



Digital Media, Family Communication, and Sexual Health Literacy Among University Students in Northeastern Mexico

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Abstract. Communication about sexual and reproductive health among university students is a critical public health concern, as it directly influences decision-making, risk behaviors, and overall well-being. This study aimed to analyze communication patterns related to sexual and reproductive health among undergraduate students at the Faculty of Public Accounting and Administration (FACPyA) of the Autonomous University of Nuevo León, Mexico. A quantitative, observational, non-experimental, and cross-sectional design was employed, employing survey methodology. Data were collected through a self-administered digital questionnaire of 68 items across five sections: sociodemographic characteristics, family and peer communication about sexuality, sexual and reproductive health behaviors, public health perspectives, and policy awareness. The instrument was administered to a convenience sample of 220 university students. Descriptive statistical analysis was performed. Results showed that 63% of participants preferred the internet as their primary source of sexual health information, while 57% reported feeling uncomfortable discussing sexuality-related topics with their parents. Furthermore, topics such as contraceptive use (53.9%) and sexually transmitted infections (62.1%) were frequently omitted in family conversations. A significant knowledge gap was identified regarding the correct use of contraceptive methods and STI prevention, and 52.7% of students considered the sexual education they had received to be insufficient. These findings highlight the urgent need to strengthen sexual health communication within university settings, promote open intergenerational dialogue, and develop evidence-based educational programs and public policies that address the informational, emotional, and gender-inclusive dimensions of sexual and reproductive health among young people.

Keywords: Health communication, Public policy, Public health, Sexual health.

1 Introduction

The sexual and reproductive health of young people is a dynamic and constantly evolving field of research. This theoretical framework aims to clarify and contextualize the main issues and theories related to this topic.

1.1 Sexual and Reproductive Health

Sexual and reproductive health is a fundamental pillar of human development, encompassing physical, emotional, and social aspects—not only within the health domain. In the context of youth, it involves everything from bodily autonomy to life projects. The defines sexual health as a state of physical, mental, and social well-being in relation to the reproductive system. This includes the ability to enjoy a satisfying and safe sexual life, the freedom to decide on the number and timing of children, and access to healthcare services that enable safe pregnancies and births, as well as care for reproductive health issues [1].

According to Erikson's psychosocial development theory [2], university students are immersed in an identity crisis—a stage where exploring sexuality and forming a clear sexual identity are fundamental. A lack of effective communication about sexuality can hinder the proper development of this identity, potentially leading to poorly informed decisions regarding sexual and reproductive health. Understanding these dynamics requires a multidisciplinary approach that connects social determinants, scientific evidence, and the voices of the university students involved.

1.2 Communication in Sexual and Reproductive Health

Communication in health, particularly in sexual and reproductive health, faces the challenge of bridging the scientific discourse of health professionals with the sociocultural realities of university students. Interpersonal communication theory highlights the importance of effective communication in building healthy relationships and preventing risky behaviors. This theory suggests that open and honest communication about sexuality and reproductive health can improve understanding and promote informed decision-making, thereby reducing health-related risks [3].

Effective communication about sexual and reproductive health among university students is a critical aspect of strengthening their well-being. It requires active participation and cultural relevance. Health decisions should be as informed as possible to minimize risks, including the spread of sexually transmitted infections (STIs). It is necessary to disseminate regulatory guidelines on the subject, as well as to implement various communication channels, training opportunities, and inter-institutional collaboration to overcome barriers and ensure effective access for young people [4].

1.3 Sexual Education and Contraceptive Methods

Sexual education is an essential part of preparing young people not only for a healthy and responsible adult life but also for autonomy, self-awareness, and the full exercise of their rights. Comprehensive sexuality education includes accurate, evidence-based information on human development, relationships, personal skills, sexuality, and preventive measures against STIs. The lack of formal sexual education, as revealed by this study, is a significant problem that can contribute to poor communication, misinformation, and uninformed decisions [5].

It is important to note that Self-Determination Theory highlights that young people who feel autonomous and competent are more likely to make responsible decisions about their sexual health [6]. Therefore, educational programs on sexual and reproductive health must promote autonomy by providing clear, practical information on contraceptive methods and disease prevention. This also supports emotional health and the exploration of identities, helping students develop emotional regulation and affective communication.

The informed and correct use of contraceptive methods is vital to responsible reproductive health. The National Health and Nutrition Survey [7] reveals a significant gap in knowledge and use of contraceptive methods among young people, which can increase the risk of unintended pregnancies and sexually transmitted infections. Informed choice allows individuals to assess available options and select the most suitable based on their specific needs, preferences, and requirements.

1.4 Gender Identity and Sexual Health

The diversity of gender identities among university students presents additional challenges for communication and education in sexual and reproductive health. Institutional programs are often designed around gender binarism, excluding part of the population. Furthermore, a lack of teacher training in this area within educational institutions remains a major barrier. These and other factors prevent schools from fully fulfilling their role as safe and inclusive spaces for all students [8].

From a psychosocial perspective, facing an identity crisis during university is only possible when there is alignment between personal self-definition and the social roles in which individuals operate [9]. During this stage, it is essential for education and communication about sexual and reproductive health to be inclusive and respectful of gender diversity. When public campaigns ignore sexual diversity, they only deepen confusion among young people.

Additionally, the Theory of Planned Behavior [10] suggests that the use of contraceptive methods among university students depends on their attitudes toward sexuality, perceived social norms, and their sense of control over accessing these methods. Therefore, educational programs must address both individual beliefs and social influences to improve contraceptive use.

2 Development

This section of the study provides a detailed description of the data collection process, presents the results obtained, and analyzes them in the context of the theories and studies discussed in the theoretical framework.

3 Method

This study employed a quantitative, observational, non-experimental, and cross-sectional design. This approach was selected because it does not involve manipulation of independent variables, but rather describes naturally occurring communication patterns through survey methodology. The data collection instrument was a digital self-administered questionnaire consisting of 68 items organized into five main sections: (1) sociodemographic information (6 items), (2) communication about sexuality with family and peers (25 items), (3) sexual and reproductive health behaviors and knowledge (11 items), (4) public health perspectives on sexual and reproductive health (13 items), and (5) policy awareness and civic engagement regarding sexual and reproductive health (13 items). The questionnaire employed multiple response formats including Likert scales (1-5), dichotomous responses (Yes/No), and multiple-choice options to capture diverse dimensions of communication and health literacy.

The questionnaire underwent preliminary validation through expert review by three specialists in sexual and reproductive health and family communication, confirming content relevance and clarity. Items were designed to measure three interconnected constructs: (a) interpersonal communication patterns about sexuality, (b) knowledge and perceived literacy regarding sexual and reproductive health, and (c) attitudes toward access to sexual and reproductive health information and services. Response options were selected to capture both frequency/intensity (Likert scale) and dichotomous dimensions (yes/no responses) appropriate to each construct.

The questionnaire included specific questions addressing: (1) participants' gender identity and sex assigned at birth, with an open-response option to capture gender-diverse identifications; (2) frequency, comfort level, and content of communication with parents and friends regarding sexual and reproductive health topics; (3) sources of sexual health information, contraceptive method knowledge and use, and prevention practices; and (4) attitudes toward institutional and public policy approaches to sexual and reproductive health education and services.

The participants were 220 undergraduate students from the Faculty of Public Accounting and Administration at the Autonomous University of Nuevo León. The selection of participants was based on a non-probability convenience sampling method, in which students were selected based on their availability and willingness to participate in the study.

4 Results

The analysis of the collected data revealed the following relevant findings. First, regarding gender identity, the sample consisted of 211 cisgender participants (95.9%): 134 women (60.9%) and 77 men (35.0%). Additionally, nine participants (4.1%) identified with a gender identity different from their sex assigned at birth (including bisexual, queer, and non-binary identities). This inclusion of gender-diverse participants reflects the heterogeneity of contemporary university populations. Furthermore, 7% of the surveyed women reported having experienced pregnancy and/or abortion.

Previous research has shown that students often turn to the internet to explore questions about sexuality, with studies indicating that between 31.6% and 76% of students admit to using online sources for sex education [11]. The results from students at FACPya show that 63% prefer to seek sexual education information online (see Figure 1), rather than discussing it with family members, friends, or partners. About 15% prefer to discuss these topics with a partner, and 13% report turning to a healthcare professional before consulting other sources. These figures align with previous studies indicating that the current generation of university students predominantly uses the internet as their primary source of sexual health information [11].

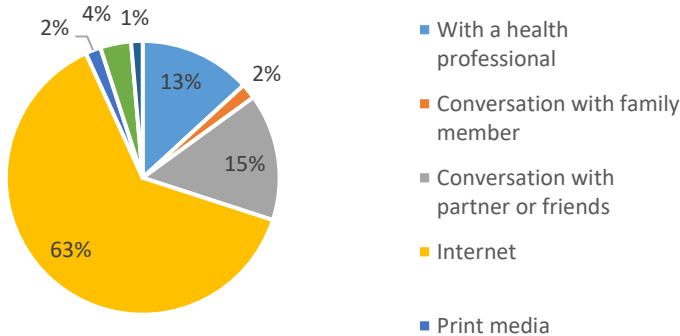


Fig. 1. A figure of preferred sources for sexual education inquiries

Secondly, a large portion of participants (57%) reported feeling uncomfortable discussing sexuality-related topics with their parents (see Figure 2). This finding supports [12] claim that many people experience discomfort when talking about sexual matters, especially with their parents, due to feelings of shame, fear of rejection, or the perception that their parents are incompetent or insensitive to these topics. Furthermore, results indicated that in more than half of the conversations that did occur, topics related to contraceptive use (53.9%) and sexually transmitted infections (62.1%) were omitted.

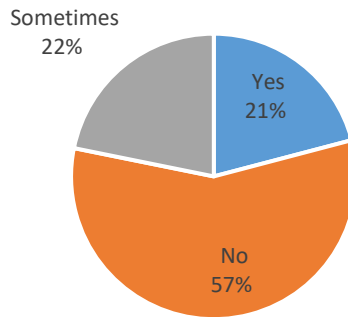


Fig. 2. Question: Do you feel comfortable talking to your parents about sexuality-related topics?

Third, there was a widespread lack of knowledge regarding the correct use of contraceptive methods and STI prevention. While 51% of respondents stated that they use condoms as the most common method for preventing sexually transmitted infections, only 24% reported being aware of other preventive methods. Additionally, 52.7% of respondents felt that the sexual education they had received was insufficient. Moreover, 42.7% indicated that topics related to sexually transmitted infections should be taught in greater depth in schools. This finding reinforces the need to improve sexual education within universities and across society [1].

Finally, regarding the availability of sexual and reproductive health education in schools and universities, 80% of students stated that educational institutions should implement new programs that address sexual, reproductive, and gender health, with adequate information to support decision-making about their sexuality, family planning methods, and sexually transmitted diseases. This further supports calls from other organizations for the strengthening of formal education on sexuality and gender identity [13].

5 Discussion

The results reveal a marked preference for the internet as the main source of information, which is consistent with the findings [11]. This is a concerning trend, given that online information is not always accurate, appropriate, or contextualized to the realities of the young people who consult it. The predominant use of the internet for sexuality-related information—alongside the diminishing role of authority figures such as parents or schools—may be practical and accessible, but it can also lead to misinformation or misleading content if students lack the necessary skills to evaluate the credibility of sources.

A notable cultural barrier observed was the resistance or discomfort in discussing sexuality with parents, which limits access to a trustworthy environment where doubts can be addressed with reliable guidance. This aligns with the theory [9] which emphasizes the importance of validating environments that support the healthy construction of sexual identity. Another key point is the evident lack of knowledge about contraceptive methods, which partly explains why many young people did not use protection during their first sexual experiences.

An important observation across multiple dimensions was the apparent gap between knowledge, attitudes, and reported behaviors. For example, while 80% of students agreed that educational institutions should implement new sexual and reproductive health programs, only 53.9% reported that parents discussed contraceptive methods with them. Similarly, though the majority of participants acknowledged the importance of STI prevention, only 51% reported consistent condom use. This knowledge-behavior gap reflects the complexity of health decision-making, suggesting that information and education alone are insufficient without accompanying changes in family communication patterns, peer norms, and institutional support structures.

The findings of this study clearly indicate that education and communication regarding sexuality and reproduction among university students are insufficient and, in many cases, inadequate. Important limitations of this study merit discussion. The sample was drawn from a single faculty within one university using convenience sampling, which limits the generalizability of findings to broader university populations and precludes comparison across disciplinary contexts or geographic regions within Mexico. Future research employing probability sampling across multiple institutions and program types is recommended to strengthen external validity. Additionally, the cross-sectional design prevents causal inference regarding relationships between communication patterns, information sources, and sexual health knowledge; longitudinal investigations would illuminate temporal dynamics. All data relied on self-report, potentially introducing social desirability bias, particularly concerning sensitive topics such as sexual behavior and contraceptive use. The sample of nine gender-diverse participants, while representing important diversity in contemporary universities, was insufficient for meaningful disaggregated analysis of this population's unique communication and information needs. Finally, while the 68-item questionnaire was designed to comprehensively capture sexual health communication, future studies might benefit from inclusion of additional sociodemographic variables (parental education, family socioeconomic status, religious affiliation) that could influence family communication patterns about sexuality. Therefore, further research on this topic is essential in order to propose approaches that improve the decision-making process of young people concerning their sexual lives.

6 Conclusions

Despite limitations inherent to single-institution studies, the findings of this research confirm that significant gaps persist in sexual and reproductive health education among university students. This study contributes to the limited body of research on family communication about sexuality in Mexican university contexts. The data from 220 students, collected through a 68-item questionnaire addressing communication patterns, information sources, contraceptive knowledge, and health policy perspectives, reveal consistent themes regarding insufficient intergenerational dialogue about sexuality and heavy reliance on internet sources without parental guidance. Despite the abundance of information available in the digital age, the lack of open and accurate communication about sexuality and reproduction can lead to the spread of misinformation and poor decisions that negatively affect the health and well-being of young people.

A clear issue is the heavy reliance on the internet as a basis for information and decision-making regarding sexual health, often without the supervision or guidance of parents, healthcare professionals, or other authority figures. It is crucial to promote communication between young people and adults, and to provide youth with access to accurate and relevant information on these topics. To achieve this, it is recommended that universities incorporate sexual education into their curricula, as the findings of this study highlight the importance of developing and implementing more effective sexual education programs at the university level.

It is also advisable to create reliable digital platforms with programs that focus not only on the biological aspects of sexual health but also on the psychological and emotional dimensions, including the acceptance of diverse gender identities. Strengthening communication between young people, parents, and healthcare professionals—and breaking down the stigmas that hinder this dialogue—is essential. Ultimately, the goal is to improve the health and well-being of young people, and by effectively addressing these sensitive topics, we can support them in making informed and safe decisions that may have a lasting impact on their lives.

7 Conflict of Interest

The authors certify that there are no academic, financial, or personal conflicts of interest that could have influenced the design, development, interpretation of results, or conclusions of this study. No public or private institution funded this work, either partially or fully; therefore, the results obtained do not benefit any particular entity. All content presented here reflects the scientific rigor of the authors and is not linked to any external interests.

References

1. World Health Organization: Sexual health, human rights, and the law (2019).
2. Arnett, J.J.: Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist* 55(5), 469–480 (2000)
3. García Jiménez, L.: La teoría de la comunicación como matriz práctica para la resolución de conflictos. *Comunicación y Sociedad* 23(23), 45–65 (2015)
4. Leal Fuentes, I., González Aristegui, D., Carstens Riveros, C., Molina González, T.: Barreras y facilitadores para el acceso a la atención en salud sexual y reproductiva de adolescentes en programas de protección y justicia en Chile. *Andes Pediatría* 96(2), 243–252 (2025).
5. International Planned Parenthood Federation: 2022 Annual Performance Report (2022)
6. Stover, J.B., Eugenia, F., Fabiana, B., Mercedes, E.U., Liporace, F.: Teoría de la Autodeterminación: una revisión teórica. *Perspectivas en Psicología: Revista de Psicología y Ciencias Afines* 14(2) (2017)
7. Secretaría de Salud: Encuesta Nacional de Salud y Nutrición (ENSANUT) (2018)
8. Erikson, E.H.: Psychosocial identity. In: *Encyclopedia of Social Sciences*, pp. 61–65. Crowell-Collier, New York (1968)
9. Zacarés González, J.J., Iborra Cuéllar, A., Tomás Miguel, J.M., Serra Desfilis, E.: El desarrollo de la identidad en la adolescencia y adultez emergente: Una comparación de la identidad global frente a la identidad en dominios específicos. *Anales de Psicología / Annals of Psychology* 25(2), 316–329 (2009)
10. Ajzen, I.: The theory of planned behavior. *Organizational Behavior and Human Decision Processes* 50(2), 179–211 (1991)
11. Simon, L., Daneback, K.: Adolescents' use of the Internet for sex education: A thematic and critical review of the literature. *International Journal of Sexual Health* 25(4), 305–319 (2013)
12. DeVito, J.A.: *The Interpersonal Communication Book*. Pearson (2009)
13. American Psychological Association: Guidelines for psychological practice with transgender and gender nonconforming people. *American Psychologist* 70(9), 832–864 (2015)

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