



Exploring sexual awareness and Decision-making among adolescent girls and boys in rural Nicaragua: A socio-ecological approach

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ABSTRACT

Objective: To explore how individual, relational, and social contexts influence adolescents' sexual awareness and decision-making in rural Nicaragua.

Methods: Eighteen semi-structured interviews were conducted with adolescent boys and girls aged 15 to 19 years. Thematic analysis identified patterns of meaning applying a socio-ecological approach. A thematic map illustrates how the themes are organized according to the socio-ecological model and suggests their interactions.

Results: Six main themes emerged as (1) Adolescence - a period of life changes, (2) Fears as a pathway to awareness and decision-making, (3) Awareness about protective measures, (4) Relational influences on adolescents' sexual health, (5) Service provision and institutional influences on awareness and decision-making and (6) Sociocultural determinants on adolescent sexual health. Informants of both genders expressed concern in several issues of their sexuality. They identified fear of pregnancy, STIs, and their impact on future goals, family communication, and school-based sexual education as protective factors for their sexual decision-making. Adolescents of both genders are challenging social and cultural norms by developing sexual agency.

Conclusion: These findings imply that personal and societal factors in rural Nicaragua produce a multi-dimensional effect on adolescent sexual self-efficacy. Our study is relevant for a wider discussion about sexual awareness to promote positive development and health outcomes particularly among adolescents' girls and boys living in rural settings.

Introduction

Substantial improvement in our understanding of adolescent sexual and reproductive health and rights (ASRHR) has occurred over the past 25 years. Reported ASRHR outcomes, such as adolescent pregnancy and childbearing have been identified across various global socioeconomic contexts. Rural adolescents experience more structural disadvantages including limited education and access to friendly healthcare services that impact unfavorably on health outcomes and to engage in health-protective behaviors [1]. Recent studies suggest that adolescents remain vulnerable for risky sexual behaviors, which increase their exposure to sexually transmitted infections (STIs), HIV, unwanted pregnancy, and parenthood [2,3,4]. Nicaragua deserves special attention since the country has implemented policies and guidelines on gender-based violence, sexual education, and youth health, which have

contributed to a significant improvement of adolescent sexual and reproductive health. Despite the national progress, Nicaragua ranked among the highest in the Latin American region for needing to develop adolescent and youth support systems, particularly among rural communities where more than 80% of Nicaragua's extreme poor are living [5,6]. The adolescent fertility rates remain the highest in the region [3] with 83 births per 1000 women ages 15–19 in 2018 [7], and adolescent maternal mortality rates (22%) and STI rates (44.5%) are high [6]. Some of the challenges related to equitable ASRHR in Nicaragua result from legal frameworks, policy changes, and social and cultural norms in the country. These include the total prohibition of abortion under all circumstances, and the fact that religion still influences political decision-making [6,8]. While other challenges are embedded in cultural ideologies and gender norms very grounded in the Latino's society [9,10,11].

Research indicates that the connection of the cultural constructs in

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which adolescents live may influence how they experience their sexuality. That has major implications for the self-development of coping responses and protective factors to sexual risky behaviors [1,2]. As a worldwide phenomenon, Nicaraguan boys are more likely to be sexually active, have multiple sex partners [5,12], and be less likely to use modern contraceptive methods, including condoms, with irregular partners [3,12]. Rural Nicaraguan adolescents have demonstrated a high understanding of topics concerning sexuality [13]. Nevertheless, increasing awareness about sexual norms and responsibilities with a gender perspective is crucial among adolescents [5,4]. Sexual awareness not only includes knowledge and perceptions of sexual contexts, but also desires, feelings and motives [14]. Thus, sexual awareness implies influence on adolescents' sexual self-efficacy to develop their sexual agency and make healthy choices [15].

This evidence comes predominantly from quantitative research and very few qualitative studies has been performed on how individual, relational, and contextual factors influence Nicaraguan adolescent's sexual behavior. Moreover, no qualitative studies have explored the phenomenon of adolescent sexual behavior from a gender lens or the concept of sexual awareness among rural adolescent boys and girls in Nicaragua. To fill this gap, the present qualitative study explores how the individual, relational, and social context influence adolescents' sexual awareness and their sexual decision-making autonomy in rural Nicaragua. These findings are intended to add to existing knowledge of adolescents' sexuality and offer an opportunity for medical professionals and health policymakers to provide evidence-based interventions to adolescents, particularly from low-resource settings, to achieve and exercise their full potential.

Theoretical framework

The socio-ecological model (SEM) was utilized as the theoretical framework since adolescent sexual agency is challenged and guided by the different levels of their ecological system [16]. The SEM provides an understanding of how the multifaceted levels within a society overlap and interact with individuals to prevent or produce certain actions or events. Therefore, it describes four different levels of factors that influence on behavior. The individual level includes personal characteristics, biological factors, behavior, and personal experiences. The relational level or person-to-person interaction (such as family, peers, and partners). The community level refers to settings or institutions, such as school and neighborhoods. Finally, the societal level included broad societal factors, such as sociocultural norms, policies, and laws [17].

Material and methods

Study design, setting, and participants

Researchers conducted one-on-one semi-structured interviews for this qualitative research design and used follow-up questions to get a deeper understanding of adolescent sexual behavior. The rural community of Tololar, located in western Nicaragua, served as the study location during the beginning of 2017. The community of Tololar consists of 14 villages in total with one primary health post attending the area. Currently, peanuts, sugar cane, soybean, and cassava are the main crops supporting the socioeconomic structure of the area. However, several factors, such as unemployment, poverty, migrant labor, deforestation, and industrial agriculture, contribute to social inequity for access to education and health services [18]. International and local organizations have aided in terms of sustainable development through capacity building funds, cultural and educational exchange programs, and advocacy on gender issues, community mobilization, and environmental protection. Participants were considered eligible if they were between the ages of 15–19 and reported not having children. Self-reported sexual debut was not limiting factors for participation in this study. The sample size was determined once researchers achieved

saturation of repeated information. In total, nine females and nine males were interviewed.

Procedure

The Ethical Review Board of Biomedical Research at the National Autonomous University of León (FWA00004523/IRB00003342) approved the study (ACTA No. 9 – 2017) according to the Helsinki declaration. Participants were recruited by going door-to-door in the community using snowball technique. As an additional step in the recruitment process, key informants (doctor, nurse, and schoolteacher) in the community proposed possible participants. Due to the sensitive nature of the research topic, the study was generally described as adolescent health issues. Parents or legal guardians gave verbal consent before adolescents under 18 years of age were admitted to the study. Additionally, each participant received information, prior to the interview, in their local language about the purpose of the study, that participation was voluntary, and they could withdraw at any time. Researchers recorded verbal consent in the local language. Most of the participants preferred to do the interviews at first contact and at a private place in their own homes. In some instances, a meeting was arranged for another day at the school or local healthcare centre. The interviews were conducted between December 2016 and January 2017 in Spanish by the third- and last author, one interview with each eligible participant. The first author worked as a note-taker during the data collection process.

The interview guide was organized into six topics (1) background and demographics, (2) sexual talks, (3) sexual relationships (4) safe sex practices, (5) teenage pregnancy, and (6) STIs, including HIV. The interview guide was piloted with one boy and one girl. Additionally, key informants helped in the development of the final draft. Interviews ranged from 40 to 60 min.

Data analysis

Recordings of the interviews were transcribed verbatim into Spanish. The transcriptions were verified by cross-checking a random sample to the original recordings prior to translation into English. Subsequently, thematic analysis was applied based on a combination of deductive and inductive coding [19] by using Open Code version 3.6. Staff first read the transcripts and wrote down initial ideas to achieve greater familiarity with the data. Authors coded independently, agreed upon existing themes, and linked the codes to new themes as they arose. Finally, researchers reached consensus about reviewing, defining, and naming themes. This method was used to interpret various aspects of the phenomenon studied and provided a theoretically flexible analysis and to build a thematic map. The thematic map shows how the themes are organized according to the socio-ecological model and suggests their interactions.

Results

Most of the participants were below the age of 18, believed in the Catholic religion, and were enrolled in school at different levels. Two male participants were working, and one did neither work nor study. Additionally, some adolescent boys reported working for farmland companies after school while the girls were helping their family with housework. Adolescents reported that their families are dealing with financial constraints, and they recognized living in a community affected by poverty. Participants also mentioned the lack of leisure activities, where they usually spend their free time at home with their families. However, boys reported they spend some time with friends and participated in sport activities. Most of the female informants had no sexual experience while half of the males had engaged in sexual activity.

Six main themes emerged from the data analysis: (1) Adolescence - a period of life changes, (2) Fears as a pathway to awareness and decision-

making, (3) Awareness about protective measures, (4) Relational influences on adolescents' sexual health, (5) Service provision and institutional influences on awareness and decision-making and (6) Sociocultural determinants on adolescent sexual health. Fig. 1 shows a thematic map of the themes and their suggested interactions according to the SEM.

Theme 1: Adolescence - a period of life changes

Participants explained that adolescents begin to have sex because of curiosity and due to the desire of experimenting and learning about sex. Furthermore, they thought that adolescent boys tend to be the older ones in a relationship, have more curiosity, and a greater desire to initiate sex early compared to their female counterparts. Male participants shared how curiosity and desire are due to increased hormonal levels in teenager's bodies. Hence, boys and girls shared that feeling love was an influencing factor to have sex.

"...the opportunity was given to experience and discover what it [sex] was, but then with the other one, it was out of love"

Male, 19 years

"... maybe I think about it right now "no I'm not going to have sex before I am married", ... maybe I get to know a person of whom I fall so much in love with, that I no longer think of my old thoughts, but let myself be carried for the moment"

Female, 16 years

Theme 2: Fears as a pathway to awareness and decision-making

Sub-theme: Fear of negative health outcomes and the importance of future goals

The fear of possible health problems that can emerge after

unprotected sex was an influencing factor for the intention of using contraceptives consistently and a reason for not engaging in sexual relationships.

I: "... In your case, what influenced you to say no, I do not want to have sex right now?"

P: "... Maybe for fear that that something can happen, becoming pregnant or worse getting a disease. I do not want that"

Female, 15 years

Girls expressed fear of getting pregnant at a young age because they had seen cases where the male abandons the child and that pregnant teenage girls had to quit school, which male participants confirmed. One of the main influences reported by the female participants for not having sex was dedication to studies, with the goals to have a career, being carefree, and to be independent. Male participants also reported fears of negative social outcomes if their partner got pregnant.

Sub-theme: Fears of social stigma related to STI and HIV

Participants of both genders mentioned fear toward the stigma associated with having an STI or HIV, and this was an influencing factor for consistent condom use. The participants said people in the community would blame them and spread rumors if they knew the adolescent had an STI, for instance, "having sex with gays or prostitutes".

Theme 3: Knowledge about protective measures

Adolescent boys and girls agreed that contraceptive use is necessary to avoid pregnancy and STIs. Many of them also knew where to obtain contraceptive methods and some male participants understood that not all of them are 100% effective. Female participants considered the side effects and the effectiveness of the contraceptive methods as barriers for using them. Many of the participants believed that lack of knowledge

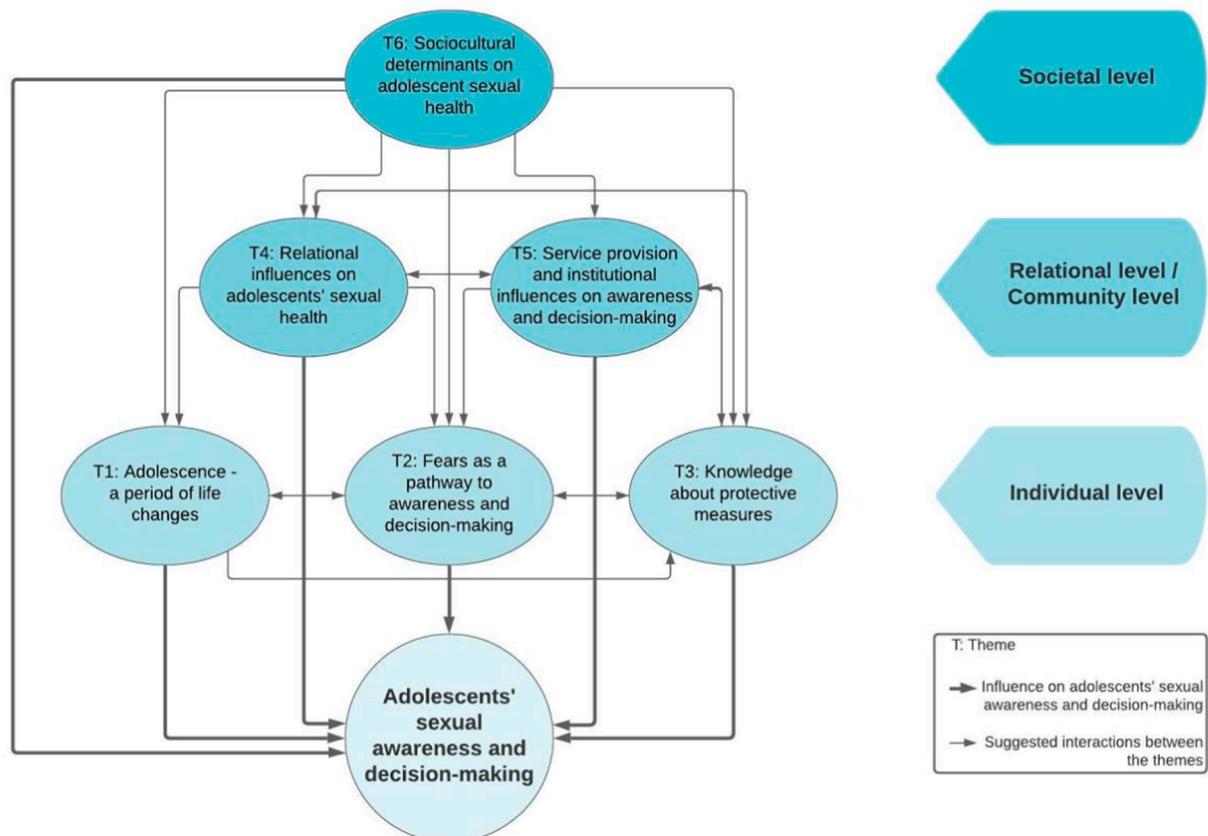


Fig. 1. Thematic map of the themes and their suggested interactions according to the socioecological model.

can be an influencing factor for teenage pregnancy and STIs due to their perception of teenagers not being well informed about how to take precautions during sexual encounters or by not putting their knowledge into practice.

Theme 4: Relational influences on adolescents' sexual health

Sub-theme: Family and peers' involvement and the dilemma of sexual decision-making

Boys and girls described opposite experiences and interactions with their family and peers concerning sexuality. Male informants reported they did not receive advice on sexual matters from their parents, nor asked for it. Participants reported that if they were to get pregnant or contract an STI, they would inform their parents and ask for advice and support. Females reported receiving advice and information from family was a factor in avoiding sexual relationships. Some also reported they did not want to engage in sexual relationships because they understand the efforts their family made for them.

“Well, because I want my mother to be proud of me one day ... since she has worked hard to give me the best, I want to study so that she will feel proud of me and not saying that her effort has not been worth it, I want it to be worth it”

Female, 16 years

Male participants perceived discrepancies on how parents treat boys and girls. For example, parents are supportive and caring more to their daughters than to their sons. Thus, parents encourage girls to get married instead of having short-term relationships. On the other hand, female participants considered that girls in the society have experienced more parental and family control compared to males. Moreover, they believed that this controlling behavior tends to limit their autonomy and decision-making over their sexual behavior, which will lead them to engage in secret sexual relationships. Notably, male adolescents felt more comfortable talking to peers about topics concerning sexuality, pregnancy, and STIs than with their parents because of the more relaxed and joking atmosphere. Boys and girls perceived peer advice as being a bad source of information and a negative influence for sexual decision-making. However, males did also report that peers gave protective advice concerning pregnancy and STIs.

Sub-theme: Negotiation between partners and sexual assertiveness

Participants expressed the importance of mutual consent for sexual intercourse. Although, some male participants reported they heard of boys in the community forcing girls to have sex with them. Additionally, boys expressed girls have a greater responsibility in using contraceptives because boys do not like to use condoms since it decreases pleasure. Consistently, female participants were aware that girls had difficulties in negotiating contraceptives, especially condoms. If the male did not agree with using a certain contraceptive, the majority of the female informants reported they would use another contraceptive that either agreed upon or refusing to have sex. Male informants reported some dilemmas about whether or not having unprotected sex if the girl suggested it, despite expressing fear of STIs and pregnancy.

“I do not deny the love to her [I would take advantage of that situation] if she wants [to have sex without a condom], why not?”

Male, 17 years

Sub-theme: Rural adolescents and internet: Interactions and influences

According to the participants, social networks are an easy way for adolescents to communicate and develop romantic relationships and/or sexual expressions. Participants also witnessed peers creating and sharing sexual content and looking at pornography. They thought sexual content materials were influencing adolescent to experiment with what they have seen, especially boys. However, the majority of males and a

few females reported searching for information about sex on the internet. Some of the male adolescents believed the internet was a reliable source of information.

Theme 5: Service provision and institutional influences on awareness and decision-making

Participants reported shame and embarrassment of going to the public health center to obtain contraceptives due to the judgment and discrimination from providers. Female participants explained that instead of going to the public health center, girls go to private services in the city to buy contraceptives. Despite the hindrances of adolescents obtaining contraceptives, a few of the girls reported that they would go to the health clinic to obtain contraceptive advice from the doctor since they did not know how to use it. Furthermore, all participants reported receiving sexual education in high school from teachers, healthcare providers, and visiting non-governmental organizations. Thus, participants were satisfied with the school-based program. They believed it to be the most reliable source of information and contributed to realizing it was unsafe to have sex at an early age.

“For us young people, it is important to know that because; through the teachers, we are taught that we are learning things. It is not necessary to go to the sexual act but then to know, see it cautiously, to know what is going to happen at that time, perhaps a way in which you are going to take care so that you do not leave with a pregnancy or some illness”

Female, 16 years

Theme 6: Sociocultural determinants on adolescent sexual health

Sub-theme: Societal norms and unequal gender dynamics

Participants recognized that society criticizes and judges adolescent girls for the initiation of early sexual activity, while accepts and promotes adolescent boys to have sex at an early age to prove their masculinity and sexual orientation. Notably, not all male participants supported this societal norm.

“...they (people) say that by having sex you become a man. However, since you were born a man you are a man, the same for women. Do you get it? ... (Why they say this) is a way of being “Machista”, to become a man means to have sexual relations with a woman. That is what they say but I do not agree”

Male, 17 years

Sub-theme: Religious beliefs and sexual behavior

Female participants had not engaged in sexual intercourse due to their religious beliefs. Only few male participants described the importance of religion and its protective influences. They described that the temptation to engage in a sexual relationship is there, although, they would not do anything due to their beliefs.

“Well (laughs), first, as I told you, the thing is that I am an evangelical Christian. Well, the doctrine of the Lord tells me that I cannot have sex with young girls, but I must have a stable partner, when I get married”

Male, 18 years

Discussion

To our knowledge, this is the first study conducted with rural adolescents in Nicaragua that explores sexual awareness. Along the socio-ecological model, Nicaraguan adolescents living in a rural community showed awareness of both risk- and protective-related factors influencing their sexual decision-making. The thematic map proposed in

Fig. 1, visually represents the possible interactions of the influences according to the socio-ecological model. Thus, these findings can further guide in developing effective interventions to strengthen adolescent health in Nicaragua and similar contexts.

At the individual level

The transition into adolescence brings with it a variety of challenges and opportunities for developing sexual efficacy in a traditional and low-resource setting. An example of this can be seen in how informants recognized a greater desire to engage in sex early among adolescent boys and how they are being pressured by society to do so, while it was acceptable for girls to abstain. Furthermore, informants believed boys have a lower intention for contraceptive use compared to females. These gender-specific discourses support how societal norms have an impact on the individual's autonomy on sexual engagement and the concepts of sexual desire and practice. For instance, how engaging in safer sex differs for boys and girls [3,5,16]. While many reasons for adolescents engaging in sexual relationships were gender specific, reasons for intentional contraception and protective behaviors were motivated by fear. Informants were concerned about rumors from society if they contracted any STI including HIV, which would negatively affect their reputation. A previous study conducted in Nicaragua shows that negative attitudes towards HIV and AIDS are high, especially in rural communities [10]. Similarly, it is notable that informants, more girls than boys clearly reported fears toward pregnancy and its perceived negative life outcomes.

Regardless of the informants' reasons for preventing STIs and pregnancy, adolescents expressed shame and embarrassment of asking for contraceptives at public health-care services. There is a contradiction between the perspectives on healthcare services for adolescents and youth: those present in the informants point of views on the one hand, and in the Nicaraguan government discourse on the other. Essentially, as also presented in global research that existing adolescent sexual and reproductive health services and programs are insufficient across all levels of government, and the private and non-government sectors. [1,20,21]. UNFPA has recently discussed that "the Nicaraguan context for implementation of adolescents and youth programs is moderately restrictive and/or limiting." The fears toward societal stigma and negative life outcomes together with the structural barriers may compromise adolescent sexual agency [6].

Relational and institutional influences on sexual awareness

We observed that adolescents' interpersonal relationships with social agents such as parents and peers differed. In essence, girls felt the need to gather parental advice and information on their decisions related to sex. Instead, boys turned to peers on topics of sexuality. Parental influences are more important for female adolescents than peers in terms of intentional sexual initiation [22]. Despite girls' need to receive parental advice, they also expressed that girls in the society experience more parental control compared to males. They believed that this controlling behavior limits their autonomy, which will lead them to engaging in secret sexual relationships. The natural development for adolescents is to strive for autonomy and decreased parental control. Although, this appears faster than development of self-regulation. A balance between adolescent' autonomy and parental control need to be established [23]. However, studies present opposite findings where parental monitoring is a protective factor for sexual engagement and safe sexual practices, among both adolescent girls and boys [24,25]. Family and school-based interventions have been implemented in rural Nicaragua to improve adolescent's sexual agency, but it is insufficient to match their needs.

Consistent with global literature, findings from this study suggest comprehensive sexual education may be an aspect that can help adolescents create a conscious sexuality to develop sexual self-efficacy

[1,13,21]. It is known that parental-based sexual education together with school-based approach can be beneficial for adolescents' sexual health [26]. Not to forget is the positive effects of peer-led, clinic- and technology-based interventions on adolescents' sexual knowledge [27].

Sociocultural determinants on adolescent sexual health

In general, and consistent with previous research on norms and roles and adolescent's sexuality [11], different genders approach to parent-child communication about sex may be influenced by the traditional gender norms which approve sexual abstinence for girls and early sexual initiation for boys. These traditional ideologies have been historically linked in the Latin American culture to girls being family oriented but submissiveness in general and boys being independent and dominant [9,11,19,21]. Despite these conflicting findings, from an ecological perspective, boys questioning the social norms of needing to be sexually active and girls' motivation to pursue personal goals and resisting pressure to have sex indicates that the Nicaraguan society is moving toward a more gender-equal society. Since the 90 s, many organizations have made efforts to actively engage men and boys in challenging their power dynamics for a broader transformation [9]. For instance, our study findings are in line with recent research on Intimate Partner Violence (IPV) against women and girls indicating that a decrease in its prevalence is due to large-scale structural interventions [28]. Thus, improving education, increasing women's awareness of their rights, challenging men's notions of masculinity, and creating legislative and judicial reforms are important intervention that can contribute to reduce gender differences and their subsequent health related outcomes.

The use of social media among adolescents in rural Nicaragua appears to influence how they develop sexual awareness and may contribute to an early sexual activity and sex-seeking behavior. Depending on the adolescent's personal expectations and preferences, the exposure to media and social networks is recognized as a growing concern due to its potential effects on adolescent's sexual behavior and attitudes [29]. Noteworthy, researchers have observed globally that media and social networks can be used to promote and provide information about SRHR topics to adolescents [1,21]. However, since the increased spread of social media has led to cyberbullying, exploitation and a shift in sexual norms, and social interactions more research on protective measures is recommended. Hence, it is substantially more difficult to promote social participation of young people in rural communities where poverty, unemployment, the lack of social support, and the current social crisis can significantly reduce their life opportunities and the provision of the material basic needs and services, including health services and education [30]. Moreover, rural adolescents living in traditional, or conservatives' settings are not engaging into a change of high-risk taking behavior [27]. Therefore, our study highlights the interactions of the different sources of social capital and their influences to promote agency to make healthy and autonomous decisions particularly among adolescents' girls and boys living in rural settings.

Methodological considerations

Our findings are not necessarily transferable to all adolescents in Nicaragua. However, to allow readers to judge the relevance of the findings to other scenarios we provided a description of the study context, the fieldwork procedures, the participants' characteristics, and their quotations in the text. Our research questions, aim, procedures, and findings with healthcare providers, teachers, and community leaders enhance the dependability of the findings. Additionally, the combination of researchers, with different knowledge and expertise was beneficial to strengthen the trustworthiness of data analysis and interpretation.

Due to the sensitive nature of this subject, social desirability bias may be a limitation. However, we made to ensure that participation was voluntary and anonymous. Additionally, we established rapport with

the participants during all data collection. The gender and age of the interviewers might have positively influenced disclosure. The research team carried out debriefing sessions, which mitigated social desirability effects. Researchers probed participants, which limited the risk of missing essential follow-up questions. Besides, understanding boys' and girls' interpretations and performance, our findings contributed to assess the similarities and differences around sexual behavior. Thus, increasing the credibility of the findings.

Conclusions

Our research findings point to clear progress in adolescents' development of sexual awareness, self-efficacy, and sexual agency. However, this achievement is facing several threats because of Nicaragua's political, social, legal, and financial crisis. Additionally, the outbreak of Covid-19 may also have negative impacts on the progress regarding adolescent sexual and reproductive health and rights in Nicaragua. It is a priority to provide essential sexual and reproductive health information and services during the Covid-19 crisis. Finally, our study is relevant for a wider discussion about adolescent sexual awareness to facilitate healthy and autonomous decision-making with a gender perspective.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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