Proceedings Series on Health & Medical Sciences, Volume 8
Proceedings of the 6th International Nursing and Health Sciences Universitas Muhammadiyah Purwokerto
ISSN: 2808-1021

The Effect of Health Education Using Menstruation Magic Spin Wheel on Elementary School Girls' Knowledge about Menarche in Sangkanayu, Purbalingga

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ARTICLE INFO

Article history:

DOI:
10.30595/pshms.v8i.2058

Submitted:
July 29, 2025

Accepted:
Sept 22, 2025

Published:
Oct 23, 2025

Keywords:

Health Education; Spin Wheel; Menarche; Knowledge; Elementary School Girls

ABSTRACT

Menarche, or the first menstrual period, is a key milestone of puberty in adolescent girls. A lack of knowledge about menarche may lead to anxiety, unpreparedness, and inappropriate personal hygiene practices. Interactive media-based health education has emerged as an effective strategy to enhance understanding among elementary school students. This study aimed to examine the effect of health education using the Menstruation Magic Spin Wheel on the level of knowledge regarding menarche among elementary school girls. This study employed a quasi-experimental design with a nonequivalent control group. The population included all female students from SD Negeri 1 Sangkanayu and SD Negeri 2 Sangkanayu, Mrebet Sub-district, Purbalingga Regency. A total of 68 respondents were divided into an intervention group (n = 34) and a control group (n = 34). Data were analyzed using the Wilcoxon Signed Rank Test. The Wilcoxon test showed a significant increase in knowledge levels in the intervention group before and after receiving health education (p 0.001). In contrast, no significant difference was observed in the control group (p 0.05). Health education using the Menstruation Magic Spin Wheel was effective in increasing elementary school girls knowledge about menarche. Interactive and engaging educational media can serve as a child-friendly alternative for delivering health education.

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1. INTRODUCTION

Menarche, which is the first menstruation experienced by adolescent girls, is an important moment in the developmental phase of an adolescent girl, marking the maturation of her sexual function (Hidayah & Palila, 2018). It signifies not only a biological milestone but also the beginning of various physical and emotional changes associated with puberty. However, knowledge about menstruation should be integrated early in the school curriculum to prepare girls adequately for this transition. A study conducted in Indonesia involving 1,403 adolescents from 16 schools in four provinces revealed that 41% of participants felt they lacked sufficient information about menstruation. This knowledge gap significantly influenced their preparedness and personal hygiene practices during their first menstruation (Sinaga, 2020).

The importance of health education regarding menarche cannot be overstated, as it equips adolescent girls to face the physical and mental changes that occur during puberty. Unfortunately, a lack of understanding can lead to feelings of worry, anxiety, and fear, consequently affecting their personal hygiene and overall well-being. Many adolescents struggle with managing menstruation due to insufficient preparation and support, often leading to misconceptions about their bodies and reproductive health.

In light of these challenges, innovation is essential in developing effective learning media that enhance the educational experience. The use of interactive tools such as the Menstruation Magic Spin Wheel stands out as a promising approach. This educational medium is designed to engage students actively, encouraging their participation and thereby increasing their retention of information. By making the learning process enjoyable and interactive, the Menstruation Magic Spin Wheel not only captures students' interest but also fosters a deeper understanding of menstruation and related health topics (Siregar, 2020).

The current study aims to analyze the "Effect of Health Education Using the Menstruation Magic Spin Wheel Media on the Level of Knowledge of Adolescent Girls Regarding Menarche Among Elementary School Students in the Sangkanayu Area, Mrebet Subdistrict, Purbalingga District." Through this research, we hope to provide insights into how innovative educational strategies can effectively enhance knowledge and preparedness among young girls facing menarche, ultimately supporting their journey through this critical phase of development.

2. RESEARCH METHOD

This study used a quantitative approach with a quasi-experimental method and a nonequivalent control group design, involving two groups, namely the intervention group and the control group. The aim was to determine the effect of health education using the Menstruation Magic Spin Wheel media on the level of knowledge of elementary school students about menarche.

The population consists of all fifth and sixth grade female students at SDN 1 and SDN 2 Sangkanayu, totaling 108 individuals. The sample size was determined using the paired categorical comparative formula (Sopiyudin), resulting in a total of 68 respondents, with 34 in the intervention group and 34 in the control group.

The sampling technique in this study used a non-probability sampling approach with a purposive sampling method, which is the selection of samples based on certain criteria or considerations. This selection was carried out with the aim that the samples taken could accurately represent the characteristics of the population that had been known previously (Sugiyono, 2023).

Health education was delivered through the Menstruation Magic Spin Wheel in the intervention group. It involved interactive sessions where students answered questions related to menarche after spinning the wheel. The control group received no intervention during the study.

The data analysed, Wilcoxon Signed-Rank Test was used to assess differences in knowledge scores between pre- and post-tests within groups.

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3. RESULT AND DISCUSSION

Based on the results of the study, the following results were obtained:

1. Univariat analyse

Knowledge Level	Intervension Group		Control Group	
	Pre-test		Pre-test	
	n	%	*n*	%
Low	14	41,2	10	29,4
Moderate	17	50	19	55,9
High	3	8,8	5	14,7
Total	34	100	34	100

Frequency Distribution of Knowledge Level Categories in the Pre-test for the Intervention Group and Control Group

Before the intervention, the largest proportion of the intervention group had moderate (50%) and low (41.2%) knowledge levels, while only 8.8% had good knowledge.

Knowledge Level	Intervension Group		Control Group	
	Post test		*Post Test*	
	n	%	*n*	%
Low			8	23,5
moderate	8	23,5	21	61,8

Knowledge Level	Intervension Group		Control Group	
	Post test		*Post Test*	
	n	%	*n*	%
High	26	76,5	5	14,7
Total	34	100	34	100

Frequency Distribution of Knowledge Level Categories in the Post test for the Intervention Group and Control Group

After the intervention, 76.5% reached good knowledge, and none remained in the low category. In contrast, the control group showed no substantial improvement, with a post-test distribution of 61.8% moderate, 23.5% low, and 14.7% good knowledge.

		Knowledge level				
	Kelompok	*Low*	Moderate	*High*	Total	p value
Intervention	Pre Test	14	17	3	34	0,001
	Post Test		8	21	34	
Control	Pre Test	10	19	5	34	0,577
	Post Test	8	21	5	34	

The hypothesis test used was a nonparametric test using the Willcoxon test.

The Wilcoxon test results for the intervention group revealed a p-value of < 0.001, indicating a statistically significant improvement in knowledge levels from pre-test to post-test scores after the intervention. This stark contrast highlights the effectiveness of the educational strategies employed. In the intervention group, 76.5% of the participants achieved a good knowledge level post-test, compared to only 8.8% prior to the intervention. Such a marked increase underscores the value of integrating interactive learning methods into health education.

Conversely, the control group did not exhibit any meaningful improvement, achieving a p-value of 0.577, which suggests that their knowledge levels remained largely unchanged throughout the study. This lack of significant difference reinforces the conclusion that without the benefits of dynamic educational interventions, such as those provided by the Menstruation Magic Spin Wheel, there is minimal enhancement in adolescent girls' understanding of menarche.

The findings align with Piaget's theory of cognitive development, particularly the concept that children in the concrete operational stage learn more effectively through engaging and visual experiences. Interactive tools like the Menstruation Magic Spin Wheel facilitate this style of learning by allowing students to actively participate rather than passively receive information. This participatory approach encourages deeper retention of knowledge around crucial topics such as menarche and menstrual hygiene, ultimately fostering a more supportive learning environment.

Moreover, the results support the PRECEDE-PROCEED model proposed by Green & Kreuter. The model emphasizes the importance of addressing predisposing, enabling, and reinforcing factors in health education. Specifically, the successful implementation of the Menstruation Magic Spin Wheel can be attributed to its role as both an enabling factor—providing visual and interactive engagement—and a reinforcing factor—encouraging positive interactions and discussions about menstruation among peers.

The study findings echo the need for innovative educational tools that are specifically tailored for young learners. By using a medium that resonates with children, educators can significantly improve their readiness to face menarche, thereby reducing anxiety and promoting proper menstrual hygiene practices. This aligns with existing literature, which underscores the crucial role of age-appropriate, engaging health education in shaping adolescents' understanding of their bodies and reproductive health (Sommer et al., 2015; Notoatmodjo, 2012).

Ultimately, integrating interactive media into health education curricula not only enhances knowledge retention but also fosters a positive attitude towards discussing reproductive health topics openly. This could potentially lead to improved personal hygiene practices and overall better health outcomes among young girls as they transition into womanhood. Therefore, schools are encouraged to implement such innovative educational strategies systematically, ensuring that all students receive comprehensive and supportive guidance as they navigate this critical phase of their development.

4. CONCLUSION

Health education using the Menstruation Magic Spin Wheel has proven to significantly enhance knowledge about menarche among elementary school girls. The results indicate that this interactive media engages students effectively, leading to increased understanding and confidence regarding menstruation. By promoting a fun and participatory learning experience, the Menstruation Magic Spin Wheel helps demystify menstruation and encourages open discussions about this important topic.

Given its positive impact, this educational tool is highly recommended for reproductive health programs in primary schools. Integrating the Menstruation Magic Spin Wheel into the curriculum can foster early awareness among girls and help reduce stigma surrounding menstruation, ultimately empowering them with the knowledge they need to navigate this vital stage of their development.

Suggestions

1. Health educators and midwives should adopt interactive media like the Magic Spin Wheel to educate preadolescent girls.
2. Schools should integrate such methods into their health education curriculum.
3. Further studies can explore long-term knowledge retention and emotional readiness post-intervention.

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