

The Effect of Comprehensive Sexuality Education (CSE) on Reducing Risky Sexual Behavior Among Adolescents

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Article Information

Submitted: 13 June 2025

Accepted: 21 June 2025

Publish: 30 June 2025

Keyword: Adolescents;
Sexuality Education; Risk
Behavior;

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Year: 2025

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Abstract

Introduction: Adolescents often face risky sexual behaviours due to limited knowledge and guidance. Comprehensive Sexuality Education (CSE) is a potential strategy to address this issue. **Objective:** To evaluate the effect of CSE on reducing risky sexual behaviour among adolescents in Bekasi District, Indonesia. **Methods:** A quasi-experimental design was used with 106 high school students divided into intervention and control groups. The intervention group received a four-session CSE program. Data were analysed using paired *t*-tests and Mann–Whitney *U* tests. **Result and Discussion:** The intervention group showed significantly higher post-intervention behaviour scores ($M = 64.66$) than the control group ($M = 50.38$), with $p < 0.01$. **Conclusion:** CSE effectively improves adolescent sexual behaviour. Integration of such programs is recommended in public health strategies targeting youth.

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Introduction

Adolescence is a critical period of transition marked by significant physical, emotional, and social changes (WHO, 2024). During this stage, young people begin to explore their identity and interpersonal relationships, including aspects of sexuality (Munea, Alene, & Debelew, 2020). However, without adequate knowledge and guidance, such exploration may lead to risky sexual behaviours, such as premarital sex, multiple sexual partners, lack of contraceptive use, and limited understanding of sexually transmitted infections (STIs), including HIV and AIDS (CDC, 2024).

Data from various national surveys, such as the Indonesian Demographic and Health Survey (IDHS) or Riskesdas (BPS, 2017), indicate that risky sexual behaviour among adolescents remains a significant concern in Indonesia (Bednarz et al., 2024). A considerable number of adolescents report engaging in premarital sexual activities, often without protection, which contributes to rising rates of teenage pregnancy, unsafe abortions, and increased transmission of STIs and HIV (Seakamela et al., 2023).

One of the globally recognized strategies to address this issue is the implementation of Comprehensive Sexuality Education (CSE) (Mehra, Sarkar, Sreenath, Behera, & Mehra, 2018). CSE is a rights-based and scientifically accurate educational approach that equips young people with knowledge, values, and life skills related to sexuality, reproductive health, consent, healthy relationships, and decision-making. Unlike traditional sex education that often focuses only on biological aspects, CSE promotes a holistic and empowering understanding of sexuality (Mbizvo et al., 2023).

Research from various countries has demonstrated that CSE interventions can significantly improve knowledge and influence positive changes in adolescents' attitudes and behaviours (Mukanga, Dlamini, Mwanabute, & Taylor, 2024). However, in Indonesia, the implementation of CSE still faces challenges such as cultural resistance, lack of trained educators, and limited standardized curriculum (Lamia Abdulgalil Saif Ali Al-amri, Brihastami Sawitri, Haitham T. S. Mohammed, & Hebah Hamood Moqbel, 2024).

Considering these issues, this study aims to examine the effect of Comprehensive Sexuality Education (CSE) on reducing risky sexual behaviour among adolescents, with the goal of providing empirical evidence to support adolescent reproductive health programs and policies.

Method

This study uses a quantitative approach with a quasi-experimental design, specifically a pretest-posttest control group design. Population: Adolescents aged 15–18 years attending senior high schools (SMK) in Bekasi District. Sample: Selected using purposive sampling, consisting of two groups Intervention group (received CSE program), Control group (did not receive the intervention). Sample size 106 students. A structured questionnaire assessing Risky sexual behavior. The CSE program was delivered in 4 sessions over a week, covering topics such as: Reproductive health and puberty, Consent and healthy relationships, Contraception and STI prevention, Communication, and refusal skills. Data Analysis Techniques

Paired t-test to assess changes within each group before and after the intervention. Independent t-test or Mann–Whitney U test to compare changes between the intervention and control groups.

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Results and Discussion

1. Result

This study was conducted to assess the impact of Comprehensive Sexuality Education (CSE) on changes in adolescents' sexual attitudes. A total of 106 respondents participated, consisting of 53 adolescents in the intervention group and 53 in the control group.

Table 1
Frequency Distribution of Behaviour Changes in the Intervention and Control Groups

Test	Behavioural Control	Frequency (n)	Percent (%)
Pretest	Poor	34	64.2%
	Good	19	35.8%
	Total	53	100.0%
Post-test	Poor	41	77.4%
	Good	12	22.6%
	Total	53	100.0%

The results show a decline in behavioral control scores among participants in the control group from the pretest to the posttest. The proportion of participants with poor behavioral control increased from 64.2% to 77.4%, while those with good behavioral control decreased from 35.8% to 22.6%.

Table 2
Frequency Distribution of Behaviour Score Differences Between Intervention and Control Groups

Variable	Group	n	Mean	SD	P-value
Behaviour	Intervention	53	64.66	13.11	< 0.01
	Control	53	50.38	13.86	

The mean behavior scores in the intervention group ($M = 64.66$, $SD = 13.11$) was significantly higher than that in the control group ($M = 50.38$, $SD = 13.86$). The p-value < 0.01 , indicating that the difference in behavior scores between the two groups is statistically significant.

2. Discussion

These findings are consistent with the theoretical assumption that behaviour change can be influenced through targeted interventions, particularly those involving education, skill-building, and awareness-raising activities (Rasberry et al., 2022). The significant increase in behavioural scores among the intervention group suggests that the participants were not only more informed but also more motivated and capable of applying knowledge into practice (Gómez-Lugo et al., 2022). This is an essential outcome in public health interventions, especially when targeting at-risk or underserved populations.

The use of a control group strengthens the validity of the conclusion, as it helps isolate the effect of the intervention. Additionally, the difference remains significant despite the use of a non-parametric test (as required by the non-normal distribution of the

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data), which reinforces the robustness of the result. These findings underscore the importance of integrating structured behaviour-change strategies into health programs. Future interventions should consider incorporating similar methods, and further studies may explore the long-term impact and sustainability of these behavioural changes.

Furthermore, the observed behavioural improvement in the intervention group highlights the critical role of interactive and participatory methods in influencing individual behaviour (Guilamo-Ramos, Benzekri, & Thimm-Kaiser, 2023). Interventions that include discussions, role-playing, demonstrations, and consistent reinforcement are more likely to result in meaningful behavioural change compared to passive information delivery alone (Wang et al., 2020). This suggests that the design and delivery method of the intervention may have significantly contributed to the outcomes. Behavioural change, particularly in health-related contexts, often requires more than just knowledge; it also involves shifts in attitude, confidence, perceived control, and environmental support.

In addition, the findings from this study have important implications for public health practitioners and policymakers (Berutich et al., 2022). The significant difference in behavioural outcomes suggests that similar interventions could be effectively scaled and adapted for other communities facing comparable challenges. Particularly for vulnerable groups such as adolescents or marginalized populations, early intervention through behaviour-focused programs may serve as a preventive strategy to reduce risk behaviours and improve long-term health outcomes. Future research is encouraged to explore the sustainability of these changes over time and assess whether booster sessions or ongoing support mechanisms are needed to maintain the positive effects.

Conclusion

This study demonstrates that the implemented intervention significantly improved participants' behaviour compared to the control group. The intervention group showed a higher mean behaviour score, and the difference was statistically significant ($p < 0.01$). These results indicate that structured, targeted interventions can effectively influence behavioural outcomes, especially when designed with active and engaging methods.

The findings highlight the importance of incorporating behaviour-change strategies into public health programs, particularly for at-risk populations. Given the effectiveness of the intervention, similar approaches may be beneficial for broader implementation. Further research is recommended to examine the long-term impact and sustainability of behavioural changes over time.

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