

The Impact of Flashcard Educational Media on the Independence of Personal Hygiene Among Children with Intellectual Disabilities at SLB Negeri 1 Padang 2024

Sevilla Adriejha¹, Dian Furwasyih², Novria Hesti^{3*}

¹Undergraduate and Professional Program of Midwifery, Faculty of Health and Science,

Mercubaktijaya University, Indonesia, email: sevillaadriejha20@gmail.com

² Undergraduate and Professional Program of Midwifery, Faculty of Health and

Science, Mercubaktijaya University, Indonesia, email: deemidwife@gmail.com

^{3}Undergraduate and Professional Program of Midwifery, Faculty of Health and*

Science, Mercubaktijaya University, Indonesia, email: novriahesti@gmail.com

**Corresponding Author: Third Author, Undergraduate and Professional Program of Midwifery, Faculty Of Health and Science, Mercubaktijaya University, Indonesia; Jalan Jamal Jamil Pondok Kopi Siteba Padang, Indonesia; novriahesti@gmail.com, +62-751-442295.*

Submission date: 6-12-2024 ; Date of received: 12-12-2024

Abstract

In Indonesia, personal hygiene rates range from 60-80%, with 24% of deaths among children aged 9-12 years attributed to poor personal hygiene. This study aims to determine the impact of educational flashcards on the independence of personal hygiene among children with intellectual disabilities at SLB Negeri 1 Padang. The research was conducted at SLB Negeri 1 Padang from January to August 2024, with data collected on June, 11-12, 2024. The sample consisted of 13 respondents, selected through purposive sampling via observation using a checklist.

Data processing involved data editing, coding, entry, and cleaning. Univariate analysis was used to obtain average descriptions of variables, and bivariate analysis using the Mann-Whitney test was employed to determine the effect or relationship between

variables. Based on statistical testing using the Mann-Whitney test, there is an effect of educational flashcard on the independence of personal hygiene among children with intellectual disabilities, with a p-value of 0.001 (≤ 0.05) at SLB Negeri 1 Padang in 2024. It is hoped that educational institutions will provide personal hygiene education to children with intellectual disabilities and develop other educational media for future researchers.

Keywords: Intellectual Disabilities, Flash Card, Personal Hygiene

Introduction

Personal hygiene is taking care of oneself to promote physical and psychological well-being. Personal hygiene is crucial for maintaining comfort, safety, and health. A person is said to have good personal hygiene if they can maintain the cleanliness of body parts such as hair, eyes, nose, mouth, teeth, skin, feet, nails, and genitalia. (Supriyanti & Prihati, 2023). According to the World Health Organization (WHO), the prevalence of personal hygiene in some developing countries is between 6%-27%. In the United States, poor personal hygiene is the third leading cause of death. In Indonesia, personal hygiene rates range from 60-80% with 24% of deaths occurring among children aged 9-12 years. Personal hygiene ranks second (11%) after respiratory infections (ISPA), with an average of 100 children dying annually due to poor personal hygiene (Sinurat et al, 2024).

Personal hygiene is particularly important for children, as they often fall ill due to poor hygiene practices. Information about personal hygiene should be provided from an early age to ensure that children have a more mature understanding of personal hygiene. Good personal hygiene impacts health, although the health status of people with disabilities is generally lower than that of the general population. Other issues arising from poor personal hygiene include discomfort caused by dirty clothes, as children are unable to use the toilet. Additionally, children with special needs are often victims of both physical and verbal bullying (Nurikhwan et. Al., 2021)

The physical resilience and level of independence in maintaining personal hygiene among children with disabilities are generally weak, making them highly susceptible to various diseases. Poor personal hygiene can also trigger diseases such as infectious diseases, gastrointestinal diseases, and can result in the loss of function of certain body parts. Furthermore, poor hygiene practices like infrequent handwashing can lead to acne, fungal infections, worm infestations, and diarrhea. (P. Jenirian Brahmawido Sari, et al,

2022).

According to the Binet Scale, the IQ range of children with intellectual disabilities is 68-52, while the Weschler (WISC) scale sets it between 69-66, significantly influencing their ability to learn, understand, and participate in daily life (Firnanda, 2024; Maifajri & Padang, 2024). The Basic Health Research (Riskesdas, 2021) data indicates that 11% of the Indonesian population has moderate to severe intellectual disabilities. The Indonesian Child Profile Data from the Central Statistics Bureau (BPS, 2020) shows that 0.79% or 650 thousand children out of 84.4 million in Indonesia have disabilities (Keperawatan et al, 2023). In 2020, the West Sumatra Provincial Education Office recorded that the number of children with special needs reached 6,133, with the largest number beinh children with intellectual disabilities, totaling 3,437 (Amari, Rizqa Oktavia, Furwasyih, D, 2023)

To enhance the independence of personal hygiene among children with intellectual disabilities, various media can be employed. According to the Education and Communication Technology (AECT), media are tools that convey information clearly and effectively. Several methods can be used as educational media, including animated videos (Constantika et al, 2022), leaflets (Putri, 2021), and flashcard. Flashcards are a method that teachers or instructors can use to provide education to children with disabilities, making learning more active and reinforcing conceptual understanding. This method can transform short-term memory into long-term memory, and is well-suited for children with intellectual disabilities with an IQ range of 50-70. (Daniyati Kusuma & Nur Indriasari, 2023).

A preliminary survey conducted on March 5, 2024, at SLB Negeri 1 Padang found that 63 students had intellectual disabilities. The school had not previously used flashcards as an educational medium for personal hygiene for children with intellectual disabilities. The author also interviewed teachers of five students with intellectual disabilities; three (60%) practiced personal hygiene independently, while two (40%) were assisted by others. Based on this phenomenon, the author is interested in researching the effect of flashcards as educational media on the independence of personal hygiene among children with intellectual disabilities at SLB Negeri 1 Padang. Therefore, the research problem is: “Is there an effect of educational flashcards on the independence of personal hygiene among children with intellectual disabilities at SLB Negeri 1 Padang ?”

Method

1. Research design

The type of research conducted in this study is a pre-experimental design using a one-group pre-test and post-test approach.

2. Setting and samples

The study was conducted at SLB Negeri 1 Padang, comprised 13 participants selected through purposive sampling, where subjects were chosen not based on strata or random methods but according to specific criteria. The sample was directly appointed by teachers based on criteria provided by the researchers. The study was conducted at SLB Negeri 1 Padang from January to August 2024, with data collecting taking place on June 11-12, 2024.

3. Intervention

The initial step in this study's intervention was to conduct a pre-test with 13 participants, consisting statements about their daily personal hygiene activities. The initial observation sheet was filled out with the assistance of the students' class teachers. Subsequently, the children were given health education using flash card media, which included daily personal hygiene activities. This intervention was conducted four times over a three-day period for each activity, starting from head to toe hygiene, including the cleanliness of the feet and nails. Furthermore, after the fourth session was completed, another observation was conducted on the students' personal hygiene activities. The teachers also assisted in this process.

4. Measurement and data collection

This study involved the development stage of educational media in the form of flash cards designed by the researchers through several stages abbreviated as 4D : define, design, develop, and dissemination (D. Furwasyih, et.al, 2024). In the define stage, the researchers defined what was meant by the flash card media used in this study. The flash card media referred to health education media made by glossy postcard-sized paper that can be held and placed in a pocket. These media contain real images of personal

hygiene activities carried out by humans in daily life.

The next stage was design. At this stage, the researchers designed the flash card media using the website canva.com. The templates used were free templates that could be downloaded from the website. The designs that were created were then printed on paper sized according to the flash card settings. The printed flash cards were then handed over to three independent reviewers to evaluate their feasibility for use with the children with intellectual disabilities. The reviewed products were then revised according to the reviewers' suggestions. Once deemed suitable for use, the products could be used as research media.

The instrument used in this study was a checklist to assess students' independence in personal hygiene before and after the intervention. The data were collected using an observation checklist which was prepared prior to the study. The checklist contained a list of daily activities that were included in a personal hygiene activities, from the head to toe hygiene, including the cleanliness of the feet and nails. Four teachers assisted during the data collection to ensure the children's calmness.

5. Data analysis

Univariate analysis was employed to obtain average depictions of variables in the study, while bivariate analysis, using the Mann-Whitney test in a computerized system, was utilized to determine the effects or relationships between variables. The hypotheses tested were:

H_a : there is an effect of educational flashcards on the independence of personal hygiene.

Results

The participants in this study are intellectually disabled children at SLB Negeri 1 Padang, with a total of 13 respondents. Results of the study were presented into several tables which explain the characteristics of the respondents, age group, sex, the average independence of personal hygiene before and after the intervention, and the influence of flashcard educational media on personal hygiene independence in children with intellectual disabilities.

Table 1. Frequency distribution classification of children with disabilities at SLB Negeri

1 Padang		
Classification	Frequency	%
Intellectual Disabilities		
Mild	9	69.3
Moderate	4	30.8
Age (y.o)		
9-13	2	15.4
14-18	6	46.2
19-24	5	38.5
Sex		
Male	5	38.5
Female	8	61.5
Total	13	100

Table 1 reveals that 9 respondents (69.2%) have mild intellectual disabilities and 4 respondents (30.8%) have moderate intellectual disabilities. Furthermore, 2 respondents (15.4%) were aged 9-13 years, 6 respondents (46.2%) were aged 14-18 years, and 5 respondents (38.5%) were aged 19-24 years. Additionally, there were 5 male respondents (38.5%) and 8 female respondents (61.5%).

Average personal hygiene independence in children with intellectual disabilities before and after being provided with flashcard educational media was presented in the table below.

Table 2 Average personal hygiene independence in children with intellectual disabilities before and after intervention with flashcards at SLB Negeri 1 Padang

Variable	Mean	Median	Deviation Standard
Before	25.38	26	1.446
After	27.23	27	0.927

Table 2 explains that the average score of children's independence before the intervention was 25.38, hence after the intervention the average score rose to 27.23.

Table 3 shows the influence of flashcard educational media on personal hygiene in children with disabilities.

Table 3 The influence of flashcard educational media on the independence of personal hygiene of children with intellectual disabilities at SLB Negeri 1 Padang

Variable	Mean	Median	Deviation Standard	p-value
Before	25.38	26	1.446	0.001
After	27.23	27	0.927	

From the table above, it was revealed that the p-value was 0.001, which means the hypothesis was rejected and there was an influence from flash card educational media on the personal hygiene independence of children with intellectual disabilities.

Discussion

1. Average Independence in Personal Hygiene Among Children with Intellectual Disabilities Before Using Flashcard Educational Media at SLB Negeri 1 Padang in 2024

Based on the research results, the average independence in personal hygiene among children with intellectual disabilities before the use of flashcard educational media was 25.38. According to Nurwening & Herry (2020), personal hygiene factors can be influenced by an individual's social factors, where family habits significantly affect a child's cleanliness, such as bathing, brushing teeth, and cutting nails. This is consistent with research by Silalahi & Putri (2018) cited in Suniarti et al (2022), which states that factors influencing personal hygiene include knowledge, attitude, and parental roles. Personal hygiene can be performed independently or with the help of others to maintain healthy habits and improve appearance according to health needs.

Research by Rinaldi (2022) indicates that out of 30 respondents, 16 parents of children with intellectual disabilities had moderate knowledge about oral hygiene, with an average score of 2.8, which falls into the moderate category. This aligns with the study by Kustanti & Widyarani (2022), which found that success rate of children washing hands with soap before intervention using flashcards was an average of 64.27.

Based on the author's analysis, the level of independence in personal hygiene among children with intellectual disabilities before the use of flashcard educational media was still low. This can be seen from the pre-test results, where out of 13

respondents, the minimum score was 23 and the maximum score was 28, with only one respondent achieving the maximum score, or 7.7%.

In the seven activities before being taught with flashcard media, the following data was gathered :

- a. In the activity of cleaning hair, 4 children (30.7%) could not perform it independently.
- b. In the activity of cleaning ears, 10 children (76.9%) could not perform it independently.
- c. In the activity of brushing teeth, 2 children (8.6%) could not perform it independently.
- d. In the activity of cutting fingernails, 8 children (61.5%) could not perform it independently.
- e. In the activity of washing hands, no children could not perform the activity independently.
- f. In the activity of cutting toenails, 10 children (76.9%) could not perform it independently.
- g. In the activity of washing feet, no children could not perform the activity independently.

2. Average independence in Personal Hygiene Among Children with Intellectual Disabilities After Using Flashcard Educational Media at SLB Negeri 1 Padang in 2024

The research explains that the average independence in personal hygiene among children with intellectual disabilities after using flashcard educational media was 27.23. This result is similar to research conducted by Andayani (2016) cited in Mukoromah, Ika Ayu (2017), which stated that providing education to children to enhance their skills in handwashing with soap led to an improvement in average scores, from 33.33 to 66.67.

Research by Mastuti et al. (2019) supports this finding, showing an increase in the ability to brush teeth among children with intellectual disabilities, with scores rising from 6.0 before education to 8.61 after education.

According to Nurwening & Herry (2020), knowledge related to personal hygiene affects success in maintaining cleanliness. Therefore, education and motivation are

needed to improve someone's habits. This theory is supported by Lestari & Widyawati (2020), who state that providing health education through teaching or counseling is an engaging method for children with special needs to improve healthy behaviors, making them more independent and disciplined without relying on others to enhance their health quality.

Based on the author's analysis, after providing flashcard educational media related to personal hygiene independence among children with intellectual disabilities, there was an increase, as seen from the post-test conducted. Among the 13 respondents, the minimum score was 25, and the maximum score was 28, with 6 respondents achieving the maximum score, of 46.2%.

In the seven activities after education using flashcard media, improvements were seen in the 13 children :

- a. In the activity of cleaning hair, only 1 child (7.6%) could not perform it independently.
- b. In the activity of cleaning ears, 3 children (23%) could not perform it independently.
- c. In the activity of brushing teeth, no children could not perform it independently.
- d. In the activity of cutting fingernails, 2 children (15.3%) could not perform it independently.
- e. In the activity of washing hands, no children could not perform it independently.
- f. In the activity of cutting toenails, 4 children (30.7%) could not perform it independently.
- g. In the activity of washing feet, no children could not perform it independently.

3. The effect of Flashcard Educational Media on the Independence of Personal Hygiene Among Children with Intellectual Disabilities at SLB Negeri 1 Padang in 2024

Based on the research results presented in Table 4.5, there is an increase in the independence of personal hygiene among children with intellectual disabilities, indicating that flashcard educational media has a significant effect with a p-value of 0.001. This finding is consistent with research by Mukoromah, Ika Ayu (2017), which found an effect of health education using flashcards on toilet training skills among

children with mental retardation, with a p-value of 0.000 (p-value < 0.05). The study by Muslimah (2021) also supports this, stating that there is an effect of health education using flashcards on personal hygiene skills among children with intellectual disabilities, with a p-value of 0.000 (p-value < 0.05).

Kelrey & Kusbaryanto (2021) state that individuals with intellectual disabilities have difficulty understanding language and acquiring knowledge due to memory impairments, difficulty grasping abstract concepts, and challenges in understanding long and complex sentences. Children with intellectual disabilities have limited intelligence, resulting in slower absorption of learning material compared to typically developing children. Increasing the use of educational media, especially flashcards, in health education can help motivate children, particularly those with intellectual disabilities, to learn cleanliness and nearness. This media is used by guiding children to remember cards containing pictures and writing or symbols. The use of flashcards can guide children in self-care, making them more independent and less reliant on others for activities such as using the toilet, maintaining personal hygiene, and dressing and undressing (Muslimah, 2021).

Based on the author's analysis, children with intellectual disabilities have limitations in personal hygiene independence, partly due to social practices within the family and a lack of knowledge and motivation to maintain cleanliness. The research conducted by the author took place over two meetings at SLB Negeri 1 Padang in 2024, and there was an improvement in the independence of personal hygiene among children with intellectual disabilities. This was because the respondents in this study differed from those in previous studies and included with mild to moderate intellectual disabilities.

Ethical Considerations

There was no ethical issue that possibly happen during the study, the anonymity and maleficent principal could handle effectively by the researcher during the study. Every respondent was accompanied by the teacher during the data collection and observation, to ensure the safety of the respondents while collecting the data.

Acknowledgment

Special thanks to all of the respondents for their contribution.

Conflict of Interest

Conflicts of interest have not been disclosed by any authors

Author contribution

First author conceived of the presented idea. All authors developed the theory and performed the computations. Second and third authors verified the analytical methods. Second and third authors encouraged first author to data collection and supervised the findings of this work. All authors discussed the results and contributed to the final manuscript.

References

1. D. Furwasyih, G. Muthia, I. Edyyul, and S. Sunesni, “DEVELOPMENT OF THE AVI-SENA BOOK : EDUCATIONAL MEDIA FOR THE PREVENTION OF SEXUAL VIOLENCE IN EARLY CHILDHOOD”, *JURNAL EDUCATION AND DEVELOPMENT*, vol. 12, no. 2, pp. 343-347, May 2024.
2. Firmanda, T. G. (2024). *Efektivitas Bermain Bola Warna untuk Mengenal Warna Dasar bagi Anak Disabilitas Intelektual Ringan Kelas II / C Di SLB N 1 Solok*. 12, 12–18.
3. Kelrey, F., & Kusbaryanto, K. (2021). Media Edukasi Flashcard dan Audio Visual Kesehatan Reproduksi pada Anak Disabilitas Intelektual. *JKJ: Persatuan Perawat Nasional Indonesia*, 9(4), 833–842.
<https://jurnal.unimus.ac.id/index.php/JKJ/article/view/8424>
4. Keperawatan, J., Masyarakat, D. K., Aini, I., Hermisih, A. R., & Wijayanti, A. R. (2023). *Hubungan Pola Asuh Orang Tua Dengan Kemampuan Personal Hygiene Anak Berkebutuhan Khusus Usia Sekolah*. 10(2), 148–162.
5. Kustanti, C., & Widyarani, L. (2022). Pengaruh Media Flashcard Terhadap Praktik Cuci Tangan Pakai Sabun Dan Air Mengalir Pada Orangtua Dengan Anak Berkebutuhan Khusus. *Jurnal Penelitian Keperawatan*, 8(1), 93–98.
<https://doi.org/10.32660/jpk.v8i1.594>
6. Lestari, I. P., & Widyawati, S. A. (2020). Peningkatan Kemandirian Hygiene Personal Bagi Anak Berkebutuhan Khusus. *Indonesian Journal of Community Empowerment (Ijce)*, 2(1). <https://doi.org/10.35473/ijce.v2i1.524>
7. Maifajri, R., & Padang, U. N. (2024). *Efektivitas Media Video Tutorial Dalam Meningkatkan Keterampilan Menyetrika Pakaian Seragam Sekolah Bagi Anak Disabilitas Intelektual Ringan*. 3, 437–448.
8. Mastuti, S., Ulfa, L., & Nugraha, S. (2019). *Jurnal Ilmu Kesehatan Masyarakat*

- Jurnal Ilmu Kesehatan Masyarakat. *Jurnal Ilmu Kesehatan*, 14(01), 93–112.
9. Mukoromah, Ika Ayu., D. (2017). Pengaruh Pendidikan Kesehatan Melalui Flash card terhadap Keterampilan Toilet Training Pada Anak Retardasi Mental di SLB C Setya Darma Surakarta. *Jurnal Sains Dan Seni ITS*, 6(1), 51–66.
<http://repositorio.unan.edu.ni/2986/1/5624.pdf><http://fiskal.kemenkeu.go.id/ejournal><http://dx.doi.org/10.1016/j.cirp.2016.06.001><http://dx.doi.org/10.1016/j.powtec.2016.12.055><https://doi.org/10.1016/j.ijfatigue.2019.02.006><https://doi.org/10.1016/j.ijfatigue.2019.02.006>
 10. Muslimah, D. D. D. (2021). *Pengaruh Pendidikan Kesehatan Melalui Flashcard “Menjaga Kebersihan Diriku” Terhadap Keterampilan Personal Hygiene Pada Anak Tunagrahita Di SLB C Setya* 52. <http://eprints.ukh.ac.id/id/eprint/2358/>
 11. Nurikhwan, P. W., Lasari, H., & Bakhriansyah, M. (2021). Personal Hygiene Dengan Metode Spy Kepada Orang Tua Siswa Slb-C Negeri Pembina Di Landasan Ulin Barat. *SELAPARANG Jurnal Pengabdian Masyarakat Berkemajuan*, 5(1), 188.
<https://doi.org/10.31764/jpmb.v5i1.5503>
 12. Nurwening, & Herry. (2020). Kebutuhan Dasar Manusia. *How Languages Are Learned*, 1–201.
 13. Pradana, R. A., & Santosa, A. B. (2020). Studi Literatur Media Pembelajaran Flash Card Dapat Meningkatkan Hasil Belajar Pada Mata Pelajaran Perekayasaan Sistem Radio Dan Televisi. *Jurnal Pendidikan Teknik Elektro*, 09(03), 575–583.
 14. Salsabiila, H. S., Psikologi, F., Negeri, U. I., Malik, M., & Malang, I. (2023). *Efektivitas Intervensi Menggunakan Flashcard*.