

Enhancing Knowledge and Attitude with a Sex Educational Pop-up Book for Adolescents with Intellectual Disabilities

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ABSTRACT

Background: Adolescents with Intellectual Disabilities (ID) adolescents lack of understanding, access to information, and limited knowledge of the sexual behaviours of their peers in the general population. The need for accurate information about sex education is very important in order to stay safe and healthy. However, there is no appropriate, population-specific, and empirically validated sexual education content for individuals with intellectual disabilities. Education for Adolescents with ID requires media in concrete or real physical form and is designed in an attractive way so that they can understand the topic or theme being taught, All information about educational objects is displayed in the form of three-dimensional embossed images or commonly called pop-up books. This study aimed to analyze the effectiveness of sex education using the Pop-up Book on the knowledge and attitude of an adolescent student with an ID in Special Primary Schools (SPS) Children 1 Padang.

Subjects and Method: This is a pre-experimental design with one group pretest-posttest design conducted from April to August 2022. The target population is all students with ID in SPS 1 Padang. This study used purposive sampling, and the sample size is 21. The independent variable of this study was sexual education using the Pop-up Book while the dependent variable was knowledge and attitude were measured using a questionnaire. Data were analyzed by paired t-test.

Results: The average knowledge score increased after (Mean= 11.1; SD= 2.47) given the sexual education intervention with Pop-up book media compared to before (Mean= 9.33; SD=2.13), and this result was statistically significant ($p = 0.028$). The average attitude score increased after (Mean= 5.86; SD= 1.24) given the sexual education intervention with Pop-up book media compared to before (Mean= 3.67; SD= 0.48), and this result was statistically significant ($p < 0.001$).

Conclusion: The pop-up book efficacy for students' understanding of sexual education.

Keywords: teenager, perspective, mental retardation, recognition, pop-up book, sexual education.

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BACKGROUND

In Indonesia, Stanford Binne's estimated number of people with intellectual disabilities is 2.75 percent of the 280 million around 7.7 million (Hermawan, 2020). Based on data from the Department of Education in West Sumatra, the number of children with special needs reaches 6,133 people. Of the details, 124 are blind, 897 are deaf, 3,437 are mentally impaired, and 195 are quadriplegic. In addition, 128 people were deaf, 798 were autistic, 159 had Attention Deficit Hyperactivity Disorder, and 395 people had learning difficulties (Radila, 2017).

Children with intellectual disabilities or mental disabilities are at higher risk of sexual abuse than normal children (Wissink et al., 2015). They tend to be in vulnerable situations with a greater risk of sexual abuse and changes in sexual behavior that make it difficult to have a lasting relationship (Medina-Rico et al., 2018). Some examples of sexual exploitation and harassment committed to a child with a mental impairment such as attempts at the coercion of sexual intercourse by his friend or girlfriend, dissemination of photos of sexual intercourse, and holding his breasts by his male friend. Obvious signs of penetration or genital touch by male (teenage) or father (step/ adoptive) friends are found in most ID reports (Wissink et al., 2018).

Research indicated that the prevalence rate of children with intellectual disabilities who have been sexually abused ranges from 14 to 65% (Wissink et al., 2018). Most of the perpetrators of child sexual abuse are people well-known to the child: parents, uncles, older siblings, drivers, helpers, neighbors, relatives, etc. Only a small part of sexual violence carried out by others is unknown to the child (Neherta, 2017).

One of the important aspects that parents need to teach when the child is intellectual disabilities in adolescence is sexual

education but some research results that the level of maternal knowledge about the sexual development of children with intellectual disabilities is still low, and mothers experience problems in the management of their children's behavior and need education on this issue (Kürtüncü and Kurt, 2020). Adolescents with intellectual disabilities, especially those with very low IQs, tend to receive little to sex education (Stein et al., 2018). Sexual education provided formally, individually, and specifically for individuals with intellectual disabilities is still lacking both in quantity and quality (McDaniels and Fleming, 2016).

Education to children with intellectual disabilities requires media in concrete or real physical form and is designed attractively so that it can help children with mild mental disabilities understand the topic or theme being taught, All information about educational objects is displayed in the form of three-dimensional embossed images or what is commonly called a pop-up book (Mansur et al., 2022).

Education interventions using pop-up books are one of the necessary approaches to address complex problems in adolescents with intellectual disabilities. This aims to fulfill knowledge about sexuality in adolescents with intellectual disabilities. So that the hope is that being able to improve knowledge and attitudes, to help adolescents with intellectual disabilities prepare to able to face puberty healthily, happily, and free from fear, can help these adolescents to overcome certain situations of their desire for knowledge in the aspect of sexuality and protect them from the risk of sexual abuse.

SUBJECTS AND METHOD

1. Study Design

This is a Pre-experimental Design with One Group Pretest-Posttest design conducted in SLB N 1 Padang from May to August 2022.

2. Population and Sample

This is a pre-experimental design with one group pretest-posttest design conducted in special school 1 Padang from May to August 2022.

3. Study Variables

This is a Pre-experimental Design with One Group Pretest-Posttest design conducted in SLB N 1 Padang from May to August 2022.

4. Operational Definition of Variables

Knowledge was the score of adolescents' understanding of the five components of sexual education measured using a questionnaire.

Attitude was a still-closed response of an individual to a certain stimulus in a particular environment as a realization towards the topic of sexuality covering cognitive, affective, and conative aspects which are measured using a questionnaire.

Sexual education using a pop-up book was an effort to provide education to adolescents with intellectual disabilities related to sexuality, which includes 5 components: the concept of male and female, puberty, hygiene and body health, relationships between men and women, and self-protection.

5. Study Instruments

In this study, a closed and structured questionnaire created by the research team was used as the measurement tool to assess participants' knowledge and attitude toward sexual education.

6. Data analysis

The effectiveness of the treatment was measured by effect size. Significance levels were set at the 5% level. Data on knowledge and attitudes toward sex education were analyzed by comparing the results of the pre-test and post-test. Previously, the normality test was carried out using the Shapiro-Wilk test. Data distribution was significantly normal ($p > 0.05$). Therefore, paired t-test was used to analyze differences in knowledge and

attitudes toward sex education before and after the intervention.

7. Research Ethics

It explains ethical issues arising when people are involved as participants in this study. The authors must support the research ethical clearance with an approval letter from the authorized Ethical Research Committee. This research has obtained research ethics permit from the health research ethics committee of RSUP DR. M. Djamil Padang by number LB. 02. 02/ 5.7/239/2022.

RESULTS

1. Sample Characteristics

Table 1 shows that the research subjects have almost the same sex proportions between men and women, 11 (52.4%) male subjects. Table 2 show that the average age value of the research subjects is 17.19 years. The data normality test using Shapiro-Wilk in Table 3 shows that the knowledge variable data is normally distributed (0.702), while the data on the attitude variable is not normally distributed ($p < 0.001$).

2. Bivariate Analysis

The results of the bivariate analysis in Table 4 show that The average knowledge score increased after (Mean= 11.1; SD= 2.47) given the sexual education intervention with Pop-up book media compared to before (Mean= 9.33; SD=2.13), and this result was statistically significant ($p = 0.028$). The average attitude score increased after (Mean= 5.86; SD= 1.24) given the sexual education intervention with Pop-up book media compared to before (Mean= 3.67; SD= 0.48), and this result was statistically significant ($p < 0.001$).

These results indicate that there is a significant difference in the variables of knowledge and attitudes to receive a meaningful intervention. Therefore, the provision of interventions can increase know-

ledge and attitudes in the form of sexual education using the media "Pop Up Book" able to increase knowledge and attitudes of

adolescents with intellectual disabilities towards sexuality.

Table 1. Characteristics of study participants based on sex

Variable	Frequency (N)	Percentage (%)
Sex		
Male	11	52.4
Female	10	47.6

Table 2. Characteristics of study participants based on age

Variable	Mean	SD	Min.	Max.
Age	17.19	2.44	14	22.

Table 3. The result normality test using Shapiro-wilk

Variables	Group	Frequency (n)	p
Knowledge	pre-test	21	0.704
	post-test	21	0.000
Attitude	pre-test	21	0.185
	Post-test	21	0.088

Table 4. Comparison of knowledge and attitude before and after sex education using pop-up book with paired t-test and wilcoxon

Variable	Mean	SD	Min.	Max.	p
Knowledge					
Pre test	9.33	2.12	5	13	0.028
Post test	11.1	2.46	7	17	
Attitude					
Pre test	3.67	0.48	3	4	0.001
Post test	5.86	1.23	4	8	

DISCUSSION

Students with intellectual disabilities receive less holistic sex education than students without disabilities. People with disabilities, such as adolescent students, have a right to a quality education that provides information in an understandable and accessible manner, according to the UN Convention on the Rights of Persons with Disabilities. They also have the right to have social and sexual experiences that contribute to their happiness and fulfillment in life (Strnadová et al., 2022).

Adolescents in this study had received

an appropriate academic education, specifically in Special Needs Schools (SLB), but their sexual knowledge and attitudes remained quite low. This study demonstrated that pop-up book media was effective in increasing adolescents' knowledge and attitudes toward sexuality. The score of knowledge and attitudes of adolescents increased before and after education (Rokhmah, 2014) also discovered that pop-up book media is very effective in raising students' awareness of the importance of protecting themselves from sexual abuse. Pop-up books can help to strengthen the impression you want to

convey in a story so that it is more felt. The more dimensional visual display, combined with the surprises on each page, makes the narrative feel more real. Sexuality education should be the responsibility of everyone who comes into contact with teenagers, including teachers and parents.

Health education materials for children should be comprehensive, according to research conducted on teachers of children with intellectual disabilities in New South Wales. The most common topics covered in sex education for students with intellectual disabilities: are body parts of both genders, personal and online safety, social media and cyberbullying, masturbation, safe sex and protection, emotions, boundaries, consent, safe and unsafe behaviors, family planning, hygiene, puberty, menstruation, public and private places, relationships, homosexuality, sexual abuse, and assault, saying no, appropriate touching, sexually transmitted diseases (STD), drugs and alcohol, abuse of power, and trusting people are all covered (Strnadová et al., 2022). According to research conducted in Malaysia on 20 mothers of children with intellectual disabilities, these mothers had limited understandings of sexuality and predominantly perceived it through the prism of close connections and sexual encounters. The majority of moms did not anticipate their children engaging in sexual conduct, hence mothers' opinions on sexual behavior differed (Kamaludin et al., 2022). Teachers and parents must use a specific method when delivering information on sexual education because it is still frequently regarded as taboo and a sensitive subject.

Children's sexual education is easier to provide because of appealing media. One method of using educational media is to employ pop-up books. In order to avoid child sexual abuse, (Rueda et al., 2022) suggested using an innovative strategy like animated

cartoons. It is acceptable for parents and teachers to express their uncertainty and apprehension regarding this matter. Additionally, they are taught how to react if a child tells them they have been abused as well as how to recognize the warning signs.

Students' attitudes and knowledge can be improved by these methods. According to research by Solehati et al., students' knowledge and attitudes toward a brighter future are increased by offering health education about sexual abuse prevention education (Solehati et al., 2022). The findings have a number of implications for the sexual and reproductive health of teenage females with intellectual disabilities, which are encountered by teachers, educators, and school counselors. In order to prevent the formation of negative attitudes, it is important to improve knowledge and skill development (Goli, Rahimi and Goli, 2022)

Future study could explore the effect of this intervention with the involvement of teachers and parents because sexual education must be a sustainable program. Therefore, the country's educational policy should include the teaching of sexual guidelines to adolescents with intellectual disabilities. The limitation of this research is that the research design still uses pre-experiments.

AUTHOR CONTRIBUTION

Arif Rohman Mansur is the main researcher who formulated conceptual framework. Ira Mulya Sari and Meri Neherta examined conceptual framework and methodology of the study. Yelly Herian and Mutia Farlina gave the suggestion related to the discussion.

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CONFLICT OF INTEREST

There is no conflict of interest in this study.

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