-of-school adolescents.

The overall mean scores of knowledge about sexuality and RH were low, with mean scores of 0.30 and 0.33, respectively (Table 1). The overall mean score of the attitudes toward sexuality issues was 2.88 (i.e., "agree" responses), whereas that of RH was 2.82 (Table 2). For practices, the mean score (2.03) was in the "sometimes practiced" range. For RH, the average response for the practices (1.90) was in the "sometimes practiced" range (Table 3).

We used one-way ANOVA to determine the differences among ages in terms of KAP on sexuality and RH. In addition, the post hoc test was conducted to identify which age range showed significance. On sexuality, the adolescents' age (15 years) was found to be significantly related to knowledge ($p < 0.002$), attitudes ($p < 0.001$), and practices ($p < 0.001$). For RH, age (16 years old) was also found to be significantly related to knowledge ($p < 0.001$), attitude ($p < 0.001$), and practice ($p < 0.001$) as shown in Table 4.

One-way ANOVA was conducted to determine the differences among educational attainment levels in terms of KAP on sexuality and RH among the adolescents. Further, post hoc test was conducted to identify the grade level with the greatest significance. Educational attainment (Grade 10) was found to be significantly related to knowledge ($p < 0.001$), attitudes ($p < 0.001$), and practices ($p < 0.001$) regarding sexuality. Similarly, educational attainment (Grade 10) was also found to be significantly related to knowledge ($p < 0.001$), attitudes ($p < 0.001$), and practices ($p < 0.001$) regarding RH (Table 5).

In terms of the adolescents' sex, the independent-samples t-test revealed no significant difference in knowledge ($p > 0.358$) or practices ($p > 0.922$) regarding sexuality. However, for attitudes, female adolescents had higher scores, resulting in a significant difference ($p < 0.001$). In the RH category, female adolescents scored higher in knowledge (3.46) than the males (3.21); for practices, males had a higher score (1.99) than their female counterparts (1.96). Although the independent-samples t-test found no significant difference between males and females in terms of knowledge ($p > 0.073$) and practices ($p > 0.378$), a significant difference was found in their attitudes ($p < 0.008$).

Regarding the schooling status (in-school or out-of-school), those who were currently attending school had better knowledge. For sexuality, the t-test revealed significant differences in knowledge ($p < 0.004$), attitudes ($p < 0.001$), and practices ($p < 0.004$). For RH, significant differences were also found in knowledge ($p < 0.004$) and attitudes ($p < 0.001$). No significant difference was found in their practices ($p > 0.159$), as shown in Table 6.

Table 1. Knowledge of adolescents regarding sexuality and reproductive health

Areas of knowledge	Mean	Score category
Sexuality	0.30	Low
1. Context/definition of sexuality	0.57	Fair
2. Facts on sexuality	0.38	Low
3. Sexual development	0.27	Low
4. Consequences of premarital sex	0.32	Low
5. Forms of premarital sex	0.41	Fair
6. Influences on sexuality	0.22	Low
7. Stereotypic-gender Behavior	0.01	Very Low
8. Basis of sex education	0.23	Low
9. Developing healthy sexuality	0.17	Very Low
10. Consequences of substance abuse	0.43	Fair
Reproductive health	0.33	Low
11. Definition of reproductive health	0.27	Low
12. Transfer of Infection	0.19	Very Low
13. Possible source of sexually transmitted diseases	0.37	Low
14. Family Planning	0.31	Low
15. Consequence of multiple partners	0.55	Fair
16. Reason to acquire reproductive diseases	0.35	Low
17. Complication of early pregnancy	0.14	Very Low
18. Indicators of puberty	0.46	Fair
19. Effective prevention of pregnancy	0.31	Low
20. Facts on pregnancy	0.37	Low

Table 2. Attitudes of adolescents toward sexuality and reproductive health

Attitudes	Mean	Score category
Sexuality	2.88	Agree
1. When a person reached puberty stage, she/he has the desire to engage in sex with his/her partner.	2.28	Disagree
2. Normally, adolescents are attracted with the same sex.	2.72	Agree
3. Adolescents having sex at early age may regret it afterwards because of the consequences.	3.00	Agree
4. I believe that adolescents engaging in premarital sex would result to acquiring sexually transmitted disease.	2.91	Agree
5. When an adolescent is under the influence of alcohol, the more that it increases their desire to engage in sex.	2.93	Agree
6. Sexual behavior of the adolescent is influenced by their peers/ friends.	2.68	Agree
7. It is best to listen to the advice of parents to avoid sexual and social risk like premarital sex, alcohol and drugs.	3.57	Strongly agree
8. When an adolescent man and woman love each other, they are free to have a sexual activity.	2.79	Agree
9. The female can have sex with a male partner a week after menstruation.	2.77	Agree
10. The adolescent should not engage in sex until they get married.	3.18	Agree
Reproductive health	2.82	Agree
11. Sexually transmitted diseases/ pregnancy can be prevented when a condom is used during sexual activity.	2.88	Agree
12. Abstaining from sex is the best prevention to sexually transmitted diseases.	3.06	Agree
13. Having knowledge on reproductive health issues prepares an adolescent to become a responsible individual in the society.	3.23	Agree

Table 2. Continue

Attitudes	Mean	Score category
14. Physical and physiological changes in the adolescent's body serve as a signal that he/she is now ready to engage in sexual intercourse.	2.84	Agree
15. Unwanted pregnancy may result to abortion.	2.93	Agree
16. Abstaining from sex is the best method to avoid pregnancy and sexually transmitted diseases	3.10	Agree
17. It is always the responsibility of a girl to ensure that birth control method is used before engaging to sexual activity with a partner.	2.15	Agree
18. Sexually transmitted diseases can be acquired through kissing and touching the genital area of the partner.	2.26	Agree
19. Alcohol drinking will have a bad effect on my reproductive health.	3.16	Agree
20. I believe that every sex act should be free of coercion and diseases.	2.54	Agree

Table 3. Practices of adolescents related to sexuality and reproductive health

Practice	Mean	Score category
Sexuality	2.03	Sometimes Practice
1. I express my sexual feeling or pleasure according to my sexual identity.	1.83	Sometimes Practice
2. I join activities in the school/ (barangay for out-of- school) to boost my self-confidence.	2.35	Always Practice
3. Being an adolescent, I focus to my goals and dreams.	2.59	Always
4. I refused to engage in sex because it may result to pregnancy or sexually transmitted diseases.	2.11	Sometimes Practice
5. I consult my friends and or my parents regarding my physical changes in my body.	2.04	Sometimes Practice
6. I engage in premarital sexual activity with my partner as a means of showing my love and affection.	1.41	Not Practice
7. I will not engage in sex during unsafe period.	1.91	Sometimes Practice
8. I access information that supports healthy sexual development.	1.91	Sometimes Practice
9. I go with a group of friends as this prevents me from temptation engaging in sexual activities.	2.10	Sometimes Practice
10. I don't drink alcohol as this drives my desire to engage in sexual activity.	2.07	Sometimes Practice
Reproductive health	1.90	Sometimes practice
11. I don't drink alcohol that it will result in a bad effect on to my reproductive health.	2.70	Always Practice
12. I practice no sex because it is the most effective birth control method and prevention of sexually transmitted diseases.	2.13	Sometimes Practice
13. I use a condom when with sexual activity to my partner to avoid acquiring sexually transmitted diseases.	1.58	Not Practice
14. I consult my parents and peers on information regarding my physical, mental, and social well-being relating to my reproductive health.	2.14	Sometimes Practice
15. I get information regarding my reproductive health (physical, emotional development through the internet and or magazines.	2.06	Sometimes Practice
16. I practice the withdrawal method with my sexual partner to avoid sexually transmitted diseases or pregnancy.	1.59	Not Practice
17. I perform sexual activity with my partner a week after menstruation	1.35	Not Practice
18. I stay away from multiple partners to prevent getting sexually transmitted diseases.	1.91	Sometimes Practice
19. I ask questions from my parents regarding family planning.	2.02	Sometimes Practice
20. I practice safe sex by using a condom.	1.52	Not Practice

Table 4. Differences among the ages in terms of knowledge levels, attitudes, and practices related to sexuality and reproductive health

	Sexuality		Reproductive health	
	Mean	<i>p</i>	Mean	<i>p</i>
Knowledge		0.002*		0.001*
Age 13	2.70		2.82	
Age 14	2.73		2.96	
Age 15	3.39		3.53	
Age 16	3.11		3.78	
Attitude		0.001*		0.001*
Age 13	2.76		2.74	
Age 14	2.88		2.82	
Age 15	2.95		2.84	
Age 16	2.92		2.85	
Practice		0.001*		0.001*
Age 13	2.04		1.89	
Age 14	2.17		1.98	
Age 15	2.24		2.00	
Age 16	2.21		2.01	

**p* < 0.05

Table 5. Differences among educational attainment in terms of knowledge levels, attitudes, and practices related to sexuality and reproductive health

	Sexuality		Reproductive Health	
	Mean	<i>p</i>	Mean	<i>p</i>
Knowledge		0.001*		0.001*
Grade 7	2.65		2.69	
Grade 8	2.58		2.61	
Grade 9	2.96		3.44	
Grade 10	3.53		4.15	
Attitude		0.001*		0.001*
Grade 7	2.69		2.65	
Grade 8	2.86		2.84	
Grade 9	2.88		2.82	
Grade 10	3.04		2.90	
Practice		0.001*		0.001*
Grade 7	2.02		1.90	
Grade 8	2.02		1.85	
Grade 9	2.26		2.02	
Grade 10	2.27		2.02	

**p* < 0.05

Table 6. Differences between sex and schooling status and knowledge, attitudes, and practices in sexuality and reproductive health

	Sexuality			Reproductive health		
	Mean	Score category	<i>p</i>	Mean	Score category	<i>p</i>
Knowledge			0.358			0.073
Male	2.94	Low		3.21		
Female	3.07	Low		3.46		
Attitude			0.001*			0.008*
Male	2.83	Agree		2.78	Agree	
Female	2.93	Agree		2.85	Agree	
Practice			0.922			0.378
Male	2.17	Sometimes		1.99	Sometimes	
Female	2.17	Sometimes		1.96	Sometimes	
Knowledge			0.004*			0.004*
In-School	3.06			3.43		
Out of School	2.64			2.71		
Attitude			0.001*			0.001*
In-School	2.91			2.83		
Out of School	2.74			2.72		
Practice			0.004*			0.159
In-School	2.17			1.97		
Out of School	2.14			2.02		

**p* < 0.05

Discussion

The finding that the adolescents generally possessed low levels of knowledge about sexuality and RH issues suggests the need for more advanced sexuality and RH education. These findings can be attributed to the incomplete information acquired by these adolescents due to the highly-observed and widespread conservative or folkloric background in the region. It has been observed that the local indigenous values and belief system still affect the attitudes and practices of adolescents toward sexuality and RH. This indicates

that having a deficiency of information and awareness on sexuality means they have a very high chance of facing a host of sexuality- and RH-related problems. Educating adolescents about these issues can help them understand the risks they are facing if and when they engage in sexual activity. Tenkku¹⁸ found that educational interventions significantly improve adolescents' knowledge about sexuality and RH. There is a common consensus in previous studies regarding the adolescents' low level of knowledge regarding sexuality and RH issues,¹⁹⁻²¹ and this has been attributed to a reserved culture characterized by a lack

of discussion about sexuality and RH at home and even inside the classroom. In general, the findings of this study, namely, that adolescents have poor knowledge of sexuality and RH, indicate that they require particular attention with regards the realization of their sexuality and reproductive capability prior to completing their social preparation for adulthood. Meanwhile, the encouraging attitudes acknowledged by the adolescents in the present study showed that the behaviors they witnessed from their families, relatives, and friends somehow had a solid impact on adopting such behaviors, thus reinforcing new norms. According to Wight and Fullerton,²² parental discussion of sexuality and RH issues contributes to improved knowledge and behavior related to these topics among adolescents. The positive attitude of the adolescents in this study could be a contributing factor for parents, as they were well-situated to assist their children in the process of building both internal (e.g., responsibility, self-motivation) and external assets (e.g., family communication, family support) by providing a supportive family environment. The poor knowledge of adolescents on sexuality and RH has not been translated into their practices, and this may be due to the adolescent programs available in the community. Gavin *et al.*²³ discussed how positive youth development programs can help reduce risky sexual behaviors among adolescents.

Age is considered to be an indication of the level of maturity and is related to one's attitudes toward one's sexuality. In the current study, there was a linear increase in the knowledge about sexuality and RH as the age of the respondents increased, implying that their age influenced their knowledge and the kind of information they had acquired. The finding that age was directly associated with knowledge agreed well with the results of other studies.^{24,25} As adolescents age, they can relate to how other people view them and how they are expected to behave in a particular role or context; thus, they have attitudes that are considered appropriate. Within such a context, positive reinforcement or motivation from their elders/relatives, significant others, or other significant people with whom they are associated, should be considered to help them to make informed choices.

Adolescents' knowledge appears to improve with increased education. Thus, having a higher level of education should decrease the risk of having problems with sexuality and RH issues, as they are made aware of and can prevent the negative consequences. Likewise, the attitudes toward RH increase or change as the level of education rises. The increase in the adolescents' good practices suggests that they improve their positive practices regarding the development of sexuality and RH as they move to a higher level of education. Their attitudes toward sexuality and RH can be modified

through the information presented by teachers, parents, the media, and other sources, which persuade them to alter their behaviors. Ayehu *et al.*²⁶ found that adolescents who had lower levels of education were less likely to utilize sexual and RH services. In addition, they may be less likely to discuss their sexuality and RH issues with their parents and might not have a good understanding of the importance and need for sexuality and RH services.²⁷ In general, the progression of KAP of adolescents alongside their educational attainment suggests that better knowledge can translate to positive attitudes and practices regarding sexuality and RH. While adolescents mature into adulthood, they tend to understand the moral imperative to do better actions that are expected from them as acceptable acts in society.

Similar to the findings of other studies,²⁸ there were no differences between knowledge and practices related to the adolescents' sex. This suggests that, regardless of their sex, the levels of their knowledge and practices in terms of sexuality and RH are equal or do not significantly differ between males and females. This finding can be attributed to the equal exposure to sex education.²⁹ As reported by Khanal,²⁸ even though male participants were more outspoken than females, the sex of the participants did not make any difference to their overall level of sexuality and RH knowledge. Thus, programs that are developed about the knowledge and practices of sexuality should be delivered in similar ways regardless of sex. Furthermore, adolescent males and females should be provided with positive, caring, and consistent adult role models of both sexes. Nonetheless, this result opposes the findings of some other studies.^{25,30} A recent study in China reported that the sexual behaviors of females were less sensitive to the increased knowledge about sexuality and RH. In most developing countries, females usually have more limited access to information related to sexuality and RH than their male counterparts—a situation that unfortunately leads to less favorable outcomes of sex education for the former.³⁰ Masood and Alsonini²⁵ further reported that females were less aware of RH and family planning issues than males.

The findings indicated that in-school adolescents had better knowledge about sexuality and RH than their out-of-school peers. However, regardless of whether they were in-or out-of-school, no significant differences were found in their practices. Attendance in school had an impact on their awareness when considering their involvement in school; thus, the adolescents' susceptibility to experiencing sexual and reproductive problems diminished. This finding concurs with those reported in past studies,^{31–33} which generally concluded that in-school respondents had higher levels of knowledge about sexual and RH issues

than their out-of-school counterparts. In this case, the school environment may have had an effect. Further, peer education can improve adolescents' knowledge, bringing it to an acceptable level and enhancing their positive approach toward sexuality and RH.³² This finding was a clear indication that there was a need to intensify the role of the teachers in educating the adolescents on RH in order to improve their understanding in protecting themselves from issues related to sexuality and RH.

In every research, limitations exist. Therefore, the researchers acknowledge some limitations of this study and offer recommendations as part of future research. For instance, we utilized a self-reported method wherein participants may have under or over-reported their perceptions. Such limitations can be addressed in future works by validating the participants' perceptions through a qualitative approach. Moreover, this research was focused only on an identified locality; hence, the results may not be applicable to the other provinces in CAR. This is worthy of another investigation considering the wider locality, which includes the other provinces within CAR.

Conclusion

The knowledge of the adolescents is generally low, but they have a positive attitude and good practices related to sexuality and RH. The KAP of the adolescents on sexuality and RH showed significant differences concerning age and educational attainment. Moreover, the KAP on sexuality based on sex found that only attitude had a significant difference, and the KAP for schooling status also noted a significant difference regarding sexuality. Meanwhile, the KAP for RH found significant differences in knowledge and attitudes only. The results of this study provide information that can be used by educational campaign developers in designing appropriate behavioral change materials that are suitable for and responsive to the needs and demands of the adolescents in the CAR. The required interventions for these problems should be extensive and comprehensive in order to guide adolescents into becoming better-informed individuals in society.

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Conflict of Interest Statement

The authors declare no conflict of interest.

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