

# A Comparative Study on the Differences in Knowledge, Attitude, and Behavior Regarding Sexual and Reproductive Health (SRH) among High School Adolescents in Kendari City, Indonesia

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## ABSTRACT

**Background:** Globalization has facilitated the rapid and unhindered growth of communication processes and information dissemination. This phenomenon has resulted in accelerated changes in behavior among adolescents, particularly regarding sexual behavior. As a consequence, sexual and reproductive health (SRH) problems have become an important issue for adolescents in Indonesia. Therefore, the government needs to pay special attention to the needs of adolescents, considering that the population at this age is very large compared to people in other groups. **Objective:** This study aims to compare differences in knowledge, attitude, and behavior among adolescents about SRH in the control and intervention groups. **Methods:** A true experimental design was used with two groups consisting of the control and intervention groups. The control group in this study was not given intervention, while the case group received targeted actions. **Results:** Based on the Wilcoxon sign rank test for knowledge and attitude variables in the control group, the Asymptotic Significance (asympt. sig. 2-tailed) value was 0.029, while that of behavior was 0.000. For the intervention group, all variables had an Asymp. Sig (2-tailed) value of 0.000. **Conclusion:** Knowledge, attitude, and behavior of school adolescents showed significant differences after being given intervention about SRH.

**Keywords:** Adolescents; Health Education; Sexual and Reproductive Health

## INTRODUCTION

The Global School-Based Student Health Survey in 2015, conducted in Indonesia, Timor-Leste, Laos, and Thailand, showed that more than 20,000 adolescents were engaged in various risky sexual behavior (Sumaryani *et al.*, 2021). The population of youth in Indonesia is expected to increase continually up to the year 2035. One of the potential efforts to assist adolescents in avoiding promiscuity, pregnancy, early marriage, free sex, and sexually transmitted diseases is to increase their knowledge, attitude, and behavior about reproductive health. However, this problem has yet to be completely addressed in Indonesia. The pregnancy rate among adolescents aged 15-19 years remains high, at 36 per 1,000 females (Budiman & Listyaningsih, 2020).

Indonesia ranks 5<sup>th</sup> among Asian countries with the largest youth population, and according to the Inter-Census Population Census, the population of the country reached 269.6 million in 2020. A survey conducted by the Indonesian National Commission for Child Protection involving more than 4,000 adolescents across 12 different districts found that 97% had been exposed to pornography (Sumaryani *et al.*, 2021). Furthermore, sexual health problems and reproduction among adolescents are still major issues in Indonesia. Adolescents face various concerns and barriers that prevent their access to essential Sexual and Reproductive Health (SRH) services (Decker *et al.*, 2021).

Considering the complexity of reproductive health problems and their impact on the quality of life of adolescents, there is an urgent need to increase attention to SRH (Damayanti, 2018). Therefore, it is necessary to determine the level of knowledge, attitude, and behavior of high school adolescents in maintaining SRH. The results of the 2017 Indonesian Demographic and Health Survey (IDHS) concerning reproductive health in adolescents indicated the need for improvement in knowledge, attitude, and behavior (IDHS, 2018).

Adolescents face increased reproductive health risks because they are more susceptible to behavioral

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problems. The majority of this population engages in early and unplanned sexual activity, which increases the risk of unintended pregnancies and the transmission of sexual infections (Gebreselassie, 2015; Abaño, 2018).

Sexual education is key to reducing risks as well as increasing SRH. However, due to the fear of stigmatization surrounding SRH, adolescents often struggle to communicate effectively, making it challenging for them to understand the required information associated with SRH. This indicates the need to foster a supportive environment where adolescents can achieve a good understanding of sexual health (Mediã *et al.*, 2023; Amin, 2017).

Although adolescents can gain knowledge about SRH through biology lessons in schools, technology serves as an effective and efficient means of obtaining information. Various types of information media can be used in learning, including print and electronic media, as well as informative leaflets (Arista & Kuswanto, 2018). More specifically, the Android-based learning model was developed as a learning model to increase SRH knowledge for adolescents.

## METHODOLOGY

For this study data was obtained with the comparative study on the differences in knowledge, attitude, and behavior regarding Sexual and Reproductive Health (SRH) among high school adolescents in Kendari City, Indonesia. The study comprised of an intervention group and a control group, each consisting of 116 participants.

There are two types of group control and intervention. Both groups are categorized as Pre-test and Post-test. The control group in a clinical trial, for example, comprised of people who did not receive the intervention. This group contrasts with the ‘intervention group’ or ‘treatment group, received the intervention. In an experiment, the control group either received no treatment or gets the standard treatment.

The Wilcoxon signed-rank test was used for the comparison. Mean ranks and sums of ranks are displayed, along with the calculated scores and their corresponding asymptotic significance levels. The pretest and posttest for knowledge, attitude, and behavior in both the intervention and control groups are presented. The tables display the mean, standard deviation, minimum, and maximum values for each variable. A comparison of the differences in knowledge, attitude, and behavior between the intervention and control groups.

The presented methodology showcases the detailed findings of the comparative study, providing a comprehensive view of the differences in knowledge, attitude, and behavior regarding SRH among high school adolescents in Kendari City, Indonesia.

### Ethical Consideration

This study received ethical approval from Mandala Waluya University, Indonesia with registration on November 7, 2022 with Reference No EC:075/KEP/UMW/XI/2022 and protocol Number No 7112284075.

## RESULTS

### Characteristic of respondents

The overall sample in intervention group was 116 people, consisting of 55 (47.4%) men and 61 (52.4%) women. Meanwhile, the samples in the control group was 116 people, consisting of 47 (40.5%) males and 69 (59.7%) females. Based on education, among the respondents in class X, 87 (75%) were in intervention group, and 64 (55.2%) were in the control. For class XI, there were 29 (25%) respondents in intervention group and 52 (44.8%) in the control.

**Table 1: The Pretest in the Control Group**

Variable	N	Mean	Std. Deviation	Min	Max
Knowledge	116	49.28	5.247	38	59
Attitude	116	31.81	4.135	16	41
Behavior	116	46.73	5.945	32	59

Based on Table 1, the in the pre-test control group respondents obtained an average knowledge of 49.28, attitude of 31.81, and behavior of 46.73.

**Table 2: The Posttest in the Control Group**

Variable	N	Mean	Std. Deviation	Min	Max
Knowledge	116	49.21	5.294	36	59
Attitude	116	31.39	4.213	14	41
Behavior	116	46.37	5.856	30	59

The assessment results in Table 2 show that the average knowledge, attitude, and behavior in the post-test control group was 49.21, 31.39, and 46.37 respectively.

**Table 3: The Pretest in Intervention Group**

Variable	N	Mean	Std. Deviation	Min	Max
Knowledge	116	47.72	5.906	34	58
Attitude	116	45.48	5.887	27	56
Behavior	116	45.48	32.14	14	14

Based on Table 3, the assessment results about SRH of the pre-test intervention group respondents obtained an average knowledge of 47.72, attitude of 45.48, and behavior of 45.48.

**Table 4: The Posttest in Intervention Group**

Variable	N	Mean	Std. Deviation	Min	Max
Knowledge	116	50.64	5.069	34	60
Attitude	116	49.41	5.262	36	60
Behavior	116	34.03	4.149	22	42

Based Table 4, the results about SRH of the post-test control group respondents obtained an average knowledge, attitude, and behavior of 50.64, 49.41, and 34.03 respectively.

**Table 5: Comparison of Differences in Knowledge, Attitude, and Behavior of Adolescents about SRH in Control Group and Intervention Group Using the Wilcoxon Test**

Variable	N	Mean Rank	Sum of Ranks	Z	Asymp Sig.	Variable	N	Mean Rank	Sum of Ranks	Z	Asymp . Sig.
Control						Intervention					
Pretest Knowledge	9	6.22	56,00	-2.179	0.029	Pretest Knowledge	19	40.68	773.00	-4.734	0.000
Posttest Knowledge	2	5.00	10.00			Posttest Knowledge	67	44.30	2968.00		
Pretest Attitude	11	7.00	77.00	-2.998	0.029	Pretest Attitude	20	33.00	660.00	-6.022	0.000
Posttest Attitude	1	1.00	1.00			Posttest Attitude	75	52.00	3900.00		
Pretest Behavior	20	13.93	278.50	-3.705	000	Pretest Behavior	27	41.54	1121.50	-3.733	
Posttest Behavior	4	5.38	21,50	-3.705		Posttest Behavior	63	47.20	2973.50		

## DISCUSSION

This study encompassed a sample of 116 respondents selected randomly from four schools across different areas. The primary objective was to investigate the knowledge, attitude, and behavior of adolescents concerning Sexual and Reproductive Health (SRH). As there is a vast number of young people, it's important to create effective plans and evaluating their outcomes. This helps adolescents make informed and healthy choices about their sexual and reproductive health (Hindin, & Fatusi, 2009).

Both the control and intervention groups underwent a pretest assessment to establish baseline levels of knowledge, attitude, and behavior regarding SRH. The pretest results revealed average scores of 49.28 for knowledge, 31.81 for attitude, and 46.73 for behavior in the control group. Subsequent posttest assessments showed marginal changes in these scores, with values of 49.21 for knowledge, 31.39 for attitude, and 46.37 for behavior. Based on these results, it can be inferred that the control group did not exhibit substantial variations in the measured variables after the study's duration. Previous studies showed that sex, school type and previous experience of sexuality education were the most important factor associated with SRH knowledge (Brunelli *et al.*, 2022).

Incorporating Android-based education was a notable feature of this study. Android-based applications have been recognized as effective learning media, engaging students and catering to their individual learning needs. The utilization of such media can enhance motivation, generate interest, and stimulate learning activities among students. This study harnessed the potential of Android-based applications to deliver comprehensive and engaging SRH education. The mobile application is found to be effective in improving adolescent knowledge and health (Sugiarto, 2018; Safitri, 2020; Nurmala *et al.*, 2020).

A significant preparatory phase involved the development of a learning module focused on SRH through an Android-based application. The module was subjected to validation by a panel of experts, including pediatric nurses, health promotion specialists, and psychologists. Their input yielded a high validation score of 0.96, indicating the applicability and relevance of the module. Furthermore, the module was evaluated for feasibility by a representative sample of 33 students who met the inclusion criteria of being young individuals aged 15-17 years from classes XI and X, willing to participate in the study. So greater attention must be given in the preparation of evidence-based prevention intervention that simultaneously address risk and protective factors for adolescents (Chandra-Mouli, Lane, & Wong, 2015).

The validation and feasibility assessments of the Android-based SRH learning module produced encouraging outcomes. With a module validation score of 0.83 and media expert validation score of 0.96, it can be concluded that the module is highly suitable as an educational medium. These results underscore the potential of utilizing technology-driven educational tools to effectively disseminate SRH information among adolescents. Similar studies show that programs must be developed to encourage positive growth in young people which can help in sexual and reproductive development, to enhance adolescent health (Gavin *et al.*, 2010).

Studies conducted suggested that creating sexual and reproductive health education that suits both girls and boys, their families, and society. Healthcare providers, educators, policymakers, and systems should contribute to the content of this education, empowering adolescents for successful sexual and reproductive health learning (Leekuan *et al.*, 2022). In conclusion, this study not only investigated the effectiveness of an intervention on adolescents' knowledge, attitude, and behavior regarding SRH but also innovatively utilized Android-based education to facilitate learning. The development and validation of the SRH learning module through an Android application highlight its feasibility as a promising educational tool. These findings have significant implications for advancing SRH education programs, enhancing engagement, and improving adolescents' awareness and practices related to sexual and reproductive health.

## CONCLUSION

Due to the insufficient sexual and reproductive health literacy (SRHL) among many school adolescents, it is crucial to provide comprehensive sexual education, along with accessible information and services for adolescents. This will enable them to acquire, comprehend, evaluate, and effectively utilize accurate SRH information when making decisions, ultimately contributing to their overall well-being.

## Conflict of Interest

The authors declare that they have no conflict of interests.

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