

## Flashcards on Reproductive Health Education for Elementary School Children: Development and Validation

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### ABSTRACT

**Background:** Reproductive health problems among children and adolescents are increasing. These problems can be prevented starting from a young age. Parents play a significant role in protecting children from sexual and reproductive health problems. Educational media are needed to improve parents' knowledge of reproductive health in elementary school age children so parents can provide this information to their children. **Objective:** To develop flashcards to support parents in educating children about reproductive health from an early age. **Method:** The study used a research and development method conducted from February-May 2024 in Kartasura, Sukoharjo. The ADDIE model was used as the stages in media development. One material expert and one media expert, ten parents in the small group evaluation, and 20 parents in the field evaluation tested the suitability of the media. This was followed by implementing media use with a one group pre- and post-test design involving 30 parents to assess the effectiveness of the media. The parents involved in this research were parents of elementary school children in grades 1-3. Data were collected using questionnaires. Data were analyzed using N-gain value. **Results:** Flashcard media was very suitable and effective (with the percentage of media feasibility in the experts' assessment being 90%, small group evaluation 90.3% and 88.6% in the field evaluation). At the implementation stage, there was an increase in the average knowledge score before and after using flashcards with N-gain score was 0.43. **Conclusion:** Flashcards can be used for reproductive health education for parents of elementary school children.

**Keywords:** Children, Flashcard, Parent, Reproductive Health.

### INTRODUCTION

Reproductive health problems in children and adolescents, such as sexual abuse and HIV/AIDS, are currently prevalent and need to be addressed immediately because they will have an impact on the quality of health for the nation's future generation. Based on data for Indonesia, in 2022, there were 2,133 cases related to special protection for children, 39.09% of which were sexual crimes against children (Indonesian Child Protection Commission, 2023). Positive HIV cases in Indonesia have increased from 5,750 cases in 2021 to 9,341 cases in 2022. The age

group with the highest percentage of HIV cases in Indonesia in 2022 was 25-49 years old (67.42%), followed by 20-24 years old (17.45%), ≥50 years (9.25%), and 15-19 years (3.88%) (Ministry of Health of the Republic of Indonesia, 2024). Central Java Province also showed an increase in HIV cases, from 2,708 in 2021 to 3,120 in 2022. The largest proportion of HIV cases in Central Java was in the 25-29 year age group (Central Java Provincial Health Service, 2023). Sukoharjo Regency, a district in Central Java, saw an increase in the discovery of new HIV cases from 60 cases in 2021 to 82 cases in 2022, and there were 19.7% of new HIV cases occurring in



Kartasura District, which is included in the District of Sukoharjo Regency (Sukoharjo Regency Health Office, 2023). Based on data from Indonesia in 2023, the high number of HIV cases in the productive age is attributed to their vulnerability to HIV risk behaviors such as premarital sex behavior, unsafe sexual behavior, and injecting drug use. Data from Sukoharjo District in 2022 also showed that the majority of HIV transmission was due to risky and unsafe sexual behavior (0.67% of men who have sex with men, and 0.31% of female sex workers) (Ministry of Health of the Republic of Indonesia, 2024; Sukoharjo Regency Health Office, 2023).

The role of parents is the basic foundation for shaping children's character and increasing children's knowledge about health. Parents need to gain knowledge regarding reproductive health, which is a crucial factor influencing the provision of reproductive health information to their children. Reproductive health communication from parents to children is an essential aspect in helping children avoid risky behavior (Abdallah et al., 2017; Feyissa et al., 2020; Kusumaningrum, Suci, et al., 2022; Listyorini & Kusumaningrum, 2022; Ndugga et al., 2023; Purwanti et al., 2021; Scull et al., 2019; Sievwright et al., 2023). If reproductive health communication is not carried out to children, the children will become vulnerable to behavior or conditions that are at risk of reproductive health problems (Ndugga et al., 2023). Education and efforts to increase parental knowledge are essential for parents to increase their understanding regarding reproductive health topics in children (Bekele et al., 2022). Parents need reproductive health education to increase their knowledge about their children's reproductive health and begin to consider providing reproductive health information to their children (Abdallah et al., 2017; Kusumaningrum, Suci, et al., 2022). Most parents of elementary school children in grades 1-3 have not provided reproductive health education. Based on a survey in Kartasura, it was revealed that parents felt they needed information about reproductive health for elementary school children. Consequently, there is a need for media that can assist parents in communicating reproductive health to their children.

Developing reproductive health media for elementary school children is an essential step toward providing appropriate and comprehensive education regarding reproductive health at an early age. A study in Yogyakarta found that education can increase mothers' knowledge about reproductive health (Utami et al., 2023). However, there has been no development of reproductive health media specifically for parents of elementary school-age children. The existing media in Indonesia on reproductive health for adolescents at the elementary school level is in the form of a module, which is intended for teachers (Ministry of Education and Culture et al., 2017). The module contains topics for students in grades 1-6. For grades 1-3, the topics that need to be delivered by teachers are relationships with others (self-concept and ways to protect themselves from others, communication between children and parents, boundaries in friendship or association), reproductive health (clean and healthy living behavior, protecting reproductive organs), culture and human rights (how to play a role in the social environment as men and women, and sexual violence). The module also specifies the time allocation needed per topic, learning objectives, material points, learning steps, reflection and discourse for teachers and students (Ministry of Education and Culture et al., 2017).

Based on the International Guidelines for Sexuality Education, it is stated that reproductive health and sexuality education that can be delivered to elementary school children in grades 1-3 includes relationships with others, self-concept, gender, sexual violence and prevention of sexual violence, skills for health optimization (health literacy), growth and development of reproductive organs (puberty, anatomy and physiology of reproductive organs), and reproductive organ health (UNESCO et al., 2018). The module and guidelines do not contain specific explanations or examples of active sentences to convey reproductive health information to children and adolescents. Furthermore, there is a need for media that can be used by parents, which contains sentence statements that can be delivered to children in grades 1-3 of elementary school about reproductive health.



Flashcard media has increased health knowledge in children and pregnant women. However, this media has never been developed with the topic of child reproductive health among parents of elementary school-age children. Digital comics, animated videos, modules, infographics, games, pop-up books, puzzles and visuals have been used for reproductive health education for elementary school-age children. These media are typically used directly with elementary school students, rather than through their parents. The proposed media that will be developed is such that parents can also use to provide reproductive health education to their children (Billa & Solikhah, 2022; Rimawati & Nugraheni, 2018; Sepiani et al., 2023; Simaibang et al., 2021). Flashcards are health promotion media in printed form. Print media has proven effective for health education because the information it covers is broad and can potentially shape public perceptions (Kanchan & Gaidhane, 2024).

Providing comprehensive information to parents can influence adolescent behavior. The existence of communication between parents and teenage children makes them more open to their parents (Bikila et al., 2021). Reproductive health education for parents in the context of communication with children is a crucial aspect of building a foundation for a healthy and accurate understanding of reproductive health. Furthermore, parents are also the most widely accessed and primary source of reproductive health information for teenagers after friends. However, friends tend to negatively influence teenagers (Kusumaningrum, Kusumawati et al., 2022). Parents must provide reproductive health information but do not yet know what needs to be conveyed to children and adolescents (Kusumaningrum, Suci et al., 2022; Othman et al., 2020; Singh et al., 2023). Therefore, this research aims to develop health promotion media in the form of flashcards that can be used for reproductive health education by parents in elementary school children in grades 1-3.

## METHODS

This type of research was a research and development. The research was carried out in Kartasura, Sukoharjo,

Central Java, Indonesia, with the research time being from February - May 2024. The research subjects were one media expert and one material expert (first step in the pretesting media), and 30 parents as media evaluators. The 30 parents consisted of: a) 10 parents involved in the second stage of the small group evaluation; b) 20 parents involved in the third stage, namely field evaluation. The research aimed to develop flashcard media to educate parents of elementary school-age children about reproductive health material from an early age. The research used the ADDIE development model, which includes analysis, design, development, implementation, and evaluation (ADDIE).

The ADDIE stages include the following:

### 1. Analysis Stages

This stage analyzed the potential and problems in society, especially among parents of elementary school-age children and their children. It was hoped that educational efforts for parents could increase their knowledge to provide reproductive health information to children. At this stage, needs of parents of elementary school children in grades 1-3, teachers and health promotor in Kartasura was carried out using interviews. The output at this stage was to describe their needs.

### 2. Product Design Stage

The design stage was carried out to address the problems of parents and children. The activity carried out at this stage was compiling media material. The material to be developed was based on parents, teachers, and health promoters needs and topics on elementary school-level health education modules issued by the Ministry of Education and Culture of the Republic of Indonesia. Based on this material, a media design was then developed. The output at this stage was the formulation of learning objectives and the material to be studied.

### 3. Product Development

Product development was carried out by packaging all reproductive health topics on one reproductive health flashcard. After the media was finished, the next step was media testing. In media trials, media experts validated the finished media to assess the design content, feedback, color, and use of language



suitable for target audience. Material experts also assessed whether the material in the media was in accordance with the target, and whether the material presented was easy to understand. The output was a draft flashcard. In this step, media pretesting was also carried out with 10 parents. This stage is commonly referred to as small group evaluation. Media that received input from 10 parents, then proceeded with media revision according to the parents' input. After the media was revised, it continued with a field evaluation involving 20 parents. If the media received input from 20 parents, researchers revised the media again before using it for the implementation stage.

#### 4. Implementation

Implementation was carried out by testing the media with 30 parents of elementary school-age children in grades 1-3 in Kartasura, and implementation was carried out using a one group pre and post-test design. The parents were selected using simple random sampling technique. At this stage, parents were also given a knowledge questionnaire that had been tested for validity and reliability. The questionnaire was reliable with a Cronbach's alpha value of 0.7.

#### 5. Evaluation

There were two types of evaluation: formative for revising or finalizing the media and summative for assessing the suitability of the media.

Data analysis used both qualitative and quantitative method. Qualitative data were taken based on input from material experts and media experts as material for improving flashcard media. Quantitative data used an average Likert scale ranging from 1-5 with a scale from strongly disagree to strongly agree for the media assessment and measured media effectiveness with the N-gain standard by calculating how influential the media was as a learning method.

Changes in knowledge were measured by question scores obtained before and after being given the flashcard media. The correct score was 1, and the incorrect score was 0, then totaled and compared between the pre and post-test scores so that the average value of media differences in respondents' knowledge could be measured. This research met the ethical requirements of the Health Research Ethics Commission of the Faculty

of Health Sciences, Universitas Muhammadiyah Surakarta, Number 262/KEPK-FIK/III/2024.

## RESULTS AND DISCUSSION

Development of reproductive health education media with flashcards followed the ADDIE method. At the analysis stage, researchers investigated parents' problems and needs regarding the media they wanted to use for providing reproductive health education to children. Researchers conducted interviews with parents of elementary school children, who wanted media that could be used for interactive communication at any time and taken anywhere. Parents also requested material on personal hygiene of reproductive organs and puberty to be included in the flashcard content. Additionally, parents expected examples of how to communicate about reproductive health to children, accompanied by pictures. Researchers also analyzed the needs of elementary school teachers and health promotor regarding the material that needs to be included in the media. Based on the opinion of elementary school teachers and health promotor, additional material is needed regarding social boundaries between boys and girls.

The second stage involved designing the product. The flashcards developed measured 12.5x18 cm, allowing parents to hold them in one hand. The flashcards covered topics including: introduction to reproductive organs, body organs that cannot be seen or touched by other people, boundaries in relationships, differences between boys and girls, how to care for reproductive organs, puberty, values related to reproductive health in the family, how to prevent sexual harassment, and the role of information and communication technology in seeking information. Media development was focused on the way parents communicate with their children. Each topic included information regarding the scope of material and message sentences that could be conveyed to children when explaining that topic.

In the third stage, namely product development, media test results were obtained from experts, as shown in Table 1.

**Table 1.** Data from the feasibility test of media experts and material experts



| Question                                                        | Validator |   | Mean | Information |
|-----------------------------------------------------------------|-----------|---|------|-------------|
|                                                                 | 1         | 2 |      |             |
| Attractive cover design                                         | 4         | 5 | 4.5  | Very worthy |
| Background with the suitable material                           | 4         | 5 | 4.5  | Very worthy |
| The image illustrations are presented clearly and appropriately | 5         | 5 | 5    | Very worthy |
| Selection of image illustrations according to the material      | 5         | 4 | 4.5  | Very worthy |
| The image size is correct                                       | 5         | 4 | 4.5  | Very worthy |
| The characters fit the theme                                    | 4         | 5 | 4.5  | Very worthy |
| The color proportions are appropriate and attractive            | 5         | 4 | 4.5  | Very worthy |
| The layout of text and images is balanced                       | 3         | 4 | 3.5  | Worthy      |
| Flashcard media is easy and safe for targets                    | 5         | 5 | 5    | Very worthy |
| Flashcards according to the target's level of knowledge         | 5         | 4 | 4.5  | Very worthy |
| Mean                                                            |           |   | 4.5  | Very worthy |

The overall material and media expert validation test results reached an average of 4.5, with a feasible category. Based on media and material experts, some things need to be revised in the media, namely revising material in the form of puberty for both men and women as well as daily reproductive organs hygiene, changing the font size to be bigger so that it is easy to read and

providing examples of messages that can be conveyed to children as a learning guide for parents in the future. Suggestions and input are accepted and incorporated into the media to improve its quality.

After the media was revised according to input or suggestions from material and media experts, a media test was conducted on 10 parents (small group evaluation). The 10 parents were given a media test form to find out the parents' opinions and assessments of the flashcard. Based on trials with 10 parents, feedback was obtained in the form of spacing, font size, and image editing on personal hygiene material. The results of the media assessment from 10 parents are presented in Table 2. In the results of media trials to 10 parents, the average media test results were 4.51 so that the media could be said to be very feasible to proceed to the next stage. Furthermore, the flashcards were revised according to the input of 10 parents. After the flashcards were revised, the field evaluation was continued with 20 parents. The parents involved in the small group evaluation and field evaluation were different people. Based on the results of the field evaluation of 20 parents, the results are listed in Table 2 and the average media test from 20 parents was 4.43 so that the flashcards were suitable for the implementation stage. In the field evaluation, additional suggestions were made, such as adding titles to images. The two picture titles were revise: 1) In the picture whose original title was reproduction, it was changed to reproductive organs; 2) In the picture that was originally titled caring for reproduction was changed to caring for reproductive organs.

**Table 2.** Data on target feasibility test results with 10 parents and 20 other parents

| Mean of validator |             | Information |             |
|-------------------|-------------|-------------|-------------|
| Question          | 10 parent s |             | 20 parent s |
| Display Aspect    |             |             |             |

|                                                                 |     |     |              |                                                                                       |      |     |              |
|-----------------------------------------------------------------|-----|-----|--------------|---------------------------------------------------------------------------------------|------|-----|--------------|
| Attractive cover design                                         | 4.9 | 4.5 | Very worth y | and safe for targets                                                                  |      |     |              |
| Background with the suitable material                           | 4.5 | 4.4 | Worthy       | Simple and easy to carry everywhere                                                   | 4.7  | 4.5 | Very worth y |
| The image illustrations are presented clearly and appropriately | 4.4 | 4.5 | Worthy       | Aspects of learning materials Flashcards according to the target's level of knowledge | 4.5  | 4.4 | Worth y      |
| Interesting picture illustrations                               | 4.5 | 4.6 | Very worthy  | Media can motivate students in learning activities                                    | 4.5  | 4.7 | Very worth y |
| Selection of image illustrations according to the material      | 4.4 | 4.5 | Worthy       | Mean                                                                                  | 4.51 |     |              |
| The composition of the image is correct                         | 4.3 | 4.5 | Worthy       | 4.43                                                                                  |      |     |              |
| The image size is correct                                       | 4.4 | 4.4 | Worthy       |                                                                                       |      |     |              |
| The characters fit the theme                                    | 4.7 | 4.5 | Very worthy  |                                                                                       |      |     |              |
| The color proportions are appropriate and attractive            | 4.6 | 4.5 | Very worthy  |                                                                                       |      |     |              |
| Choose the right typeface                                       | 4.6 | 4.1 | Worthy       |                                                                                       |      |     |              |
| Easy-to-read font size                                          | 4.5 | 4.2 | Worthy       |                                                                                       |      |     |              |
| It is an exciting combination of writing                        | 4.4 | 4.2 | Worthy       |                                                                                       |      |     |              |
| The layout of text and images is balanced                       | 4.2 | 4.4 | Worthy       |                                                                                       |      |     |              |
| The sentences used are simple and to the point                  | 4.6 | 4.4 | Very worthy  |                                                                                       |      |     |              |
| Aspects of Media Materials Flashcard media is easy              | 4.6 | 4.4 | Very worth y |                                                                                       |      |     |              |

Based on the results of media trials, it was found that the percentage of media feasibility in pretesting media with media and material experts was very feasible (90%), stage 2 (small group evaluation with 10 parents) was very feasible (90.3%), and stage 3 (field evaluation with 20 parents) also was feasible (88.6%). It can be concluded that the media is very suitable for use in reproductive health education for parents of elementary school children.

**Figure 1.** Table of contents of the reproductive health flashcard for grades 1-3 of elementary school

The fourth stage was implementing education for parents of elementary school children using flashcards. The

Based on the results of media trials, it was found that the percentage of media feasibility in pretesting media with media and material experts was very feasible (90%), stage 2 (small group evaluation with 10 parents) was very feasible (90.3%), and stage 3 (field evaluation with 20 parents) also was feasible (88.6%). It can be concluded that the media is very suitable for use in reproductive health education for parents of elementary school children.

| DAFTAR ISI                                  |    |
|---------------------------------------------|----|
| KATA PENGANTAR.....                         | i  |
| DAFTAR ISI.....                             | ii |
| Kesehatan Reproduksi Anak.....              | 1  |
| Ini Tubuh Kita.....                         | 3  |
| Batas Privasi.....                          | 5  |
| Batasan Perlakuan.....                      | 7  |
| Menjaga Hubungan Pertemanan.....            | 9  |
| Memahami Jenis Kekerasan.....               | 11 |
| Perbedaan Anak Laki-laki Dan Perempuan..... | 13 |
| Organ Reproduksi.....                       | 15 |
| Kebersihan dan Kesehatan.....               | 17 |
| Merawat Organ Reproduksi.....               | 19 |
| Berganti Pakaian.....                       | 21 |
| Kebersihan Baju dan Badan.....              | 23 |
| Kerapian.....                               | 25 |
| Makan Minum Yang Baik.....                  | 27 |
| Keluarga Dan Nilai-nilai.....               | 29 |
| Peran TIK Dalam Peningkatan Kesehatan.....  | 31 |
| Pubertas.....                               | 33 |
| Pubertas Laki-laki.....                     | 37 |
| Daftar Pustaka.....                         | 39 |

**Figure 1.** Table of contents of the reproductive health flashcard for grades 1-3 of elementary school

The fourth stage was implementing education for parents of elementary school children using flashcards. The

effectiveness of the media was measured using pretest and post-test scores on the parents' knowledge of reproductive health. Knowledge was measured from 17 questions about reproductive health information tested for validity and reliability. If the parent answers correctly, the value is one and incorrectly 0. The questions were given to 30 parents in Kartasura using a sampling technique, namely simple random sampling.

**Table 3.** Results of Media Application

|                         |      |
|-------------------------|------|
| Mean of pre-test score  | 13.5 |
| Mean of post-test score | 15.0 |
| Maximum Score           | 17   |

There was an increase in the average knowledge score before and after being given flashcards 1.5. The results are then calculated using the following N-Gain media effectiveness formula:

$$N - \text{Gain} = \frac{\text{Post} - \text{test Score} - \text{Pre} - \text{test Score}}{\text{Maximum Score} - \text{Pre} - \text{test Score}}$$

$$N - \text{Gain} = \frac{15 - 13.5}{17 - 13.5}$$

$$N - \text{Gain} = 0.43$$

The effectiveness of the media was determined using the N-gain score, which was found to be 0.43. This indicates that the flashcard media was effective in increasing parents' knowledge of reproductive health education for children. Previous research in Banjul on children with intellectual disabilities found that flashcard media had more influence on increasing knowledge and attitudes than audiovisual media. This is because it is easier for children to understand the meaning of the reading content from pictures that attract attention (Kelrey & Kusbaryanto, 2021). Other research also reveals that flashcards can increase the target's knowledge about health (Baska et al., 2020; Zahni et al., 2020). Implementing flashcards in this research can increase parents' knowledge about reproductive health because the flashcards contain material accompanied by pictures and examples so that no material gives a scary impression so that readers are interested in learning more. Research in Kenya shows that reproductive health communication should avoid a frightening impression in the material provided (Maina

et al., 2020). In this study, parents' knowledge that improved was about the right time to provide reproductive health information. Before the flashcards, parents still have the knowledge that children will know these topics independently when they are teenagers. However, after being given flashcards, parents understand that children should be given information about self-concept, limits of opposite sex relationships and differences in male and female reproductive organs since elementary school. This aligns with reviews that have been conducted in developing countries that the use of attractive media can increase knowledge about reproductive health (Utami et al., 2024).

Media about reproductive health education needs to be well-developed because nowadays, many children only get information about reproductive health when they are teenagers or adults (Wulandari et al., 2023). This can lead to a lack of knowledge about changes or development of body organs and reproductive health. Societal changes and technological advances, including accessible internet and social media access, may provide information that is not always accurate or appropriate for children. This is based on a literature review, which reveals that the use of social media is tough to control and that there is a mismatch between social media and the reproductive health problems being sought (Engel, 2023). Therefore, education from trusted sources of information is essential, and parents can use these flashcards to provide reproductive health education to children because well-designed media can provide appropriate and appropriate information for their age. Early education can help prevent future reproductive health problems, including knowledge about hygiene, preventing sexual harassment, and the importance of healthy, respectful relationships. Open communication with children minimizes future reproductive health problems, so good reproductive health information for children is beneficial (Collins et al. Lenhart, 2017).

## LIMITATIONS

This research produces data that flashcard media is feasible to use. The results also showed that there was an increase in the average knowledge of

parents regarding reproductive health education from parents to elementary school children, especially grades 1 to 3. The increase in the average knowledge of parents before and after the study was 1.5. This study used a one group pre- and post-test design without a control group so that future studies should measure the effectiveness of the media with a design accompanied by a control group. The use of a control group can serve as a standard for comparison.

## CONCLUSIONS

Media development for parents of elementary school children is very important because parents are the main source of information for children. The flashcard media developed is classified as very feasible and effective for parents to use to educate children and interact with printed media accompanied by images. This flashcard can also increase the average knowledge of parents about reproductive health by using media that is easy to use and fun or can cause interaction between parents and children. The flashcard can be used as a handbook for parents in early childhood learning so that it can prevent reproductive health problems early through good communication between children and parents. The development of reproductive health media is expected to provide accurate, relevant, and age-appropriate information to children. This is essential to support children's physical and emotional development, as well as to equip them with the necessary knowledge to make healthy and positive decisions in the future. The government, especially the Ministry of Health, needs to increase the socialization of reproductive health modules for primary school-age children to parents and teachers. Additionally, The Ministry of Health should create reproductive health media aimed at parents so that parents can utilize the media to increase their knowledge and communicate with their children.

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## REFERENCE

- Abdallah, A. K., Magata, R. J., & Sylvester, J. N. (2017). Barriers to parent-child communication on sexual and reproductive health issues in East Africa: A review of qualitative research in four countries. *Journal of African Studies and Development*, 9(4), 45-50. <https://doi.org/10.5897/jasd2016.0410>
- Baska, D. Y., Madjid, T. H., & Idjradinata, P. S. (2020). The Effect of Health Education with Flashcard Media on Improvement of Knowledge and Reduction of Anxiety Degree in Adolescents Primigravida. *Global Medical & Health Communication (GMHC)*, 8(1). <https://doi.org/10.29313/gmhc.v8i1.5192>
- Bekele, D., Deksis, A., Abera, W., & Megersa, G. (2022). Parental communication on sexual and reproductive health issues to their adolescents and affecting factors at Asella town, Ethiopia: a community-based, cross-sectional study. *Reproductive Health*, 19(1). <https://doi.org/10.1186/s12978-022-01408-8>
- Bikila, T. S., Dida, N., Bulto, G. A., Debelo, B. T., & Temesgen, K. (2021). Adolescents' Communication on Sexual and Reproductive Health Matters with Their Parents and Associated Factors among Secondary and Preparatory School Students in Ambo Town, Oromia, Ethiopia. *International Journal of Reproductive Medicine*, 2021, 1-11. <https://doi.org/10.1155/2021/6697837>
- Billa, H. S., & Solikhah, U. (2022). The Effectiveness of Visikarkes Media (Animated Videos of Sexual Violence Cartoons) on Knowledge of Early Reproduction in School-Age Children in State Elementary Schools 03 Mersi (Efektivitas Media Visikarkes-Video Animasi Kartun Kekerasan Seksual Terhadap Pengetahuan Reproduksi Dini Anak Usia Sekolah di SD Negeri 03 Mersi) In Indonesia. *Jurnal Kesehatan Tambusai*, 3(3), 459-465.
- Central Java Provincial Health Service. (2023). *Central Java Health Profile 2022*



(Profil Kesehatan Jawa Tengah 2022) In Indonesia.

Collins, R.L., Strasburger, V.C., Brown, J.D., Donnerstein, E., Lenhart, A., & Ward, L.M. (2017). Sexual Media and Childhood Well-being and Health. *Pediatrics*, 140(November), S162-S166.

<https://doi.org/10.1542/peds.2016-1758X>  
Engel, E. (2023). Young peoples' perceived benefits and barriers of sexual health promotion on social media - a literature review. *International Journal of Health Promotion and Education*, 1-20. <https://doi.org/10.1080/14635240.2023.2241035>

Feyissa, M., Adugna, H., Aferu, T., & Nigussie, T. (2020). Parent-Adolescent/Youth Sexual and Reproductive Health Communication: The Case of Secondary and Preparatory School Students in Fiche Town, Oromia Regional State, Ethiopia. *The Open Public Health Journal*, 13(1), 415-424. <https://doi.org/10.2174/1874944502013010415>

Indonesian Child Protection Commission. (2023, January 20). Monitoring Notes on Child Protection in the Pandemic Transition Period; Positive Parenting, Indonesian Children Free from Violence (Catatan Pengawasan Perlindungan Anak di Masa Transisi Pandemi; Pengasuhan Positif, Anak Indonesia Terbebas dari Kekerasan) In Indonesia. <https://www.kpai.go.id/publikasi/catatan-pengawasan-perlindungan-anak-di-masa-transisi-pandemi-pengasuhan-positif-anak-indonesia-terbebas-dari-kekerasan>

Kanchan, S., & Gaidhane, A. (2024). Print Media Role and Its Impact on Public Health: A Narrative Review. *Cureus* 16(5), e59574. <https://doi.org/10.7759/cureus.59574>

Kelrey, F., & Kusbaryanto. (2021). Flash Card and Audio Visual Educational Media for Reproductive Health in Children with Intellectual Disabilities (Media Edukasi Flash Card dan Audio Visual Kesehatan Reproduksi pada Anak Disabilitas Intelektual) In Indonesia. *Jurnal Keperawatan Jiwa*, 9(4), 833-842.

Ministry of Health of the Republic of Indonesia. (2024). "Indonesia Health Profile 2023 (Profil Kesehatan Indonesia 2023) in Indonesia.

Kusumaningrum, T. A. I., Kusumawati, Y., Setiyadi, N. A., Samphors, S., Gita, A. P. A., Rohmawaty, N., & Selena, H. (2022). Experiences of Getting Reproductive

Health Information from Friends as the Most Influenced Factor on Human Immunodeficiency Virus (HIV) Risk Behavior in Adolescents. *Open Access Macedonian Journal of Medical Sciences*, 10(E), 428-434.

Kusumaningrum, T. A. I., Suci, D. L., & Wulandari, D. (2022). Parents' behavior for delivering adolescent reproductive health education. *International Journal of Public Health Science*, 11(4), 1202-1209. <https://doi.org/10.11591/ijphs.v11i4.21440>

Listyorini, R., & Kusumaningrum, T. A. I. (2022). Determining Factors of Parental Perceptions of Sexuality Education for Elementary School Age Children (Faktor Penentu Persepsi Orang Tua tentang Pendidikan Seksualitas Kepada Anak Usia Sekolah Dasar) In Indonesia. *Jurnal Kesehatan Masyarakat Indonesia*, 17(4), 20-28.

<https://doi.org/10.26714/jkmi.17.4.2022.20-28>

Maina, B. W., Ushie, B. A., & Kabiru, C. W. (2020). Parent-child sexual and reproductive health communication among very young adolescents in Korogocho informal settlement in Nairobi, Kenya. *Reproductive Health*, 17(1). <https://doi.org/10.1186/s12978-020-00938-3>

Ministry of Education and Culture, Ministry of Health, & Ministry of Religion. (2017). Adolescent Health Education Module for Elementary/MI and Equivalent Level (Modul Pendidikan Kesehatan Remaja Tingkat SD/MI dan Sederajat) In Indonesia. Ndugga, P., Kwagala, B., Wandera, S. O., Kisaakye, P., Mbonye, M. K., & Ngabirano, F. (2023). "If your mother does not teach you, the world will...": a qualitative study of parent-adolescent communication on sexual and reproductive health issues in Border districts of eastern Uganda. *BMC Public Health*, 23(1). <https://doi.org/10.1186/s12889-023-15562-6>

Othman, A., Shaheen, A., Otoum, M., Aldiqs, M., Hamad, I., Dabobe, M., Langer, A., & Gausman, J. (2020). Parent-child communication about sexual and reproductive health: perspectives of Jordanian and Syrian parents. *Sexual and Reproductive Health Matters*, 28(1). <https://doi.org/10.1080/26410397.2020.1758444>

Purwanti, D. A., Daryanti, M. S., Sundari, S., & Attamimi, A. (2021). Parents'



- Involvement in Sexual and Reproductive Health Education for Children: A Scoping Review. *Women, Midwives and Midwifery*, 1(1), 2021. <https://wmmjournal.org>
- Rimawati, E., & Nugraheni, S. (2018). Early Age Sex Education Methods in Indonesia (Metode Pendidikan Seks Usia Dini di Indonesia) In Indonesia. *Jurnal Kesehatan Masyarakat Andalas*, 13(1), 20-27. <http://jurnal.fkm.unand.ac.id/index.php/jkma/>
- Scull, T.M., V. Malik, C., M. Keefe, E., & Schoemann, A. (2019). Evaluating the Short-term Impact of Media Aware Parent, a Web-based Program for Parents with the Goal of Adolescent Sexual Health Promotion. *Journal of Youth and Adolescence*, 48(9), 1686-1706. <https://doi.org/10.1007/s10964-019-01077-0>
- Sepiani, A. D., Afiati, E., & Prabowo, A. S. (2023). Development of Digital Comic Media Regarding Sexual Education for Elementary School Students (Pengembangan Media Komik Digital Mengenai Pendidikan Seksual untuk Siswa Sekolah Dasar) In Indonesia. *Diversity Guidance and Counseling Journal*, 1(1), 71-87.
- Sievwright, K. M., Moreau, C., Li, M., Ramaiya, A., Gayles, J., & Blum, R. W. (2023). Adolescent-Parent Relationships and Communication: Consequences for Pregnancy Knowledge and Family Planning Service Awareness. *Journal of Adolescent Health*, 73(1), S43-S54. <https://doi.org/10.1016/j.jadohealth.2022.09.034>
- Simaibang, F. H., Azzahroh, P., & Silawati, V. (2021). The Influence of Flip Sheet Media, Animated Videos on Knowledge and Attitudes Regarding Sexual Reproduction among Elementary School Students in East Jakarta (Pengaruh Media Lembar Balik, Video Animasi Terhadap Pengetahuan dan Sikap Mengenai Reproduksi Seksualitas pada Siswa Sekolah Dasar di Jakarta Timur) In Indonesia. *Jurnal Ilmiah Kesehatan*, 13(1), 104-112. <https://doi.org/10.37012/jik.v13i1.493>
- Singh, D. R., Shrestha, S., Karki, K., Sunuwar, D. R., Khadka, D. B., Maharjan, D., Sah, L. K., Simkhada, B., & Sah, R. K. (2023). Parental knowledge and communication with their adolescent on sexual and reproductive health issues in Nepal. *PLoS ONE*, 18(7 July). <https://doi.org/10.1371/journal.pone.0289116>
- Sukoharjo Regency Health Office. (2023). Sukoharjo Regency Health Profile 2022 (Profil Kesehatan Kabupaten Sukoharjo 2022) In Indonesia.
- UNESCO, UNAIDS, UNFPA, UNICEF, UN Women, & WHO. (2018). *International Technical Guidance on Sexuality Education: An Evidence-Informed Approach*. UNESCO.
- Utami, D. R. R. B., Nurwati, I., & Lestari, A. (2024). School-based sexual and reproductive health education among adolescents in developing countries. *International Journal of Public Health Science*, 13(1), 141-149. <https://doi.org/10.11591/ijphs.v13i1.23267>
- Utami, F. P., Syam, S., & Nurfita, D. (2023). Increasing mothers' reproductive health knowledge and attitudes through education on youth internet-based social interaction. *Jurnal Cakrawala Promkes*, 5(2), 89-96. <https://doi.org/10.12928/promkes.v5i2.7664>
- Wulandari, L. P., Apsari, D. D., & Hapsari, A. (2023). Development of Educational Media for Adolescent Reproductive Health. *Futurity Medicine*, 2(4), 17-27. <https://doi.org/10.57125/fem.2023.12.30.03>
- Zahni, N. I., Hasnah, H., & Arbianingsih, A. (2020). The Effect Of Education Game Of Ladder And Flashcard Media To Improve Reproduction Knowledge In Early Adolescents. *STRADA Jurnal Ilmiah Kesehatan*, 9(1), 60-69. <https://doi.org/10.30994/sjik.v9i1.269>