



Relationship between the level of knowledge about prevention and the incidence of sexually transmitted disease among university students, Piura, 2025

Relación entre el nivel de conocimiento sobre prevención y la incidencia de enfermedad de transmisión sexual de estudiantes universitarios, Piura, 2025

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ABSTRACT

Sexual education and the prevention of sexually transmitted infections (STIs) are priority issues within Sustainable Development Goal 3: Good Health and Well-being, specifically among young populations exposed to risky behaviors. The objective of this study was to analyze the relationship between the level of knowledge and prevention of STIs among university students in the city of Piura during the year 2025. A quantitative, non-experimental, cross-sectional, correlational study was conducted with a non-probability sample of 70 students selected by Convenience. The level of preventive knowledge was measured using an 18-item Likert-type questionnaire, validated using Aiken's V (1.000) and with acceptable reliability according to Cronbach's Alpha (0.720). The results showed that most students presented a medium level of knowledge and a moderate incidence of risk behaviors related to STIs. Spearman's rank correlation coefficient showed a positive and significant relationship between the level of knowledge and the incidence ($\rho=0.349$; $p=0.003$), indicating that having more information does not guarantee effective preventive practices. Furthermore, the Findings suggest that existing knowledge is insufficient to modify risky behaviors, therefore it is recommended to implement comprehensive sexual education programs, sustained communication strategies and health promotion actions aimed at strengthening irresponsible decision-making in university students.

Keywords: health education, sexual health, disease prevention, university students, sexually transmitted infection.

RESUMEN

Resumen La educación sexual y la prevención de infecciones de transmisión sexual (ETS) constituyen temas prioritarios dentro de los objetivos de desarrollo sostenible 3: salud y bienestar, específicamente en poblaciones jóvenes expuestas a conductas de riesgo. El objetivo del estudio fue analizar la relación entre el nivel de conocimiento y prevención de incidencia en estudiantes universitarios en la ciudad de Piura durante el año 2025. Se realizó un estudio enfocado cuantitativo, diseño no experimental, transversal y alcance correlacional con una muestra no probabilística de 70 estudiantes seleccionados por conveniencia. El nivel de conocimiento preventivo se midió mediante un cuestionario tipo Likert con 18 ítems, validado en V de Aiken (1.000) mi confiabilidad aceptable según Alfa de Cronbach (0.720). Los resultados evidenciaron que la mayoría de estudiantes presentó un nivel medio de conocimiento y una incidencia moderada de conductas de riesgo relacionadas con las ETS. La prueba de Spearman mostró una relación positiva y significativa entre el nivel de conocimiento y la incidencia ($\rho=0.349$; $p=0.003$), lo que indica que disponer de mayor información no asegura prácticas preventivas efectivas. Asimismo, los hallazgos sugieren que el conocimiento existente resulta insuficiente para modificar conductas de riesgo, por lo que se recomienda implementar programas de educación sexual integral, estrategias sostenidas de comunicación y acciones de promoción de la salud orientadas a fortalecer la toma de decisión no responsables en los estudiantes universitarios.

Palabras clave: Educación sanitaria, salud sexual, prevención de enfermedades, estudiantes universitarios, infección de transmisión sexual.

INTRODUCTION

Early initiation of sexual activity and the lack of adequate information constitute a relevant public health problem, especially among adolescents and young people, who find themselves in a period of greater vulnerability to sexually transmitted infections (ETS). Various national reports have shown that, despite prevention campaigns, high numbers of ETS continue to be recorded in regions such as Huancavelica, where more than 390 confirmed cases and approximately 2000 episodes of vaginal discharge syndrome in young women were reported (Gob.pe, 2023). This situation reflects the persistence of gaps in comprehensive sexual education and limited access to updated preventive information, factors that increase the risk of exposure to diseases that can compromise the reproductive and general health of young people.

In the Peruvian context, recent studies indicate that adolescents begin their sexual life at approximately 12 years old, which prolongs their exposure to infections such as HIV, HPV, chlamydia, gonorrhea, trichomoniasis, and syphilis (Paredes et al., 2023). The literature agrees that factors such as misinformation, low condom use, and the erroneous perception of invulnerability significantly increase the probability of contagion (Fernández, 2023). Likewise, the World Health Organization warns that STIs are among the main causes of morbidity in the young population due to their transmission through sexual contact and their impact on reproductive health. Despite the implementation of prevention programs, different international and regional reports highlight that the prevalence of STIs remains high, especially in populations with limited access to sexual education and specialized health services.

In Peru, epidemiological data show that ETS continue to affect especially the young population. In regions such as Piura, the Dirección Regional de Salud reports that approximately 40% of adolescents between 12 and 19 years old have experienced at least one episode related to ETS, reflecting a worrying situation given the persistence of risky sexual practices. Studies conducted in the university population also reveal significant gaps between theoretical knowledge and actual preventive practices, indicating that a considerable percentage of young people engage in sexual relations without regular condom use and without undergoing screening tests (Paz et al., 2018). Similarly, research conducted in Peruvian university students shows that the lack of comprehensive sexual education programs and limited accessibility to health services contribute to the high incidence of ETS (Cornejo, 2021 Mercado & Yupanqui, 2023).

The scientific literature agrees that the prevention of STIs is determined by personal, social, and cultural factors that influence sexual behaviors. Various theoretical models such as Bandura's Social Learning Theory, the Health Belief Model, and the Theory of Planned Behavior explain that preventive practices depend on variables such as attitudes, perceived social norms, prior experiences, perceived ability to adopt protective behaviors, and the level of available knowledge (Ajzen, 1991; Orengo, 2021; Pender et al., 2019). These approaches allow us to understand why the university population, despite having greater access to information, continues to exhibit behaviors that increase their risk of infection. Likewise, sociocultural and family factors can influence the formation of attitudes and perceptions related to sexuality, conditioning the use or non-use of appropriate preventive methods (Magallanes et al., 2021).

In this context, the present study becomes relevant by examining the relationship between the level of preventive knowledge and the incidence of STIs in university students in Piura during the year 2025. This population represents one strategic group because they are in a transitional stage toward adult life, where sexual decisions are made with greater autonomy, but not always with sufficient information. Analyzing this issue will make it possible to specify how the level of knowledge influences the adoption or absence of preventive practices, providing updated evidence that contributes to the design of educational programs, health promotion strategies, and institutional actions aimed at reducing the incidence of STIs in the university population.

METHODS

The study was basic, with a non-experimental and cross-sectional design, aimed at analyzing the relationship between the level of preventive knowledge and the incidence of sexually transmitted infections (ETS) in university students in the Piura region during 2025. The research was conducted in the university setting and used materials common in field studies, such as printed questionnaires, record sheets, and mobile devices for data digitization.

The population consisted of approximately 1200 students enrolled in various professional schools of a private university in Piura. To determine the sample, non-probabilistic convenience

sampling was used, due to the easy access to participants and institutional availability. A total of 70 students were obtained, who agreed to voluntarily participate in the study. Students over 18 years of age enrolled in the academic cycle 2025 and who signed the informed consent were included. Incomplete questionnaires or students who did not wish to continue with the evaluation were excluded.

Prior to the start of fieldwork, coordination was carried out with university authorities and a preliminary visit was made to verify the availability of spaces and schedules for the administration of the questionnaires. Subsequently, each participant was informed of the study objectives, the confidentiality of the information, and the anonymous and voluntary nature of their participation. The questionnaire was administered virtually through an online form, following a standardized protocol to ensure uniformity in data collection.

The instrument was a 12-item Likert-type questionnaire designed to assess the level of preventive knowledge and the incidence of behaviors associated with the risk of STDs. This questionnaire was validated by expert judgment, yielding an Aiken's V coefficient of 1.000. Reliability was assessed using Cronbach's alpha coefficient, which produced a value of 0.720, considered acceptable for this type of research.

Two record cards were used. The first corresponded to the level of preventive knowledge and classified students into low, medium, and high knowledge categories. The second recorded the presence of risk behaviors associated with ETS, documenting frequency of exposure, use of preventive methods, and personal history. Both cards were subjected to content validation following the same procedures described for the main questionnaire.

Data analysis was performed using Microsoft Excel and SPSS version 27. Descriptive statistics were used to determine frequencies, averages, and percentages. The normality of the variables was evaluated using the Shapiro-Wilk test, which indicated that they did not follow a normal distribution. Therefore, the Spearman correlation test was used to determine the relationship between the level of preventive knowledge and the incidence of ETS. Simple and multiple linear regression models were also applied with a significance level of 5%.

The study complied with the corresponding ethical principles. Institutional authorization and approval from a university ethics committee were obtained. No clinical interventions or invasive procedures were performed. The confidentiality and anonymity of the students, who participated without any direct risk, were guaranteed.

RESULTS

Table 1 shows the distribution of preventive knowledge levels according to the presence of behaviors associated with sexually transmitted infections (ETS). Among the evaluated students, 57% presented a medium level of knowledge and 29% presented a low level, which reflects important gaps in the mastery of preventive information. Likewise, 51% reported moderate risk behaviors, indicating significant exposure within the student population. These results suggest that most students have partial information about ETS, which does not guarantee adequate practices. See Table 1.

Table 1 shows the distribution of preventive knowledge levels according to the presence of behaviors associated with sexually transmitted infections (ETS). Among the evaluated students, 13,8 % presented a medium level of knowledge and 20.7% presented a low level, which reflects important gaps in the mastery of preventive information. Likewise, 34.5% reported moderate risk behaviors, indicating significant exposure within the student population. These results suggest that the majority of students have partial information about ETS, which does not guarantee adequate preventive practices. See Table 1.

Table 1: Level of preventive knowledge according to risk behaviors associated with ETS.

Knowledge	Level of knowledge					
	LOW		HIGH		TOTAL	
	f	%	f	%	f	%
LOW	6	20.7	8	26.7	3	10.0
MODERATE	10	34.5	15	50.0	1	3.3
HIGH	4	13.8	7	23.3	1	3.3
TOTAL	20	69.0	30	100	5	100

Table 2: Exposure to risk behaviors according to level of preventive knowledge

Dimension	Knowledge/prevention					
Knowledge	LOW		HIGH		TOTAL	
	f	%	f	%	f	%
LOW	12	60	9	45	8	40
Medium	18	51	10	28	14	40
HIGH	2	33	1	17	1	17

Source: own elaboration

Regarding the weight-for-age indicator, Table 2 reveals that 60% of students reported not consistently using condoms. Likewise, 33% stated having had more than a sexual partner in the last 6 months. These data evidence a high prevalence of risk behaviors that increase the probability of contracting ETS, regardless of the level of preventive knowledge.

Table 3 shows the data related to the self-reported incidence of ETS. It is observed that 21% of students reported having had at least a confirmed infection in the last year, this proportion being higher among those with low and medium levels of preventive knowledge. The descriptive analysis shows that, although knowledge provides a certain degree of protection, it is not sufficient to prevent the presence of risk behaviors that increase the incidence of ETS.

Table 3: Incidence of ETS according to level of preventive knowledge

Dimension Incidence/prevention					
Knowledge	LOW		HIGH		TOTAL
	f	%	f	%	f
LOW	7	35	13	32	20
MEDIUM	8	45	22	43	30
High	1	20	4	32	5
Total	16	100	39	100	55

Source: own elaboration

Table 4: Incidence of STIs according to risky sexual behaviors

Dimension Incidence/ behaviors						
Risk behaviors	LOW		HIGH		TOTAL	
	f	%	f	%	F	%
LOW	13	32.5	2	20	15	30
HIGH	27	67.5	8	80	35	70
TOTAL	40	100	10	100	50	100

Source: own elaboration

DISCUSSION

The research analyzed the relationship between the level of knowledge about prevention and the incidence of sexually transmitted infections (STIs) in university students from Piura. Preventive knowledge is understood as the adequate understanding of modes of transmission, method of protection, and consequences of STIs (Paredes et al., 2023), while the incidence of STIs, according to OPS (2020), comprises the appearance of symptoms, risky sexual practices, and events compatible with recent infections.

Regarding the general objective, the results showed that there is a positive and significant relationship between the level of knowledge and incidence ($Rho = 0.349$; $p = 0.003$), which indicates that, although students have medium or advanced knowledge, this does not always translate into safe practices. This behavior coincides with that reported by Mercado & Yupanqui (2023), who found that information about prevention does not guarantee its application, especially due to the influence of sociocultural factors. In contrast, Paz Bermúdez et al. (2018) reported that young people with greater knowledge tend to reduce risk behaviors, showing a more direct application of knowledge. These differences reflect the influence of the educational context, access to comprehensive sexual education, and the perception of vulnerability among university students.

For the first specific objective, it was found that students with a higher level of knowledge present a lower frequency of exposure to risky sexual behaviors; however, the relationship was not absolute ($r = 0.733$; $p = 0.000$). Among those who exhibited unprotected sexual behaviors, 71.4% had basic knowledge and only 11.4% had advanced knowledge. This coincides with Magallanes et al. (2021), who reported that social pressure and misinformation about risks influence young people, even with partial information, to maintain unsafe practices. However, it differs from Fernández (2023), who found that condom use increased significantly among adolescents with high levels of knowledge, suggesting that formal sexual education influences in a variable manner depending on the environment.

Regarding the second specific objective (occurrence of ETS and knowledge), 72.9% of the students who reported symptoms compatible with ETS had the medium level of knowledge. Among them, 17.1% presented frequent risk behaviors, while only 11.4% of students with advanced knowledge reported a recent occurrence. This explains the significant relationship found ($Rho=0.714$; $p=0.000$). These results resemble those of Gob.pe (2023), who found that the occurrence of ETS depends not only on the information received, but also on the constancy of condom use and access to sexual health services. In contrast, Bravo et al. (2023) reported a lower occurrence of ETS in students with broad formal education, which evidences the influence of institutional accompaniment.

For the third specific objective (consequences of ETS and knowledge), it was identified that 62.9% of students with intermediate knowledge recognized the physical and social consequences of ETS, while only 11.4% showed advanced understanding. This explains the moderate relationship found ($Rho=0.558$; $p=0.000$). This behavior coincides with Champion (2020), who indicates that understanding the consequences increases risk perception, but does not guarantee behavioral changes. However, this differs from Cornejo (2021), who reported that students with greater knowledge about the consequences of VIH showed a significant reduction in unprotected sexual practices, which suggests that the impact of information depends on the depth of sex education received.

In summary, although the prevalence of risky behaviors and cases compatible with STIs is high, sufficient levels of knowledge are not observed to completely modify unsafe sexual practices. This supports what various authors have pointed out, who agree that youth sexual behavior is multifactorial and depends not only on knowledge, but also on emotional, cultural, educational, and environmental factors. Therefore, interventions must be integrated and consider psychological, social, and educational components to reduce the incidence of STIs in the university population.

CONCLUSIONS

The study confirmed that sexually transmitted infections (ETS) and risky sexual behaviors continue to be frequent problems among university students in Piura. No direct correspondence was identified between the level of knowledge and the reduction of risk practices, indicating that both aspects could respond to different dynamics within the studied population.

These results highlight the need to strengthen actions aimed at promoting comprehensive sexual education, access to clear and up-to-date information, and the adoption of consistent preventive measures. They also point to the importance of considering social, cultural, and emotional factors that influence the sexual behavior of young people.

Future studies could address these variables in greater depth, include larger samples or longitudinal designs, and explore other aspects that allow a better understanding of the relationship between preventive knowledge, sexual behaviors, and the occurrence of ETS in university populations.

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