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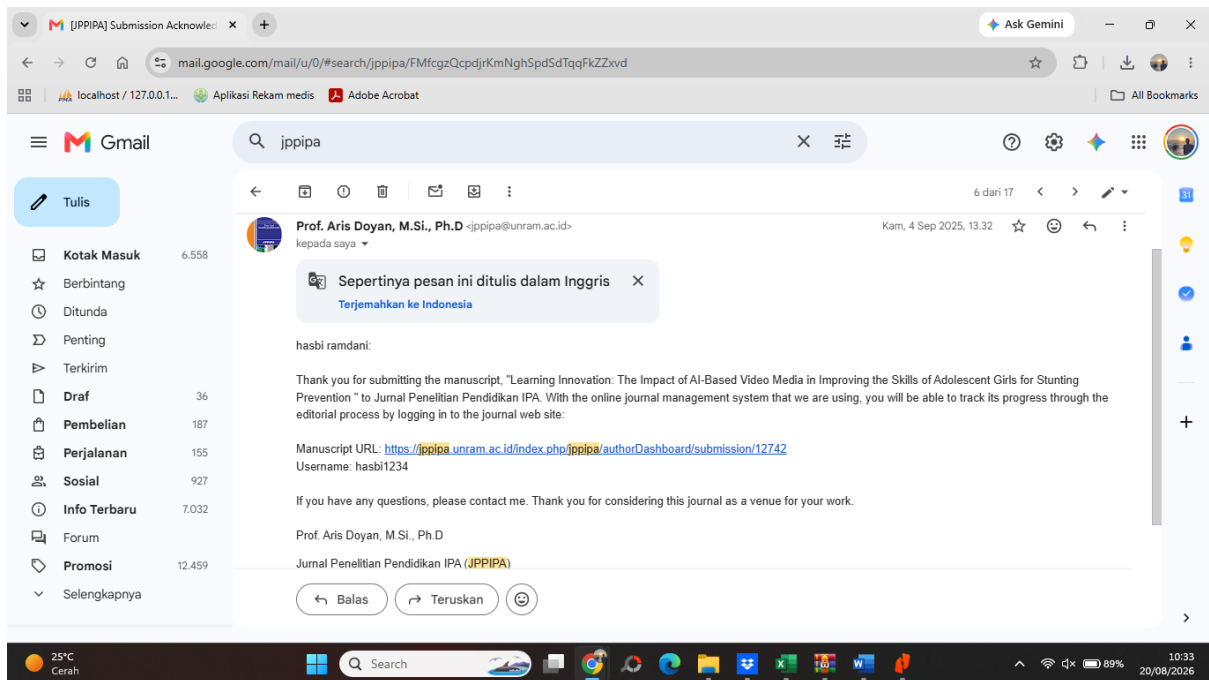
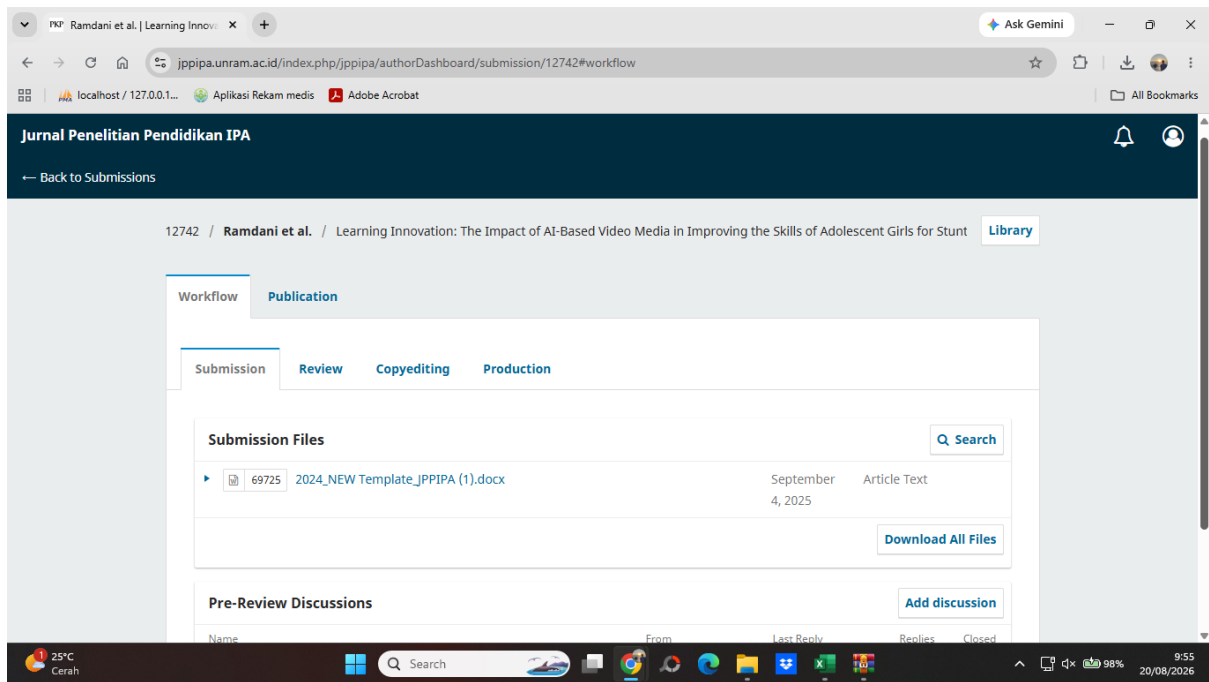
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Jurnal : Jurnal Penelitian Pendidikan IPA, Volume 11 Nomor 11 Tahun 2025

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Learning Innovation: The Impact of AI-Based Video Media in Improving the Skills of Adolescent Girls for Stunting Prevention

Hasbi Taobah¹, Murtiningsih², Fauziah Rudhiati³, Ida Maryati⁴, Nunung Nurjanah⁵

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Received:
Revised:
Accepted:
Published:

Corresponding Author: Hasbi Taobah Ramdani

Abstract: This study aims to examine the effect of Artificial Intelligence (AI)-based video media on improving adolescent girls' skills in preventing stunting. The method used is quantitative experimental research with a quasi-experimental design, using a pre-test and post-test design with a control group. The intervention group used AI-based videos, while the control group used Chat GPT. The results showed that the intervention group experienced a significant increase in stunting prevention skills, with an average skill score after the intervention of 89.45 compared to the control score, which only achieved

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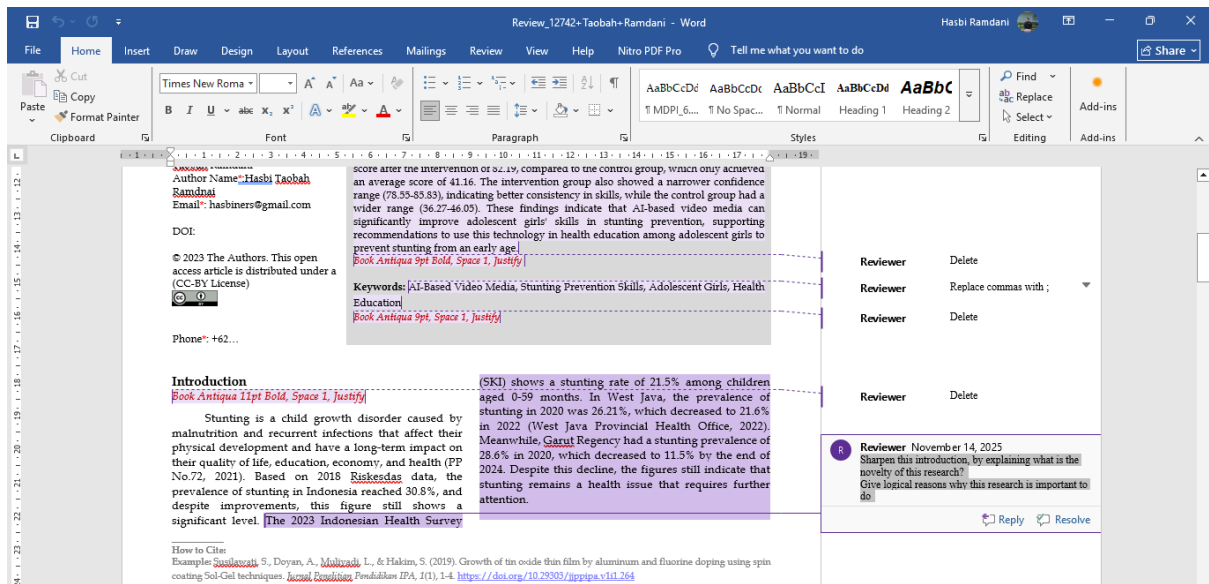
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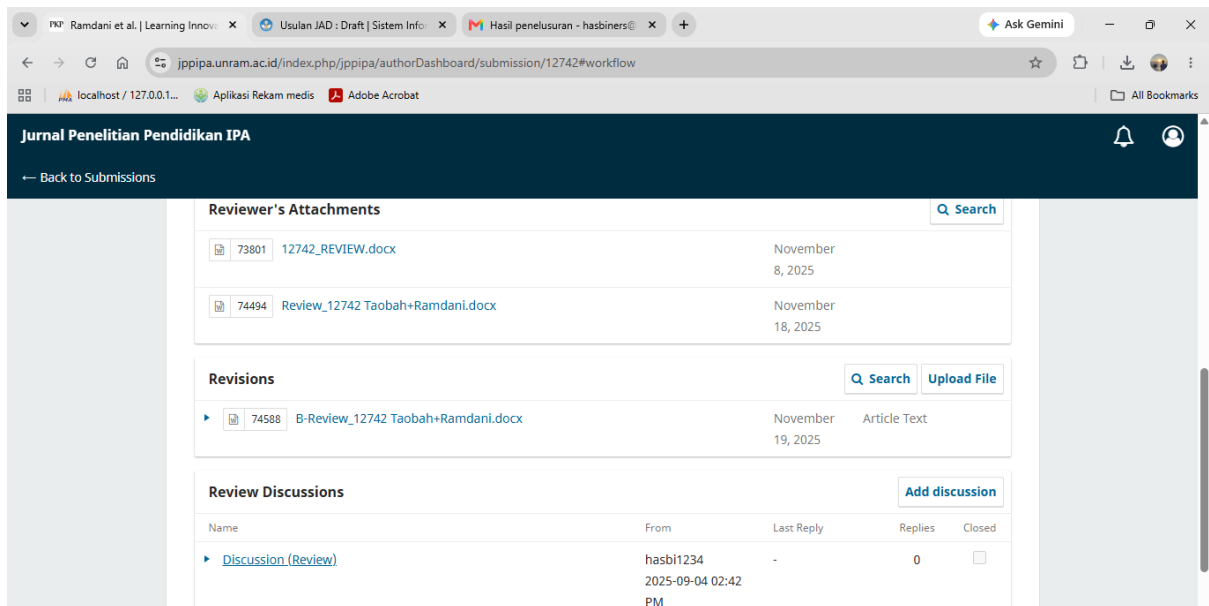
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Received:

Revised:

Accepted:

Published:

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Keywords: AI-Based Video Media, Stunting Prevention Skills, Adolescent Girls, Health Education

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Stunting is a child growth disorder caused by malnutrition and recurrent infections that affect their physical development and have a long-term impact on their quality of life, education, economy, and health (PP No.72, 2021). Based on 2018 Riskesdas data, the prevalence of stunting in Indonesia reached 30.8%, and despite improvements, this figure still shows a significant level. The 2023 Indonesian Health Survey (SKI) shows a stunting rate of 21.5% among children aged 0-59 months. In West Java, the prevalence of stunting in 2020 was 26.21%, which decreased to 21.6% in 2022 (West Java Provincial Health Office, 2022). Meanwhile, Garut Regency had a stunting prevalence of 28.6% in 2020, which decreased to 11.5% by the end of 2024. Despite this decline, the figures still indicate that stunting remains a health issue that requires further attention.

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The factors causing stunting are diverse, including economics, maternal education, diet, environment, and health. Low family income and low levels of maternal education are often associated with high stunting rates, especially in areas with lower socioeconomic conditions such as Papua and Nusa Tenggara (Ayuningtyas et al., 2022). In addition, exclusive breastfeeding and balanced diets play a significant role in preventing stunting (Safaah, 2022; Yefri et al., 2022). Mothers' lack of knowledge about nutrition also contributes to high stunting rates (Jamiyanti et al., 2024; Rusilanti & Riska, 2021). In addition, adolescent girls with better nutritional knowledge tend to make healthier decisions for their families, which can reduce the risk of stunting (Neherta & Nurdin, 2021).

Maternal education is crucial in preventing stunting because more educated mothers tend to provide adequate nutrition for their children. One way to improve understanding of nutrition is through audiovisual education, such as artificial intelligence (AI)-based videos. Research shows that AI-based video media can improve adolescent girls' understanding of maternal health, nutrition, and stunting prevention (Marni et al., 2022; Liu et al., 2022). The advantage of AI-based videos is their ability to deliver material tailored to the speed and response of the audience, thereby increasing their engagement and understanding (Liu et al., 2022). In addition, AI-based videos are easier for adolescent girls to understand and accept because they use language that is easy to understand and appropriate to the local cultural context (Perkins & Rogers, 2023). This method is also more effective in improving information retention compared to conventional methods (Fuchs et al., 2021).

In Garut Regency, the stunting rate is still quite high, especially in the working area of the District, which has the highest stunting rate of 8.37% in January 2025. Preliminary surveys show that most female students at MTs x are not yet aware of stunting, and some female students also suffer from anemia. This study aims to improve the knowledge and skills of adolescent girls at MTs x in preventing stunting through the use of AI-based videos. The use of audiovisual media such as educational animated videos has been proven effective in improving adolescent girls' understanding and skills in preventing stunting (Diana, 2025). With AI technology, learning videos can be personalized according to the needs and responses of the audience, which in turn can increase motivation and learning outcomes (Fatmawati et al., 2015; Setiawan et al., 2023). It is hoped that by using AI-based videos, adolescent girls at MTs x can improve their skills in preventing stunting and form healthy lifestyles.

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Method

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This study used a descriptive quantitative approach with a quasi-experimental design, namely a pre-test and post-test with control group design, to measure the difference in adolescent girls' skills in preventing stunting before and after being given intervention. The research population consisted of 252 ninth-grade female students at MTS x school for the intervention group and 22 female students at SMPN x for the control group. The sample was selected using quota sampling, with the criteria being active ninth-grade female students who were willing to participate in the entire research process. The sample size resulted in 22 female students per group. The intervention group received material through Artificial Intelligence-based video media, while the control group used Chat GPT. This study aims to describe the changes in knowledge and skills in preventing stunting that occurred after the intervention. The quota sampling technique was used to ensure that the relevant characteristics of the population were represented in the sample, so that the results obtained could describe the accurate conditions related to the effectiveness of the methods tested.

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Result and Discussion

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1. Overview of Stunting Prevention Skills Scores Before Intervention

The data shows a significant difference between the intervention group and the control group in terms of stunting prevention skills before intervention. The intervention group had an average skill score of 50.50, higher than the control group, which only recorded an average score of 37.37. This indicates that although knowledge about stunting

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was quite good, the ability to apply this knowledge in practical actions was still low in both groups. The intervention group that used AI-based videos showed better skill scores, which can be attributed to a more engaging and interactive media-based educational approach, while the control group that used traditional methods with text-only materials experienced limitations in practical application (Sugiyarti & Juniarti, 2025).

2. Overview of Stunting Prevention Skill Scores After Intervention

After the intervention, the intervention group that used Artificial Intelligence (AI)-based videos showed a significant increase in stunting prevention skills, with an average score of 82.19, compared to the control group, which only reached 41.16. This significant difference shows that AI-based videos are more effective in improving skills than text-based methods such as Chat GPT. The advantage of AI-based videos lies in their ability to provide dynamic and interactive visual elements, which help learners understand and remember practical steps in preventing stunting.

Research by Masmuri et al. (2025) confirms that the use of technology-based video media can significantly improve the skills of health cadres. AI-based videos allow learners to not only hear explanations but also see the direct application of the material being studied, which is very important in the context of practical skills. This is in line with cognitive theory, which states that the more stimuli received, the more associations are formed in the brain, thereby facilitating the information storage process and improving memory (Basrowi et al., 2025).

In contrast, the control group that used Chat GPT, although it could provide text-based explanations, proved to be less effective in improving practical skills related to stunting prevention. Text-based media cannot provide the visualization or concrete examples needed to train practical skills, as AI-based videos do. These results support research by Sari et al. (2025), which shows that text-based methods have limitations in transferring practical skills that require visual interaction and direct application.

Thus, the use of AI-based videos has been proven to be more effective in developing practical skills than text-based methods. AI-based videos offer a more comprehensive approach by providing interactivity and visualization that strengthen understanding and information retention. This is in line with the results of Fitriana's (2023) research, which shows that audiovisual media, especially animated videos, are more effective in improving the skills of health cadres, including in the context of stunting prevention.

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Conclusion

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Before the intervention, the group that used Artificial Intelligence (AI)-based videos had an average stunting prevention skill score of 50.50, higher than the control group that used Chat GPT, which only recorded an average skill score of 37.37. After the intervention, the intervention group showed a significant improvement in stunting prevention skills with an average score of 82.19, while the control group only achieved an average score of 41.16. This shows that AI-based videos are more effective in improving practical skills related to stunting prevention than text-based methods such as Chat GPT. The main conclusions of the study may be presented in a short Conclusions section, which may stand alone or form a subsection of a Discussion or Results and Discussion section

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Author Contributions

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All authors contributed significantly to the planning, execution, and writing of this article.

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Funding*Book Antiqua 9pt, Space 1, Justify*

This research received no external fundings.

*Book Antiqua 9pt, Space 1, Justify***Conflicts of Interest***Book Antiqua 9pt, Space 1, Justify*

The authors declare no conflict of interest.

*Book Antiqua 9pt, Space 1, Justify***References***Book Antiqua 11 pt Bold, Space 1, Justify*

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Received:

Revised:

Accepted:

Published:

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Result and Discussion

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1. Overview of Stunting Prevention Skills Scores Before Intervention

The data shows a significant difference between the intervention group and the control group in terms of stunting prevention skills before intervention. The intervention group had an average skill score of 50.50, higher than the control group, which only recorded an average score of 37.37. This indicates that although knowledge about stunting was quite good, the ability to apply this knowledge in practical actions was still low in both groups. The intervention group that used AI-based videos showed better skill scores, which can be attributed to a more engaging and interactive media-based educational approach, while the control group that used traditional methods with text-only materials experienced limitations in practical application (Sugiyarti & Juniarti, 2025).

2. Overview of Stunting Prevention Skill Scores After Intervention

After the intervention, the intervention group that used Artificial Intelligence (AI)-based videos showed a significant increase in stunting prevention skills, with an average score of 82.19, compared to the control group, which only reached 41.16. This significant difference shows that AI-based videos are more effective in improving skills than text-based methods such as Chat GPT. The advantage of AI-based videos lies in their ability to provide dynamic and interactive visual elements, which help learners understand and remember practical steps in preventing stunting.

Research by Masmuri et al. (2025) confirms that the use of technology-based video media can significantly improve the skills of health cadres. AI-based videos allow learners to not only hear explanations but also see the direct application of the material being studied,

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which is very important in the context of practical skills. This is in line with cognitive theory, which states that the more stimuli received, the more associations are formed in the brain, thereby facilitating the information storage process and improving memory (Basrowi et al., 2025).

In contrast, the control group that used Chat GPT, although it could provide text-based explanations, proved to be less effective in improving practical skills related to stunting prevention. Text-based media cannot provide the visualization or concrete examples needed to train practical skills, as AI-based videos do. These results support research by Sari et al. (2025), which shows that text-based methods have limitations in transferring practical skills that require visual interaction and direct application.

Thus, the use of AI-based videos has been proven to be more effective in developing practical skills than text-based methods. AI-based videos offer a more comprehensive approach by providing interactivity and visualization that strengthen understanding and information retention. This is in line with the results of Fitriana's (2023) research, which shows that audiovisual media, especially animated videos, are more effective in improving the skills of health cadres, including in the context of stunting prevention.

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Conclusion

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Before the intervention, the group that used Artificial Intelligence (AI)-based videos had an average stunting prevention skill score of 50.50, higher than the control group that used Chat GPT, which only recorded an average skill score of 37.37. After the intervention, the intervention group showed a significant improvement in stunting prevention skills with an average score of 82.19, while the control group only achieved an average score of 41.16. This shows that AI-based videos are more effective in improving practical skills related to stunting prevention than text-based methods such as Chat GPT. The main conclusions of the study may be presented in a short Conclusions section, which may stand alone or form a subsection of a Discussion or Results and Discussion section

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Author Contributions

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All authors contributed significantly to the planning, execution, and writing of this article.

Book Antiqua 9pt, Space 1, Justify

Funding

Book Antiqua 9pt, Space 1, Justify

This research received no external fundings.

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Conflicts of Interest

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Conceptualization, C. H. S. A., P. M. Z., T. R., R. A. E., M. S.; methodology, C. H. S. A.; validation, P. M. Z. and T. R.; formal analysis, R. A. E.; investigation, M. N. S., and C. H. S. A.; resources, P. M. Z. and T. R.; data curation, R. A. E.; writing—original draft preparation, M. N. S and C. H. S. A.; writing—review and editing, P. M. Z.: visualization, and R. and R. A. E. All authors have read and agreed to the published version of the manuscript.

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Lack of Detail:
Conclusions should be more detailed and specific.

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- Journal of Medical Sciences*, 9(T4), 359–363.
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Learning Innovation: The Impact of AI-Based Video Media in Improving the Skills of Adolescent Girls for Stunting Prevention

Hasbi Taobah Ramdani¹, Murtiningsih², Fauziah Rudhiati³, Ida Maryati⁴, Nunung Nurjanah⁵

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Received:
Revised:
Accepted:
Published:

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DOI:

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Phone*: +62...

Abstract: This study aims to examine the effect of Artificial Intelligence (AI)-based video media on improving adolescent girls' skills in preventing stunting. The method used is quantitative experimental research with a quasi-experimental design, using a pre-test and post-test design with a control group. The intervention group used AI-based videos, while the control group used Chat GPT. The results showed that the intervention group experienced a significant increase in stunting prevention skills, with an average skill score after the intervention of 82.19, compared to the control group, which only achieved an average score of 41.16. The intervention group also showed a narrower confidence range (78.55-85.83), indicating better consistency in skills, while the control group had a wider range (36.27-46.05). These findings indicate that AI-based video media can significantly improve adolescent girls' skills in stunting prevention, supporting recommendations to use this technology in health education among adolescent girls to prevent stunting from an early age.

Keywords: AI-Based Video Media, Stunting Prevention Skills, Adolescent Girls, Health Education

Introduction

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Stunting is a child growth disorder caused by malnutrition and recurrent infections that affect their physical development and have a long-term impact on their quality of life, education, economy, and health (PP No.72, 2021). Based on 2018 Riskesdas data, the prevalence of stunting in Indonesia reached 30.8%, and despite improvements, this figure still shows a significant level. The 2023 Indonesian Health Survey (SKI) shows a stunting rate of 21.5% among children

aged 0-59 months. In West Java, the prevalence of stunting in 2020 was 26.21%, which decreased to 21.6% in 2022 (West Java Provincial Health Office, 2022). Meanwhile, Garut Regency had a stunting prevalence of 28.6% in 2020, which decreased to 11.5% by the end of 2024. Despite this decline, the figures still indicate that stunting remains a health issue that requires further attention.

The factors causing stunting are diverse, including economics, maternal education, diet, environment, and health. Low family income and low

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levels of maternal education are often associated with high stunting rates, especially in areas with lower socioeconomic conditions such as Papua and Nusa Tenggara (Ayuningtyas et al., 2022). In addition, exclusive breastfeeding and balanced diets play a significant role in preventing stunting (Safaah, 2022; Yefri et al., 2022). Mothers' lack of knowledge about nutrition also contributes to high stunting rates (Jamiyanti et al., 2024; Rusilanti & Riska, 2021). In addition, adolescent girls with better nutritional knowledge tend to make healthier decisions for their families, which can reduce the risk of stunting (Neherta & Nurdin, 2021).

Maternal education is crucial in preventing stunting because more educated mothers tend to provide adequate nutrition for their children. One way to improve understanding of nutrition is through audiovisual education, such as artificial intelligence (AI)-based videos. Research shows that AI-based video media can improve adolescent girls' understanding of maternal health, nutrition, and stunting prevention (Marni et al., 2022; Liu et al., 2022). The advantage of AI-based videos is their ability to deliver material tailored to the speed and response of the audience, thereby increasing their engagement and understanding (Liu et al., 2022). In addition, AI-based videos are easier for adolescent girls to understand and accept because they use language that is easy to understand and appropriate to the local cultural context (Perkins & Rogers, 2023). This method is also more effective in improving information retention compared to conventional methods (Fuchs et al., 2021).

In Garut Regency, the stunting rate is still quite high, especially in the working area of the District, which has the highest stunting rate of 8.37% in January 2025. Preliminary surveys show that most female students at MTs x are not yet aware of stunting, and some female students also suffer from anemia. This study aims to improve the knowledge and skills of adolescent girls at MTs x in preventing stunting through the use of AI-based videos. The use of audiovisual media such as educational animated videos has been proven effective in improving adolescent girls' understanding and skills in preventing stunting (Diana, 2025). With AI technology, learning videos can be personalized according to the needs and responses of the audience, which in turn can increase motivation and learning outcomes (Fatmawati et al., 2015; Setiawan et al., 2023). It is hoped that by using AI-based videos, adolescent girls at MTs x can improve their skills in preventing stunting and form healthy lifestyles.

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Method

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This study used a descriptive quantitative approach with a quasi-experimental design, namely a pre-test and post-test with control group design, to measure the difference in adolescent girls' skills in preventing stunting before and after being given intervention. The research population consisted of 252 ninth-grade female students at MTS x school for the intervention group and 22 female students at SMPN x for the control group. The sample was selected using quota sampling, with the criteria being active ninth-grade female students who were willing to participate in the entire research process. The sample size resulted in 22 female students per group. The intervention group received material through Artificial Intelligence-based video media, while the control group used Chat GPT. This study aims to describe the changes in knowledge and skills in preventing stunting that occurred after the intervention. The quota sampling technique was used to ensure that the relevant characteristics of the population were represented in the sample, so that the results obtained could describe the accurate conditions related to the effectiveness of the methods tested.

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Result and Discussion

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1. Overview of Stunting Prevention Skills Scores Before Intervention

The data shows a significant difference between the intervention group and the control group in terms of stunting prevention skills before intervention. The intervention group had an average skill score of 50.50, higher than the control group, which only recorded an average score of 37.37. This indicates that although knowledge about stunting was quite good, the ability to apply this knowledge in practical actions was still low in both groups. The intervention group that used AI-based videos showed better skill scores, which can be attributed to a more engaging and interactive media-based educational approach, while the control group that used traditional methods with text-only materials experienced limitations in practical application (Sugiyarti & Juniarti, 2025).

2. Overview of Stunting Prevention Skill Scores After Intervention

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After the intervention, the intervention group that used Artificial Intelligence (AI)-based videos showed a significant increase in stunting prevention skills, with an average score of 82.19, compared to the control group, which only reached 41.16. This significant difference shows that AI-based videos are more effective in improving skills than text-based methods such as Chat GPT. The advantage of AI-based videos lies in their ability to provide dynamic and interactive visual elements, which help learners understand and remember practical steps in preventing stunting.

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In contrast, the control group that used Chat GPT, although it could provide text-based explanations, proved to be less effective in improving practical skills related to stunting prevention. Text-based media cannot provide the visualization or concrete examples needed to train practical skills, as AI-based videos do. These results support research by Sari et al. (2025), which shows that text-based methods have limitations in transferring practical skills that require visual interaction and direct application.

Thus, the use of AI-based videos has been proven to be more effective in developing practical skills than text-based methods. AI-based videos offer a more comprehensive approach by providing interactivity and visualization that strengthen understanding and information retention. This is in line with the results of Fitriana's (2023) research, which shows that audiovisual media, especially animated videos, are more effective in improving the skills of health cadres, including in the context of stunting prevention.

Conclusion

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Before the intervention, the group that used Artificial Intelligence (AI)-based videos had an average stunting prevention skill score of 50.50, higher than the control group that used Chat GPT, which only recorded an average skill score of 37.37. After the intervention, the

intervention group showed a significant improvement in stunting prevention skills with an average score of 82.19, while the control group only achieved an average score of 41.16. This shows that AI-based videos are more effective in improving practical skills related to stunting prevention than text-based methods such as Chat GPT. The main conclusions of the study may be presented in a short Conclusions section, which may stand alone or form a subsection of a Discussion or Results and Discussion section

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Author Contributions

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All authors contributed significantly to the planning, execution, and writing of this article.

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Funding

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Conflicts of Interest

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Received: September 04, 2025

Revised: October 18, 2025

Accepted: November 25, 2025

Published: November 30, 2025

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DOI: [10.29303/jppipa.v11i11.12742](https://doi.org/10.29303/jppipa.v11i11.12742)

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Abstract: This study examines the effect of Artificial Intelligence (AI)-based video media on improving adolescent girls' skills in preventing stunting. A quantitative quasi-experimental design was applied using a pre-test-post-test approach with a control group. The intervention group received AI-based video learning, while the control group used ChatGPT-based text interaction. Results show a significant improvement in the intervention group, with a post-test mean score of 82.19 compared to 41.16 in the control group. The intervention group also demonstrated a narrower confidence interval (78.55–85.83), indicating higher consistency in skill acquisition, whereas the control group showed a wider range (36.27–46.05). These findings confirm that visual, structured, and AI-enhanced learning materials improve comprehension and practical skills more effectively than text-based interactions alone. The study reinforces the importance of integrating innovative digital media into health education programs. In conclusion, AI-based video media is a highly effective tool for strengthening adolescents' stunting prevention skills and holds strong potential for broader implementation in early prevention strategies.

Keywords: Adolescent girls; AI-Based video media; Health education; Stunting prevention skills

Introduction

Stunting is a chronic growth disorder in children caused primarily by malnutrition and repeated infections, which hinders physical development and has long-lasting consequences on quality of life, education, economic productivity, and overall health (PP No. 72, 2021). Despite national efforts to reduce it, the prevalence of stunting in Indonesia remains a significant public health concern. For example, Riskesdas 2018 reported a national rate of 30.8%. Although this rate has decreased to 21.5% in the 2023 Indonesian Health Survey (SKI), stunting continues to pose a critical challenge that demands innovative and effective intervention

strategies. Regionally, West Java's stunting prevalence declined from 26.21% in 2020 to 21.6% in 2022 (West Java Provincial Health Office, 2022), and Garut Regency witnessed a decline from 28.6% in 2020 to 11.5% by late 2024. Nevertheless, these figures illustrate that stunting remains a pressing issue requiring sustained attention.

Several multifaceted factors contribute to stunting, including economic hardship, maternal education, dietary habits, environmental conditions, and overall health. In particular, low family income and limited maternal education are strongly correlated with high stunting rates, especially in socioeconomically disadvantaged regions such as Papua and Nusa Tenggara (Ayuningtyas et al., 2022). Moreover,

How to Cite:

Ramdani, H. T., Murtiningsih, Rudhiati, F., Maryati, I., & Nurjanah, N. (2025). Learning Innovation: The Impact of AI-Based Video Media in Improving the Skills of Adolescent Girls for Stunting Prevention. *Jurnal Penelitian Pendidikan IPA*, 11(11), 312–316. <https://doi.org/10.29303/jppipa.v11i11.12742>

exclusive breastfeeding and balanced nutrition have been identified as pivotal in preventing stunting, while insufficient maternal knowledge substantially increases the risk (Jamiyanti et al., 2024; Rusilanti & Riska, 2021). Therefore, targeting maternal education is essential, because mothers equipped with adequate nutritional knowledge can better support their children's growth and development.

Building on this premise, adolescent girls – who are future mothers – represent a crucial demographic for nutritional education aimed at stunting prevention. It follows that empowering them with nutrition knowledge early on could have a significant impact on future family health outcomes. Against this backdrop, the novelty of the present research lies in the application of artificial intelligence (AI)-based video media as an innovative and adaptive educational tool. Unlike traditional educational methods, AI-driven videos personalize content delivery based on the learner's pace and responses, thus encouraging deeper engagement and better retention of information (Liu et al., 2022; Perkins & Rogers, 2023). Prior studies have demonstrated the efficacy of audiovisual media in improving adolescent understanding of maternal health and nutrition, but the integration of AI technology designed to adapt and culturally localize content remains largely unexplored.

Furthermore, this research is particularly important in the context of Garut Regency, where stunting rates remain relatively high, with some subdistricts reporting a rate of 8.37% as of January 2025. Preliminary surveys indicate that many female students at MTs X lack awareness about stunting and some even suffer from anemia. Consequently, this study aims to improve the knowledge and skills of adolescent girls in preventing stunting through the use of AI-based educational videos. In doing so, it aspires to foster healthier lifestyle choices and establish a model for scalable, technology-enhanced nutrition education that other regions facing similar challenges can adopt.

Method

This study employed a quantitative approach with a quasi-experimental design using a pre-test and post-test with control group format. The experimental group received an intervention in the form of Artificial Intelligence-based video media, while the control group obtained learning materials through ChatGPT. The study population consisted of 252 female students, with 22 students assigned to both the experimental and control groups using quota sampling (Sekaran, 2016; Sugiyono, 2019). The research instruments included a checklist assessing stunting prevention skills, validated through expert judgment and Pearson validity testing,

which confirmed all items to be valid. Instrument reliability testing produced a Cronbach's Alpha value of 0.915, indicating a very high level of internal consistency. Data collection procedures were carried out through pre-tests and post-tests administered after the intervention was delivered three times to each group.

The study adhered to essential ethical research principles, including self-determination, anonymity, confidentiality, privacy, and justice (Putra et al., 2023). The video-based instrument was developed using AI Gemini VEO 3, structured with a script generated through ChatGPT, and subsequently edited with Filmora Wondershare. The questionnaire consisted of three skill components: self-assessment of anemia, Body Mass Index calculation, and preparation of balanced meals based on the "Isi Piringku" concept. This research design aimed to illustrate changes in the stunting prevention skills of adolescent girls before and after the intervention and to evaluate the effectiveness of AI-based video media compared to the use of ChatGPT.

Result and Discussion

Overview of Stunting Prevention Skills Scores before Intervention

The data shows a significant difference between the intervention group and the control group in terms of stunting prevention skills before intervention. The intervention group had an average skill score of 50.50, higher than the control group, which only recorded an average score of 37.37. This indicates that although knowledge about stunting was quite good, the ability to apply this knowledge in practical actions was still low in both groups. The intervention group that used AI-based videos showed better skill scores, which can be attributed to a more engaging and interactive media-based educational approach, while the control group that used traditional methods with text-only materials experienced limitations in practical application (Sugiyarti & Juniarti, 2025).

Overview of Stunting Prevention Skill Scores After Intervention

After the intervention, the intervention group that used Artificial Intelligence (AI)-based videos showed a significant increase in stunting prevention skills, with an average score of 82.19, compared to the control group, which only reached 41.16. This significant difference shows that AI-based videos are more effective in improving skills than text-based methods such as Chat GPT. The advantage of AI-based videos lies in their ability to provide dynamic and interactive visual elements, which help learners understand and remember practical steps in preventing stunting.

Research by Masmuri et al. (2025) confirms that the use of technology-based video media can significantly improve the skills of health cadres. AI-based videos allow learners to not only hear explanations but also see the direct application of the material being studied, which is very important in the context of practical skills. This is in line with cognitive theory, which states that the more stimuli received, the more associations are formed in the brain, thereby facilitating the information storage process and improving memory (Basrowi et al., 2025).

In contrast, the control group that used Chat GPT, although it could provide text-based explanations, proved to be less effective in improving practical skills related to stunting prevention. Text-based media cannot provide the visualization or concrete examples needed to train practical skills, as AI-based videos do. These results support research by Sari et al. (2025), which shows that text-based methods have limitations in transferring practical skills that require visual interaction and direct application.

Thus, the use of AI-based videos has been proven to be more effective in developing practical skills than text-based methods. AI-based videos offer a more comprehensive approach by providing interactivity and visualization that strengthen understanding and information retention. This is in line with the results of Fitriana's (2023) research, which shows that audiovisual media, especially animated videos, are more effective in improving the skills of health cadres, including in the context of stunting prevention.

Conclusion

This study demonstrates that the use of Artificial Intelligence (AI)-based video media is significantly more effective in enhancing stunting prevention skills among adolescent girls compared to text-based learning through ChatGPT. Prior to the intervention, the experimental group showed a higher initial average skill score (50.50) than the control group (37.37). Following three sessions of intervention, the experimental group achieved a substantial increase to an average score of 82.19, whereas the control group showed only a modest improvement to 41.16. These findings indicate that AI-driven visual learning materials provide clearer, more engaging, and more applicable guidance for developing practical health-related skills. More broadly, the results suggest that AI-based multimedia tools can serve as effective educational interventions for improving adolescents' health literacy and practical competencies. The findings can be generalized to similar contexts where visual and interactive learning is needed to strengthen preventive health behaviors. Practically, this study highlights the potential for integrating AI-generated videos into school health programs,

community education, and public health initiatives aimed at reducing stunting through improved knowledge and skills. Incorporating AI-based visual media may therefore contribute to more impactful health promotion strategies, especially in populations requiring accessible and skill-oriented education.

Acknowledgments

Place acknowledgments, including information on grants received, before the references, in a separate section, and not as a footnote on the title page.

Author Contributions

Conceptualization, H. T. R.; methodology, H. T. R.; validation, M. and F. R.; formal analysis, I. M.; investigation, N. N. and H. T. R.; resources, M. and F. R.; data curation, I. M.; writing—original draft preparation, N. N. and H. T. R.; writing—review and editing, M.; visualization, F. R. and I. M. All authors have read and agreed to the published version of the manuscript.

Funding

This research received no external fundings.

Conflicts of Interest

The authors declare no conflict of interest.

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SERTIFIKAT

Kementerian Riset dan Teknologi/
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Petikan dari Keputusan Menteri Riset dan Teknologi/
Kepala Badan Riset dan Inovasi Nasional
Nomor 200/M/KPT/2020
Peringkat Akreditasi Jurnal Ilmiah Periode III Tahun 2020
Nama Jurnal Ilmiah
Jurnal Penelitian Pendidikan IPA (JPPIPA)

E-ISSN: 2407795X

Penerbit: Program Studi Magister Pendidikan IPA

Ditetapkan sebagai Jurnal Ilmiah

TERAKREDITASI PERINGKAT 2

Akreditasi Berlaku selama 5 (lima) Tahun, yaitu
Volume 6 Nomor 2 Tahun 2020 sampai Volume 11 Nomor 1 Tahun 2025

Jakarta, 23 December 2020

Menteri Riset dan Teknologi/
Kepala Badan Riset dan Inovasi Nasional
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Letter of Acceptance (LoA)

No. XI-11-12742/JPPIPA/2025

Based on the results of a review conducted by the Journal of Research in Science Education (Jurnal Penelitian Pendidikan IPA, e-ISSN: [2407-795X](#) p-ISSN: [2460-2582](#)) editorial team, hereby declare that:

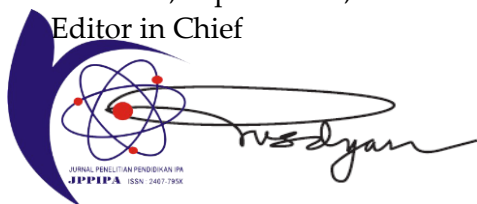
Author : Hasbi Taobah Ramdani, Murtiningsih, Fauziah Rudhiati, Ida Maryati, Nunung Nurjanah
Title : Learning Innovation: The Impact of AI-Based Video Media in Improving the Skills of Adolescent Girls for Stunting Prevention
Decision : ACCEPTED
Date : September 4, 2025

The paper with the title above will be published in **Volume XI Issue 11, November 2025**

Thank you for your attention and cooperation.

Mataram, September 4, 2025

Editor in Chief



Jurnal Penelitian Pendidikan IPA
JPPIPA ISSN: 2407-795X

Prof. Aris Doyan, M.Si., Ph.D



Jurnal Penelitian Pendidikan IPA (JPPIPA)

Indexed on:

