

Feasibility Study of Website-Based Educational Media “Sahabat Disminore”

Meti Widiya Lestari*, Uly Artha Silalahi, Fadila Putri

Department of Midwifery, Poltekkes Kemenkes Tasikmalaya, West Java, Indonesia

*Corresponding Author: meti.weel@gmail.com



ARTICLE INFO

Article History:

Received: 2024-11-02

Accepted: 2024-12-25

Published: 2024-12-31

Keywords:

Dysmenorrhea; teenage girls; website-app.

ABSTRACT

Introduction: Dysmenorrhea is a reproductive health problem that is often experienced by adolescent girls and requires special attention from midwives. To overcome this, effective health promotion is needed. In this digital era, the use of mobile devices is increasing, including easy-to-access website access, so that searches can be done anytime and anywhere for information. Midwives can take advantage of this opportunity to conduct health promotion, one of which is by using the website as a means to provide information related to dysmenorrhea. A common problem faced by teenage girls is dysmenorrhea, which requires serious attention from midwives. Appropriate health promotion, including media, must be attractive and accessible quickly and easily. The purpose of this study was to know the feasibility of a website-based educational media design for adolescent girls regarding the early treatment of dysmenorrhea.

Methods: This research method uses the Research and Development (R&D) method. The sample was 38 adolescent girls. Sampling used a purposive sampling technique calculated using the Slovin formula. The field test was conducted at SMK Negeri 1 Tasikmalaya City in April - May 2023. Data collection was carried out using interview methods and filling out questionnaires. The feasibility test was carried out by media experts and material experts.

Results: The results of this Research and Development are website-based educational media "Sahabat Dysmenorrhea" which contains dysmenorrhea and early treatment of dysmenorrhea. In the validity test, an average percentage of 92% was obtained from material experts with a very feasible category and an average percentage of 88% from media experts with a very feasible category. The results of the small group trial were 94.24% with a very feasible category and the results of the field trial were 90.07% with a very feasible category.

Conclusion: From the results of this study, it can be concluded that the "Sahabat Dysmenorrhea" website is very suitable for use as an educational media health promotion in dealing with dysmenorrhea in adolescent girls student.



©2024 by the authors. Submitted for possible open-access publication under the terms and conditions of the Creative Commons Attribution (CC BY SA) license (<https://creativecommons.org/licenses/by-sa/4.0/>)

INTRODUCTION

Dysmenorrhea can cause spasmodic pain and congestive pain. Spasmodic pain can cause pain in the lower abdomen and begins before menstruation or immediately after menstruation begins, resulting in nausea, vomiting and even fainting (Tien Aulia Rahmawati, 2021). Congestive pain can cause pain in both breasts, bloating, headaches, backaches, sore thighs, irritability, feeling

tired, careless, disturbed sleep, and bruising on the thighs and upper arms (Lestari, 2013). Pain during menstruation causes discomfort in women. In adolescents in school, dysmenorrhea often causes absenteeism or decreased concentration and performance in class (Armour M, 2019).

The prevalence of dysmenorrhea from WHO in 2017 showed that 1,769,425 people (90%) of women experienced dysmenorrhea, with 10-15% of them experiencing severe dysmenorrhea. In Indonesia, the incidence of dysmenorrhea is 107,673 people (64.25%), consisting of 59,671 people (54.89%) experiencing primary dysmenorrhea and 9,496 people (9.36%) experiencing secondary dysmenorrhea (Yulia Irvani Dewi, 2021). Meanwhile, in West Java, the incidence of dysmenorrhea is quite high. Study results found that (54.9%) of women experienced dysmenorrhea, consisting of (24.5%) experiencing mild dysmenorrhea, (21.28%) experiencing moderate dysmenorrhea and (9.36%) experiencing severe dysmenorrhea (Yugianti RR, 2022).

Dysmenorrhea treatment needs to be done to minimize the pain felt by women so that it does not interfere with their comfort during activities. (Rudoph, 2016) One effort in treating dysmenorrhea can be made through health education. The purpose of this education is to increase women's knowledge about efforts to treat dysmenorrhea and prevent dysmenorrhea from occurring (Haditya, 2022).

Dysmenorrhea treatment education has been widely carried out by health workers, but the incidence of dysmenorrhea is still high so breakthroughs are needed to improve women's health (Armour M, 2019). Limited resources and access to health services are often obstacles for women not to go to midwives and/or health center (Yislin Aplona Aka Kale, 2022). This causes many women to be unaware of dysmenorrhea treatment and consider it a common thing. Therefore, the use of technology is one of the efforts to improve health promotion for women (Weichbroth, 2020).

In this digital era, the intensity of the use of mobile computing devices is increasing, including the use of websites as a popular learning media currently used by the public, this happens because websites are easy to access so finding various information can be easier to get anywhere and anytime. (Gupta, 2023). One of the information that people often look for is information about handling various diseases that can be done at home as an initial treatment effort, this can be utilized as well as possible by health workers, especially midwives, in making breakthroughs in promoting women's reproductive health such as dysmenorrhea through website media (Diyan Zahra Diyan, 2024).

The study aimed to test the feasibility of the educational media 'Sahabat Desminore' application as an innovative and useful educational media for increasing adolescents' knowledge and awareness of the prevention and treatment of dysmenorrhea pain.

METHOD

The method used in this research is Research and Development, the development research conducted by researchers is to conduct preliminary field testing of the website-based 'Sahabat Desminore' application.

The product design stages carried out are: Determining the topic of material or educational content to be developed and tailored to the needs of adolescents, Designing a script on the prevention and handling of desminorrhoea, Designing the appearance of the content that you want to display, Making applications in accordance with the results of the design that has been compiled.

After the product is finished, the next stage is the validity test of a team of experts, the criteria for determining expert subjects are at least S2 education, experience, and expertise in their fields according to science. Aspects of material studies are reviewed in the form of content quality, presentation, language, and context. For the media, aspects are reviewed in the form of content, appearance, and language.

The field test was conducted at SMK Negeri 1 Tasikmalaya City in April - May 2023 with a total sample of 38 adolescent girls, 8 people for small-scale trials and 30 people for field trials. The sampling technique used was purposive sampling. Data collection was carried out by interview and questionnaire filling methods.

This research uses mix methods analysis following the development procedures carried out. The results of the assessment scores from each material expert validator and media expert were then averaged and converted into statements to determine the validity and feasibility of the 'best friend desminore' website with the following categories: 1 = Very less feasible, 2 = Less feasible, 3 = Quite feasible, 4 = Feasible, 5 = Very feasible with a total score of 50 points. (Sugiyono, 2017) (Setyosari, 2018)

This research has passed the ethical review stage and was published by the Research Ethics Commission by KEPK (Health Research Ethics Commission) Poltekkes Kemenkes Semarang with ethical number No. 0641/EA/KEPK/2023.

RESULTS

The product produced in this study is a website-based educational media for adolescent girls who experience dysmenorrhea called "Sahabat Dysmenorrhea" containing material on dysmenorrhea and early treatment efforts for dysmenorrhea. The stages of research and development (R&D) in developing the "Sahabat Dysmenorrhea" educational media are as follows:

1. Describe the Design of the "Sahabat Dysmenorrhea" Website

The "Sahabat Dysmenorrhea" website is a reproductive health education media that utilizes technological advances to overcome dysmenorrhea with the hope of being able to carry out early treatment for dysmenorrhea independently. The materials explained on the website include the definition of Dysmenorrhea, Classification of Dysmenorrhea, Causes of Dysmenorrhea, Symptoms of Dysmenorrhea, Pharmacological Treatment, Non-Pharmacological Treatment including Relaxation Gymnastics, Deep Breathing Relaxation, Classical Music, Turmeric and Tamarind Herbal Medicine, Aromatherapy, and Warm Compresses.

Dysmenorrhea exercise has been proven to increase endorphin levels 4-5 times in the blood, so the more you do exercise/sports, the higher the endorphin levels will be. (Jama, 2020). Deep breathing relaxation causes blood vessels to dilate and increases blood flow to areas that are experiencing tension (Yuni Handayani, 2022). Deep breathing helps teenagers to relax and reduce pain (Sugiharti RK, 2019).

2. Creating a Website Design for "Sahabat Dysmenorrhea"

a. Conducting a needs analysis in the field

The problems found during the preliminary study of adolescents in the SMKN 1 Tasikmalaya environment on November 5, 2022, through the distribution of online questionnaires using Google Forms, obtained data that 12 out of 15 female adolescents at SMKN 1 Tasikmalaya experienced dysmenorrhea, the majority of whom wanted to learn about early treatment of dysmenorrhea and were more interested in digital learning media (Diyan Zahra Diyan, 2024).

b. Creating a product design for "Sahabat Dysmenorrhea"

At the stage of creating the "Sahabat Dysmenorrhea" website, namely using the Bootstrap framework, bootstrap is a CSS, HTML, and JavaScript framework that functions to design responsive websites quickly and easily. The design philosophy of the "Sahabat Dysmenorrhea" website with peach color was chosen as the dominant color because peach is a mixture of yellow and pink. This peach colour is believed to have a happy and calming effect. Color is used as a guide and attention-grabbing tool for important information (Arsyad, 2017)The website design can be seen in Table 1.

Table 1. Initial Display Design of the Product “Sahabat Dysmenorrhea”

Website view on smartphone	Website view on computer/laptop
	

c. Conducting a Feasibility Test of the “Sahabat Desminore” Website

The assessment of the website-based educational media “Sahabat Dysmenorrhea” by material experts consisted of two revisions. The results of the first validation with material experts scored 45 out of a total score of 50 points or obtained a score of 90%, included in the very feasible category and provided suggestions for revision, including: Adding images or videos to each slide, deepening the material, adding CVs, adding non-pharmacological treatment, namely endorphin massage, and adding one special reference slide. According to research, endorphin massage can reduce dysmenorrhea pain (Rahayu A, 2017). The assessment of the website-based educational media “Sahabat Dysmenorrhea” by material experts consisted of two revisions. The results of the first validation with material experts scored 45 out of a total score of 50 points or obtained a score of 90%, included a very feasible category, and provided suggestions for revision, including: Adding images or videos to each slide, deepening the material, adding CVs, adding non-pharmacological treatment, namely endorphin massage, and adding one special reference slide. According to research, endorphin massage can reduce dysmenorrhea pain.

Table 2. Results of the Material Expert Validity Test

No.	Assessed Aspects	Assessment Score		Average
		Revision (1)	Revision (2)	
1.	Content Feasibility Components	7	8	7.5
2.	Presentation Feasibility Components	19	20	19.5
3.	Language Feasibility Components	10	10	10.0
4.	Contextual Feasibility Components	9	9	9.0
	Total point	45	47	46.0
	Average	4.5	4.7	4.6
	Percentage (%)	90%	94%	92%
	Category	Very Feasible	Very Feasible	Very Feasible

After the product is finished, the next stage is to test the validity of the expert team. The criteria for determining the expert subject are a minimum of master's education, experience and expertise in the field according to science. The assessment of the website-based educational media “Sahabat Dismenore” by media experts consisted of two revisions. The results of the first validation by media experts scored 43 out of a total score of 50 points or obtained a score of 86, included in the very feasible category and provided suggestions for

revisions, including resizing images to a smaller size so that images on the website do not take too long to load. The results of the second validation by media experts scored 45 out of a total score of 50 points or a score of 90%, included a very feasible category, and can be used without revision. From the results of the second validation by media experts, there was an increase in score of 2 points from the results of the first validation. Based on the feasibility assessment by media experts twice, an average value of 4.4 or 88% was obtained. So the media on the "Sahabat Dismenore" website has a very feasible category. The results of the media expert test can be seen in Table 3

Table 3. Results of the Media Expert Validity Test

No.	Assessed Aspects	Assessment Score		Average
		Revision (1)	Revision(2)	
1.	Content Eligibility Component	8	10	9
2.	Appearance Eligibility Component	26	26	26
3.	Language Eligibility Component	9	9	9
	Total	43	45	44
	Average	4.3	4.5	4.4
	Percentage (%)	86%	90%	88%
	Category	Very Feasible	Very Feasible	Very Feasible

d. Conducting a Trial of the "Sahabat Dysmenorrhea" Website

A small group trial assessment was conducted on 8 female adolescents by giving them a 10-question questionnaire with a rating scale of 1-5, namely: 1 = Very inadequate, 2 = Less adequate, 3 = Quite adequate, 4 = Adequate, 5 = Very adequate with a total score of 50 points. Based on Table 4, it is known that 7 respondents have a score of more than 40 points with a percentage of more than 80% which is included in the very adequate category and 1 respondent has a score of 40 points with a percentage of 80% which is included in the adequate category. In this small group trial, the final average score of 8 respondents was 47.12 or 94.24%, so it is included in the very adequate category. The results of the small group trial can be seen in Table 4.

Table 4. Results of the Small Group Trial

No.	Respondent	Respondents' Likert Scale Values				
		1	2	3	4	5
1.	8	-	-	3	17	60
	Total	-	-	9	68	300
	Total point			377		
	Average			47.12		
	Percentage (%)			94.24%		
	Category			Very Feasible		

After the website trial on a small group, a field trial was conducted on 30 adolescent girls by giving the same media feasibility assessment questionnaire and the same assessment method. It is known that 26 respondents have a score of more than 40 points or more than 80%, then they are included in the very feasible category, and 4 respondents have a score of less than or equal to 40 points with a percentage of less than or equal to 80%, then they are included in the feasible category. From the 30 respondents, the average value was obtained of 45.034 or 90.07%. So based on these results, the educational media website "Sahabat Dismenore" is included very feasible category.

Next, the website is loaded onto a hosting so that it can be accessed. The following is the website address for "Sahabat Dysmenore": <http://www.sahabat-dysmenore.com>. The results of the field trial can be seen in Table 5.

The results of the field trials can be seen in Table 5.

Table 5. Results of Field Trials

No.	Respondent	Respondents' Likert Scale Values				
		1	2	3	4	5
1.	30	-	-	15	119	166
	Total	-	-	45	476	830
	Total point			1351		
	Average			45.034		
	Percentage (%)			90.07%		
	Category			Very Feasible		

DISCUSSION

Interpretation of Key Findings

The Sahabat Dysmenorrhea website is a reproductive health education media that utilizes technological advances to overcome dysmenorrhea with the hope that adolescent girls who experience dysmenorrhea can carry out initial dysmenorrhea treatment independently (Anwar KK, 2021). The materials explained on the website include the definition of Dysmenorrhea, Classification of Dysmenorrhea, Causes of Dysmenorrhea, Symptoms of Dysmenorrhea, Pharmacological Treatment, Non-Pharmacological Treatment including Relaxation Exercises, Deep Breathing Relaxation, Classical Music, Turmeric and Tamarind Herbal Medicine, Aromatherapy, and Warm Compresses (Yuni Handayani, 2022). Based on previous research, it was stated that technology in the health sector can support increasing public knowledge about health information very quickly (Rehatta NM, 2019). Health problems can be overcome with adequate knowledge through information from the internet or websites (Nurholipah, 2021). This increase in knowledge can help adolescents in overcoming and preventing dysmenorrhea problems (Sugiharti RK, 2019).

Comparison with Previous Studies

The comparison of the Sahabat Disminore website with previous studies is the completeness of the content and content contained in the website. Earlier research by Eva Purwaningsih et al, 2020 on the Design of the Android Application "Si Bulan Merah", this application contains initial handling of dysmenorrhea problems where final handling and prevention are not included in this application. Then the next study by Nyna Puspita Ningrum et al, 2019 on the Use of the Menstrual Calendar Application and Dysmenorrhea contains a calendar that determines whether adolescents' menstrual cycle is normal. On this website, there is no prevention or handling of abnormal menstrual cycles and dysmenorrhea (Eva Purwaningsih, 2020).

Based on previous research, innovation is needed for dysmenorrhea handling applications that contain prevention and intervention, so that adolescents can benefit from it and get complete information (Maidartati HA, 2018). Sahabat Desminore has advantages in content and midwifery care that can be applied in overcoming dysmenorrhea. In addition, Sahabat Desminore contains many complementary therapies such as breathing relaxation, aromatherapy, and warm compresses that can be done by teenagers to overcome pain.

Implications for Public Health

The implications of our study extend to the realm of public health by providing innovation and utilization of technology in overcoming the health problems of teenagers with dysmenorrhea.

The existence of educational media "Sahabat Dysmenorrhea" is based on the website that can be used as a guideline for early handling of dysmenorrhea. For example, this website can be used as a reference for literature and reference materials regarding early handling of dysmenorrhea based on the website which is a development of health program information technology. Our research has a broader goal of handling dysmenorrhea in teenagers in Indonesia. By using the Sahabat Dysmenore website, teenagers can digitize and have an interest in reading health information, so this research can create a healthy and intelligent generation.

Limitations and Cautions

In addition to the many benefits of our research and the Sahabat Dysmenore website. The Sahabat Dysmenorrhea website that was created is not free from shortcomings, namely the Sahabat Dysmenorrhea website that was created can only be accessed when using cellular data or a Wi-Fi network.

Recommendations for Future Research

For further researchers, this website is a reference material for conducting similar research with other methods or for continuing this research by testing the effectiveness of the website-based educational media "Sahabat Dysmenorrhea" in the early handling of dysmenorrhea.

CONCLUSION

From the results of this study, it can be concluded that the "Sahabat Dysmenorrhea" website is very suitable for use as an educational media in health promotion in dealing with dysmenorrhea in adolescent girls.

Conflicts of Interest: The authors declare that they have no affiliations with or involvement in any organization or entity with any financial interests in the subject matter or materials discussed in this manuscript.

Acknowledgments: The authors express their gratitude to Poltekkes Kemenkes Tasikmalaya for research funding, all pregnant women and midwives at Puspahiang Health Center, students, and lecturers at Poltekkes Kemenkes Tasikmalaya who are involved in research, as well as material experts and media experts, their valuable perspectives have significantly enriched the quality of our research.

REFERENCES

- Tien Aulia Rahmawati, Nur Ainy Fardana, Jimmy Yanuar Annas. 2021. Coping and Acceptance Pain with Quality of Life Adolescents With Primary Dysmenorrhea. Indonesian Midwifery and Health Journal. <https://doi.org/10.20473/imhsj.v5i4.2021.390-397>
- Lestari. (2013). Pengaruh dismenorea pada remaja. *Prosiding Seminar Nasional MIPA*. <https://ejournal.undiksha.ac.id/index.php/semnasmipa/article/view/2725>
- Armour M, P. K. (2019). The prevalence and academic impact of dysmenorrhea in 21,573 young women: a systematic review and meta-analysis. *Journal Womens Health*, 28(2), 1161–1171. <https://doi.org/10.1089/jwh.2018.7615>
- Yulia Irvani Dewi, Wice Purwani Suci, Erika. 2021. Prevalence Dysmenorrhea among Student at Indonesia. *Journal of Enfermeria Clinica*. <https://doi.org/10.1016/j.enfcli.2021.04.022>
- Yugianti RR, N. D. (2022). Efektivitas Massage Effleurage Dengan Minyak Lavender Untuk Menurunkan Nyeri Dismenore Primer. *Jurnal BIMTAS: Jurnal Kebidanan Umtas*, 6(1), 10–21. <https://journal.umtas.ac.id/index.php/bimtas/article/view/2432>
- Diyan Zahra Diyan, A. N. (2024). Pemanfaatan Teknologi dalam Bidang Kesehatan Masyarakat. *Jurnal Kesehatan Masyarakat*. <https://doi.org/10.62710/tc285w32>
- Rudolph. (2016). Dysmenorrhoea among Hong Kong university students: prevalence, impact, and management. *Medical Journal*. <https://doi.org/10.12809/hkmj133807>

- Yislin Aplona Aka Kale, Plus Weraman, Indriati A Tedju Hinga. 2022. Risk Factors for Primary Dysmenorrhea in Students of Public Health Faculty, Nusa Cendana University. Timorese Journal of Public Health. <https://doi.org/10.35508/tjph.v4i3.7508>
- Weichbroth. (2020). Usability of mobile applications: A systematic literature study. 6(55), 63–77. <https://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=9042272>
- Sugiyono. (2017). Metode Penelitian Pendidikan Pendekatan Kuantitatif, Kualitatif, dan R&D. Bandung: Alfabeta. https://digilib.unigres.ac.id/index.php?p=show_detail&id=43
- Setyosari, P. (2018). Metode Penelitian Pendidikan dan Pengembangan. Jakarta: Kencana Prenada Media Group. <https://books.google.co.id/books?hl=en&lr=&id=SnA-DwAAQBAJ&oi>
- Jama & Nurfiana (2021). Pengaruh Senam Dismenore terhadap Penurunan Tingkat Dismenore. Window of Nursing Journal, 26 -31. <https://doi.org/10.33096/won.v2i2.989>
- Yuni Handayani, Herlidian Putri, Yusy Septyane Nurita. 2022. Pengaruh Teknik Relaksasi Napas Dalam Terhadap Penurunan Nyeri Desminore. Jurnal Ilmiah Kebidanan. (5)1. <https://doi.org/10.56013/jurnalmidz.v5i1.1257>
- Sugiharti RK, F. D. (2019). Kebiasaan Minum Jamu Kunyit Asam Dalam Mengatasi Keluhan Dismenor Pada Remaja Putri. Jurnal Kebidanan Indonesia, 12(2). <https://www.jurnal.stikesmus.ac.id/index.php/JKebln/article/view/497>
- Anwar KK, R. D. (2021). Pengaruh Pemberian Terapi Murrotal Al-Qur'an Terhadap Penurunan Dismenorea Pada Remaja Putri di SMAN 9 Kendari. Jurnal Penelitian Health Information, 13(2). <https://doi.org/10.36990/hijp.v13i2.374>
- Rehatta NM, H. E. (2019). Anestesiologi Dan Terapi Intensif Buku Teks KATI-PERDATIN. Gramedia pustaka utama. <https://books.google.co.id/books?hl=en&lr=&id=>
- Nurholipah & Rina Nuraeni (2021). Aromaterapi Lavender terhadap Intensitas Nyeri Haid (Dysmenorrhea) pada Mahasiswi Tingkat II. Jurnal Keperawatan Silampari, 5(1), 178–185. <https://doi.org/10.31539/jks.v5i1.2834>
- Rahayu A, P. S. (2017). Pengaruh Endorphine Massage Terhadap Rasa Sakit Dismenore Pada Mahasiswi Jurusan Kebidanan Poltekkes Kemenkes Tasikmalaya Tahun 2017. Jurnal Bidan "Midwifery Journal", 3(2). <https://www.neliti.com/id/publications/234031/pengaruh-endorphine-massage-terhadap-rasa-sakit-dismenore-pada-mahasiswi-jurusan>
- Eva Purwaningsih, D. A. (2020). Perancangan Aplikasi Android " Si Bulan Merah" Sebagai Sarana Pendidikan Kesehatan Terhadap Penanganan Awal Desmenorhea Pad Remaja. Jurnal Kesehatan Medika Saintika, 11(2). doi: <https://doi.org/10.30633/jkms.v11i2.597>
- Maidartati HA, A. H. (2018). : Efektivitas terapi kompres hangat terhadap penurunan nyeri dismenore pada remaja di Bandung. Jurnal Keperawatan BSI, 6(2), 156–164. <https://ejournal.bsi.ac.id/ejurnal/index.php/jk/article/download/4357/pdf>