



A PLISSIT-BASED COMPREHENSIVE SEXUAL EDUCATION INTERVENTION ON ATTITUDES TOWARDS HIV TRANSMISSION PREVENTION IN ADOLESCENTS: A GENDER EQUALITY PERSPECTIVE

INTERVENSI EDUKASI SEKSUAL KOMPREHENSIF BERBASIS PLISSIT TERHADAP SIKAP PENCEGAHAN PENULARAN HIV PADA REMAJA: PERSPEKTIF KESETARAAN GENDER

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Abstract

Adolescents are a vulnerable group to the risks of sexual violence and HIV transmission due to limited sexual literacy, insufficient access to accurate reproductive health information, and strong socio-cultural taboos surrounding sexuality. Comprehensive interventions are needed to equip adolescents with adequate knowledge, attitudes, and gender-sensitive decision-making skills. This study aimed to analyze the effectiveness of a PLISSIT-based Comprehensive Sexual Education intervention in improving adolescents' attitudes toward HIV transmission prevention from a gender equality perspective. This quasi-experimental study involved 100 students selected through simple random sampling and divided into experimental and control groups. The experimental group received four PLISSIT-based educational sessions integrating gender equality principles, while the control group received conventional sexual education. Data were collected using pre- and post-test questionnaires and analyzed using the Wilcoxon signed-rank test. The results showed a substantial improvement in adolescents' attitudes after the intervention. Prior to the intervention, only 18% of students demonstrated good attitudes toward HIV prevention, while 82% were categorized as poor. After the intervention, 90% of students in the experimental group showed good attitudes, and only 10% remained in the poor category, with a statistically significant difference ($p = 0.001$). These findings indicate that the PLISSIT-based comprehensive sexual education model is effective in shaping positive attitudes by providing a safe space for discussion, relevant information, and gender-responsive guidance. In conclusion, the PLISSIT-based intervention significantly enhances adolescents' attitudes toward HIV prevention and can serve as a strategic approach in school-based reproductive health education.

Keywords : Comprehensive Sexual Education, PLISSIT Model, HIV Prevention, Adolescent Attitudes, Gender Equality, Reproductive Health Education



Abstrak

Remaja merupakan kelompok rentan terhadap risiko kekerasan seksual dan penularan HIV karena terbatasnya literasi seksual, akses yang tidak memadai terhadap informasi kesehatan reproduksi yang akurat, dan kuatnya tabu sosial-budaya seputar seksualitas. Intervensi komprehensif diperlukan untuk membekali remaja dengan pengetahuan, sikap, dan keterampilan pengambilan keputusan yang peka gender. Penelitian ini bertujuan untuk menganalisis efektivitas intervensi Pendidikan Seksual Komprehensif berbasis PLISSIT dalam meningkatkan sikap remaja terhadap pencegahan penularan HIV dari perspektif kesetaraan gender. Penelitian kuasi-eksperimental ini melibatkan 100 siswa yang dipilih melalui pengambilan sampel acak sederhana dan dibagi menjadi kelompok eksperimen dan kontrol. Kelompok eksperimen menerima empat sesi pendidikan berbasis PLISSIT yang mengintegrasikan prinsip-prinsip kesetaraan gender, sementara kelompok kontrol menerima pendidikan seksual konvensional. Data dikumpulkan menggunakan kuesioner pra-dan pasca-tes dan dianalisis menggunakan uji peringkat bertanda Wilcoxon. Hasilnya menunjukkan peningkatan yang substansial dalam sikap remaja setelah intervensi. Sebelum intervensi, hanya 18% siswa yang menunjukkan sikap baik terhadap pencegahan HIV, sementara 82% dikategorikan buruk. Setelah intervensi, 90% siswa dalam kelompok eksperimen menunjukkan sikap baik, dan hanya 10% yang tetap berada dalam kategori buruk, dengan perbedaan yang signifikan secara statistik ($p = 0,001$). Temuan ini menunjukkan bahwa model pendidikan seksual komprehensif berbasis PLISSIT efektif dalam membentuk sikap positif dengan menyediakan ruang aman untuk berdiskusi, informasi relevan, dan panduan yang responsif gender. Kesimpulannya, intervensi berbasis PLISSIT secara signifikan meningkatkan sikap remaja terhadap pencegahan HIV dan dapat menjadi pendekatan strategis dalam pendidikan kesehatan reproduksi berbasis sekolah.

Kata Kunci : Edukasi Seksual Komprehensif, PLISSIT, Pencegahan HIV, Sikap Remaja, Kesetaraan Gender, Pendidikan Kesehatan Reproduksi

1. INTRODUCTION

Adolescence is a developmental phase characterized by rapid biological, psychological, and social changes. During this stage, young people begin to form their personal identity, including aspects related to sexuality and interpersonal relationships (Hikmandayani et al., 2024). The complexity of these transitions places adolescents at heightened risk for various reproductive health problems, such as risky sexual behavior, unintended pregnancy, sexual violence, and Human Immunodeficiency Virus (HIV) transmission (Aini et al., 2025). Limited and inaccurate literacy regarding sexually transmitted infections—including HIV—has long-term consequences on adolescents' physical, mental, and social well-being (Rodríguez-García et al., 2025). Recent trends show that most new HIV infections occur among young age groups, driven by low sexual literacy, restricted access to reproductive health information, and sociocultural norms that discourage open discussions about sexuality (Chory et al., 2023). Without appropriate educational interventions, these challenges threaten the overall quality of life of adolescents as the next generation.

The HIV epidemic among adolescents continues to rise. Globally, more than half of new HIV infections occur in individuals aged 15–24 years (World Health Organization, 2023).



In Indonesia, the prevalence of new infections among adolescents in this age group increased from 3.8% in 2022 to an estimated 570,000 people living with HIV in 2024. Gorontalo Province also recorded a surge in HIV cases dominated by adolescents aged 15–24 years, reaching 1,363 cases, with the highest numbers reported in Gorontalo City and Gorontalo Regency (Hasibuan et al., 2024). This situation highlights the urgent need for comprehensive sexual education that not only delivers information but also equips adolescents with knowledge, decision-making skills, and support in HIV prevention.

However, sexuality education programs provided to adolescents have not been implemented comprehensively. These programs often emphasize moral messages, prohibitions, and warnings, leaving little space for adolescents to develop positive, safe, and responsible understandings of sexual health (Rahim et al., 2024). As a result, adolescents frequently struggle to negotiate personal boundaries, feel unsafe expressing concerns, and hesitate to report sexual violence due to stigma and limited trust in existing systems (Khatimah et al., 2024). Evidence consistently shows that comprehensive sexual education does not encourage premarital sexual activity; instead, it improves knowledge, decision-making skills, and negotiation abilities that support risk prevention.

Despite multiple HIV prevention initiatives, adolescents' preventive attitudes remain suboptimal. This is reflected by persistent risky behaviors, low condom use, and an inability to recognize high-risk situations (Ikhsan et al., 2025). Adolescents are also exposed to misinformation and myths about sexuality that further complicate their understanding of effective prevention strategies. Gender inequality exacerbates these challenges, as educational programs often fail to integrate gender perspectives, potentially perpetuating power imbalances and vulnerability (Dagadu et al., 2022). The lack of interactive, youth-friendly, and evidence-based pedagogical approaches limits the effectiveness of existing programs in shaping adolescents' attitudes.

The PLISSIT model (Permission, Limited Information, Specific Suggestions, Intensive Therapy) offers a structured and adaptive approach to sexuality education tailored to individual needs. This model allows adolescents to discuss sensitive issues openly, receive accurate information, and obtain practical suggestions applicable to daily life (Tuncer & Oskay, 2022). Developed by Annon (1976), PLISSIT consists of four stages—Permission, Limited Information, Specific Suggestions, and Intensive Therapy—providing a safe space for participants to express feelings and questions, obtain relevant knowledge, and receive tailored interventions. When integrated with gender-equality principles, PLISSIT-based interventions not only focus on cognitive and technical aspects but also empower adolescents to understand power relations, unequal gender norms, and their implications for HIV risk (Cicek et al., 2024).

Therefore, there is a need for interventions that provide comprehensive knowledge, practical skills, and critical awareness of gender equality as an essential determinant in HIV prevention. A comprehensive PLISSIT-based sexual education intervention is viewed as an appropriate strategy to address these issues, as it combines cognitive, affective, and social components while considering gender dynamics. This study aims to analyze the



effectiveness of a PLISSIT-based Comprehensive Sexual Education intervention in improving HIV prevention attitudes among adolescents.

2. RESEARCH METHOD

This study employed a quasi-experimental design consisting of an experimental group and a control group, in which data were collected using pre-test and post-test measurements. The experimental group received a comprehensive PLISSIT-based sexual education intervention, while the control group was provided with standard sexual education. Following the interventions, both groups were assessed to determine changes in adolescents' attitudes toward HIV transmission prevention from a gender equality perspective. The study sample consisted of 100 adolescents from SMA Negeri 1 Gorontalo City, selected using a simple random sampling technique. To assign participants into experimental and control groups, each class name was placed into a box and shuffled until one name fell out; the selected class was designated as the experimental group. The research was carried out through several sequential phases.

1. Preparation Phase

- a. **Baseline Data Collection (Pre-test):** Administration of a questionnaire to assess adolescents' attitudes toward HIV transmission prevention within the framework of gender equality.
- b. **Selection of Respondents:** Identification and confirmation of eligible respondents at the research location.
- c. **Development of Educational Materials:** Preparation of a PLISSIT-based module covering topics related to HIV transmission prevention and gender equality.
- d. **Development of Facilitator Guidelines:** Creating standardized implementation guides to ensure intervention consistency.
- e. **Facilitator Training:** Training facilitators to deliver the PLISSIT-based education effectively.

2. Implementation Phase

Delivery of PLISSIT-based education to the experimental group across four structured sessions—Permission, Limited Information, Specific Suggestions, and Intensive Therapy—fully integrated with a gender equality perspective.

3. Measurement and Evaluation Phase (Post-test)

Post-intervention assessments were conducted using the same questionnaire to measure attitude changes. In-depth interviews were also carried out with respondents from both experimental and control groups to explore their experiences throughout the educational sessions. The instruments used in this study included a structured questionnaire and PLISSIT-based educational materials. Data were analyzed through univariate analysis and bivariate testing using the Wilcoxon signed-rank test.



3. RESULTS AND DISCUSSION

Based on the data collected, the measurement of adolescents' attitudes toward HIV transmission prevention from a gender-equality perspective is presented in the table below.

Table 1. Distribution of Students' Attitudes Toward HIV Prevention Before and After the Intervention

Criteria	Pre Test		Post Test		p-value
	n	%	n	%	
Good	18	18%	90	90%	0,001
Poor	82	82%	10	10%	
Mean	1.18		1.90		
SD	0.386		0.302		

In the pre-intervention phase, most adolescents demonstrated inadequate attitudes related to HIV prevention, with only 18% categorized as having a good attitude, while 82% fell into the poor category. After the structured educational intervention—which included peer education, school-based learning, digital media approaches, and involvement of teachers and parents—a significant improvement was observed. Post-test findings indicate that up to 90% of students developed good attitudes, and only 10% remained in the poor category.

Discussion

The findings of this study reveal that during the pre-intervention stage, the majority of adolescents exhibited inadequate attitudes toward HIV prevention, with only around 18% demonstrating positive attitudes. This reflects low sexual health literacy and limited understanding of risks and preventive strategies—an observation widely supported in the literature highlighting that adolescents in many settings require accurate, context-sensitive sexuality education (Shahrahmani et al., 2023). Such limited knowledge is often shaped by insufficient formal education, restricted access to reproductive health information, and strong social norms that position HIV/AIDS as a taboo subject (Chory et al., 2023). Cross-national research also shows that adolescents commonly hold misconceptions about HIV transmission and prevention prior to receiving proper education (Gao et al., 2012).

Following the implementation of a structured educational intervention—including peer education, school-based programs, digital media delivery, and engagement of teachers and parents—there was a notable shift, with nearly 90% of adolescents categorized as having good attitudes. This substantial improvement aligns with evidence that peer education significantly enhances adolescents' HIV-related knowledge and attitudes (Sumartini & Maretha, 2020). Interactive methods such as peer-led education and digital learning have been widely recognized as effective in strengthening adolescent knowledge and attitudes toward HIV/AIDS (Muslimin et al., 2022). International studies likewise emphasize that school-based health education consistently improves knowledge, attitudes, and preventive behaviors among young people (Adeomi et al., 2014).

These positive changes also align with the principles of the PLISSIT model, which emphasizes granting permission for discussions about sexuality, providing accurate information, offering



specific suggestions tailored to participants' needs, and delivering intensive guidance when required (Tuncer & Oskay, 2022). Through methods such as peer education and school-based learning, the intervention created safe spaces for adolescents to engage in dialogue, deepen their understanding, and receive actionable recommendations on condom negotiation, identifying boundaries, and asserting refusal rights (Ezelote et al., 2024). This process enabled adolescents to internalize knowledge while building self-efficacy in HIV prevention.

The PLISSIT-based educational approach strongly reflects the framework of Comprehensive Sexuality Education (CSE), which extends beyond biological aspects of reproduction to address emotional, relational, normative, and gender-equality dimensions (Amo-Adjei et al., 2023). Through CSE delivered across school and community settings, adolescents received comprehensive information regarding risks, protection, responsibility, and gender equality. Peer-led approaches made the material more relatable and strengthened improvements in knowledge, attitudes, and risk perception, confirming their effectiveness in promoting self-efficacy and safe behavior (Joorbonyan et al., 2022).

Drawing from the Health Belief Model, the observed improvements in adolescent attitudes can be explained through changes in key cognitive components. The intervention enhanced perceived susceptibility by raising awareness of adolescents' real risk for HIV transmission and sexual violence. It also strengthened perceived severity, helping them understand the serious physical, emotional, and long-term consequences. At the same time, educational sessions improved self-efficacy, which is central to making safe decisions (Appau et al., 2024). Evidence shows that educational interventions elevate self-efficacy, perceived behavioral control, and positive preventive attitudes, leading to reduced risky behaviors (Mahat & Scoloveno, 2018).

Elements of gender equality and power dynamics are likewise crucial in understanding adolescent vulnerability to sexual violence and reproductive risks (Sajadipour et al., 2022). Gender Power Theory posits that unequal power relations place adolescents—especially girls—at greater risk and limit their ability to negotiate safe practices, with cultural norms often reinforcing these inequalities (Woolfork et al., 2020). Integrating gender perspectives into PLISSIT-based sexuality education is therefore essential (Nurhayati et al., 2024). This approach equips adolescents with critical awareness of gender injustice, strengthens their ability to assert boundaries, and promotes healthier, safer, and more equitable relationships.

Statistically, the post-test mean score increased significantly compared with the pre-test score, and the analysis confirmed a meaningful difference ($p < 0.05$), demonstrating the effectiveness of the educational intervention. The shift from predominantly poor to predominantly good attitudes underscores the substantial transformation induced by the intervention (Joorbonyan et al., 2022). These improvements extended beyond knowledge to affective and behavioral domains, increasing adolescents' confidence in resisting coercion and their understanding of HIV prevention (Sumartini & Maretha, 2020). Structured educational strategies—such as peer-based sessions, digital media, and family involvement—were effective in shaping healthier adolescent norms (Daoud et al., 2023). Additional studies affirm that school-based and family-supported interventions enhance the effectiveness of HIV and sexual violence prevention programs (Manggul et al., 2024).



Theoretical perspectives from Social Cognitive Theory and the Health Belief Model support the idea that behavioral change emerges through enhanced knowledge, critical reflection, and the development of gender-fair norms (Sudiyasa et al., 2024). Statistical analyses such as the Wilcoxon signed-rank test or paired t-test confirm the significance of pre- and post-intervention differences. Overall, these findings conclude that comprehensive sexuality education using peer education, digital approaches, and gender-equality perspectives effectively improves adolescents' attitudes toward HIV prevention (Saragih et al., 2024).

4. CONCLUSION

The findings of this study demonstrate that the comprehensive sexuality education intervention based on the PLISSIT model is highly effective in enhancing adolescents' attitudes toward HIV transmission prevention within a gender-equality perspective. Quantitative data indicate a substantial improvement, with the proportion of students exhibiting positive attitudes increasing from 18% at the pre-test stage to 90% at post-test, while negative attitudes declined from 82% to 10%. This difference was statistically significant ($p < 0.05$), affirming the measurable impact of the intervention. The success of the PLISSIT framework—which emphasizes granting permission for open discussion, providing limited yet relevant information, delivering specific suggestions, and facilitating intensive support—illustrates its ability to create a supportive learning environment in which adolescents can better understand sexuality, recognize HIV transmission risks, and appreciate the importance of equitable relationships. The integration of gender-equality principles further strengthens adolescents' critical awareness of power dynamics, personal boundaries, and negotiation skills in potentially risky situations. Overall, the results conclude that the PLISSIT-based sexuality education model is an effective, evidence-based approach that holds strong potential for wider implementation in school and community reproductive health programs to reinforce HIV prevention efforts among adolescents.

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