Original Article :

The Effect of Educative Blog Health Education in Preparation for Childbirth on the Knowledge of Pregnant Women Primigravida Trimester III.

Yan Sartika , Christina Desbella B. Putriani , Findy Hindratni , Septi Indah Permatasari

Department of Midwifery, Health Polytechnic of Riau, Riau, Indonesia .

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Corresponding Author:

Yan Sartika, Jl.
Melur No.103, Sukajadi, Pekanbaru, Riau, Indonesia, 28294.
Email: yansartika695@gmail.com - Phone: +62 813-7172-4847

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Abstract

Background and Aims:
Maternal labor-readiness will help mothers to be more willing to face their labor smoothly and prevent high maternal and infant mortality rates. Then the easy way to use blog applications as a medium to meet information needs is expected to help third trimester pregnant women in preparing for their labor. Educational blogs can be an innovation in health education for pregnant women. The purpose of this study was to determine whether there is an effect of educational blogs on the knowledge of third trimester primigravid women about labor preparation in the Payung Sekaki Health Center area, Riau, Indonesia.

Methods:
This type of experimental research used a One Group Pretest-Posttest research design that included 60 primigravid women who were randomly selected and met the inclusion requirements. This research was conducted at the Payung Sekaki Community Health Center Riau, Indonesia in August-December 2022. Statistical tests were conducted using paired sample t-test.

Results:
The results showed that the average score of Pre-Test knowledge was 70.80 and Post-Test 88.60 and there was an effect of using educational blog media on the knowledge of third trimester primigravid women about labor preparation in the Payung Sekaki Health Center area ($p < 0.05$) with an increase in knowledge by 25.14%.

Conclusions:
It is expected that health workers can optimize the use of educational blogs in providing health education as a promotional effort, especially regarding childbirth preparation.

Keywords:
Educational Blog, Knowledge, Pregnancy, Primigravida.

Introduction

Trimester III pregnancy is a period that is more directed to the real events to become parents who are waiting for the birth of a child [1,2]. A mother who has a sufficient level of knowledge, will not be haunted by

anxiety to deal with changes during pregnancy and childbirth later [3].

The readiness of labor that the mother has, will help the mother to be more willing to face her labor smoothly, confidently, and not feel anxious so as to avoid the risk of emergencies, namely vomiting and loss of appetite, high fever, bleeding, premature rupture of amniotic fluid and fetal movement (10x / 12 hours) [4,5].

Women's labor readiness rates in developing countries are low at 47.8% in Indora city of India, 17% in Ethiopia, 23% in Ghana, and 34.9% in IfeIfe, Nigeria [6]. The low readiness for childbirth in these places, has led to high maternal and infant mortality rates reaching 462/100,000 live births, while in developed countries it is 11/100,000 live births [7].

The need to fulfill knowledge needs has become more attainable, thanks to social media. Through these platforms, communication knows no boundaries, irrespective of distance or time [8,9]. The modern day and age is witnessing a remarkable development of this medium which is evidenced by the presence of various social media platforms, such as blogs, Facebook, Twitter, Instagram and so on [10,11].

Extension media in the form of printed, projected, and audio-visual is very important because the media can stimulate the thoughts, feelings and will of the audience. One of the media that can be used in providing counseling is electronic media. Electronic media is growing along with the development of the globalization era [8,11,12]. Smartphones are electronic media that are commonplace in today's society [13,14]. The use of smartphones in Indonesia is predicted to continue to increase. Smartphone users are already more than half of the population in Indonesia or 56.2% in 2018. A year later, there were 63.3% of Indonesians using this electronic device. It is undeniable that the use of smartphones will increase over time [15]

The choice of using a website to access information related to pregnancy during a pandemic can be one of the breakthroughs in enriching the knowledge of pregnant women during that time [13,16]. Efforts to improve pregnant women's knowledge about childbirth preparation during the pandemic have been made by the government, which facilitates the use of technology over routine face-to-face services [17,18]. Communication technology used can be in the form of special call centers for MCH services, eduhealth websites in the form of educational web/blogs, and telemedicine applications [2,18].

In 2020, the number of pregnant women in the Payung Sekaki Health Center area was 2,476 people. This number is slightly reduced from the previous year. A survey

conducted on January 30 found that pregnant visits during December-January in the Payung Sekaki Health Center working area were 29 primigravida Trimester III pregnant women. During this pandemic, classes for pregnant women did not run and were not carried out either at the puskesmas or at clinics and PMBs in the Payung Sekaki Puskesmas working area. The limited antenatal care visits and pregnancy classes that are not running smoothly can lead to low knowledge and insight of pregnant women, especially for primigravida who do not have experience. This can also indirectly increase mortality and morbidity rates during pregnancy.

Based on the description above, the researcher has conducted a study entitled 'The Effect of Health Education Using Educational Blog Media on Pregnant Women's Knowledge About Childbirth Preparation in the Payung Sekaki Health Center Working Area, Pekanbaru City, Riau, Indonesia.

Methods

Design

This study used a quasi-experimental method with a one group pretest-posttest design.

Participants

This research was conducted at the Payung Sekaki Health Center Working Area, Pekanbaru City, Riau, Indonesia. Data collection on respondents was carried out directly using a questionnaire. This research was conducted in August-December 2022. This study involved 60 primigravida, who were randomly selected and met the inclusion requirements such as trimester 3 pregnant women, who have android phones and agree to become respondents.

Sample size

A total of 60 students were calculated using the Slovin's formula at $\alpha = 0.05$, and the total population was considered to be 81 people.

Study variables

The dependent variable in this study is the knowledge of pregnant women about the meaning of pregnancy, third trimester pregnancy, signs of risky pregnancy, efforts made during pregnancy, antenatal visits, the benefits of family support. The knowledge variable consists of 10 questions. The score range is between 0-10 with a good category if the score is > 6 and less good if the score is ≤ 6. The questions consist of positive and negative types.

Data collection

The data collection used a knowledge-based questionnaire consisting of 10 questions that had been tested on 15 students and declared valid after revision. Students who were willing to fill out the

questionnaire were those who had signed the research informed consent. In this study, the research team was assisted by 3 students from the Riau Poltekkes kemenkes who had been trained on how to fill out and how to explain the questionnaire to participants. Respondents filled out a questionnaire consisting of 10 questions before being given an intervention (pretest); then after filling out the questionnaire and handing it over to the research team, the researchers carried out the intervention and ended with filling out the questionnaire again to determine the effect of providing educational blog media intervention (posttest).

Statistical data

Presentation of characteristic data is done by providing an overview of the percentage distribution of variables. The numeric data is displayed in the form of mean data, standard deviation (SD) and minimum-maximum value of each variable (pre-post test). Data analysis used a numerical comparative analytic test paired t-test, because the data were normally distributed to determine the effect of the intervention on the knowledge of pregnant women. All data were analyzed using SPSS version 16.0 software with the assumption that it is significant if $p < 0.05$.

Ethical considerations

This research was approved by ethics No. LB.02.06/2/385/2022 from Health Polytechnic of Riau, Riau Province, Indonesia.

Results

The data that has been collected is presented using tables. The distribution of respondent characteristics can be seen in table 1.

Table 1. Distribution of respondent characteristics

Characteristics	n (%)	Mean±SD
Age		26.60±2.20
Working status		
Work	36 (60)	
Not working	24 (40)	
Education level		
Elementary	30 (50)	
Junior School	12 (20)	
High School	13 (21.7)	
College	5 (8.3)	
Antenatal visits		
≥ 4 times	27 (45)	
< 4 times	33 (55)	

Table 1 shows that the average age of respondents is 26 years old, the dominant work as self-employed and civil servants, the dominant education level is elementary school and respondents make visits predominantly < 4 times during pregnancy.

Table 2. Average score of pregnant women's knowledge about labor preparation using educational blog media

Knowledge	n	Mean±SD	Min	Max
Pretest	60	70.80±11.51	50	90
Posttest	60	88.60±6.37	75	100

Table 2 shows that there is a difference in the average score of knowledge before and after counseling with the average score of knowledge of primigravida before counseling on labor preparation using educational blogs is 70.80 and the average score of knowledge of primigravida after counseling on labor preparation using educational blogs is 88.60.

Table 3 Effect of Health Education Using Educational Blog Media on the Knowledge of Trimester III Primigravida Pregnant Women About Labor Preparation

Knowledge	n	p	Improved
Pretest	60	0.000	25.14
Posttest	60		

Table 3 shows that the results of the paired sample T-Test statistical test, are significant with a p value <0.05 and a percentage value of increasing knowledge of 25.14%. So it can be concluded that there is an effect of health education using educational blogs on the knowledge of primigravida Trimester III women about labor preparation.

Discussion

The COVID-19 pandemic has limited routine access to health services due to social distancing, affecting the quantity and quality of health services [19]. Educational blogs can be a visual medium of information that can be accessed easily, especially in the era of digitalization, which causes almost everyone to have a smartphone [20,21]. The selection of educational blog media as a medium for health education about childbirth preparation can be well received by respondents; this media provides health education in a way which is interesting and not monotonous [22].

The results of knowledge scores in this study are based on questionnaires before and after counseling using educational blog media. The results obtained showed that the average knowledge of pregnant women about labor preparation before being given health education with educational blog media was 70.80 (11.518) and increased after being given health education by 88.60 (SD: 6.377). The test result

obtained is the value of ρ = 0.000. The ρ value < α (0.05) with a percentage increase in knowledge amounting to 25.14%. So it can be concluded that there is an effect of health education using the educative blog on the knowledge of third trimester primigravida about labor preparation.

The difference in knowledge scores before and after the use of educational blogs occurs because the absorption capacity of each individual in processing educational blogs as learning media is very good while utilizing vision [23]. The absorption of each individual in the learning process using the sense of sight reaches up to 82% while hearing is 11%, touching is 3.5%, feeling is 2.5%, and smell is 1% [24].

In this study, the majority of primigravida pregnant women had the same mistakes in cultural preparation regarding the culture of consuming certain foods. This is still influenced by local culture and lack of information about the benefits of nutrients in foods that are taboo. After being given education with the Educational Blog, pregnant women became aware of the benefits and began to understand nutrition as one of the important things during pregnancy, especially respondents became more interested because of the easy to understand pictures and information.

Educational blogs that display information in the form of images, writings, and even videos are able to provide a clearer picture and can increase the understanding of respondents. This is supported by Notoadmojo, [23] which states that human knowledge is mostly obtained from the process of seeing, which is 75%, so it can be concluded that the delivery of learning that utilizes the sense of sight more will get the highest results.

The process of health education using blog media accompanied by images is intended to attract the attention of someone who will be given information. In addition, this study uses brief material, with simple language, and is easy to understand, which can make it easier for patients to read the contents of the blog. Health education, in this manner, serves to increase the knowledge of third trimester pregnant women regarding preparation for labor [25].

The results of this study are in accordance with research conducted by Ulfa, [26] who found that there was a significant difference in labor planning and prevention of complications before and after counseling. Therefore, it can be interpreted that there is an influence of counseling or health education on maternal knowledge, which has an overall positive impact on good health management.

The use of educational blogs in providing information and as a medium for counseling can increase knowledge [27,28]. This

is proven by Firmawati, [29] in her research which found that there is an effect of educational blogs about hypertension on the knowledge and behavior of hypertension diet in hypertensive patients in the working area of Puskesmas Wirobrajon Yogyakarta.

Health education, which is part of health promotion, is needed as an effort to increase awareness and knowledge of individuals and groups [30–32]. These promotional efforts can have an indirect impact in preventing maternal mortality and neonatal mortality. Educational blogs are easily accessible through smartphones and in accordance with the development of the digitalization era can be one of the innovations in health promotion efforts in the form of health education, especially for pregnant women.

Conclusions

Educational Blog Media proved to be effective in increasing the knowledge of Trimester III Primigravida about Childbirth Preparation in the Payung Sekaki Health Center Working Area.

References

1. Staneva AA, Wigginton B. The happiness imperative: exploring how women narrate depression and anxiety during pregnancy. Feminism & Psychology. 2018;28(2):173–93.
2. Battulga B, Benjamin MR, Chen H, Bat-Enkh E. The impact of social support and pregnancy on subjective well-being: A systematic review. Frontiers in Psychology. 2021;12:710858.
3. Tomfohr-Madsen LM, Racine N, Giesbrecht GF, Lebel C, Madigan S. Depression and anxiety in pregnancy during COVID-19: A rapid review and meta-analysis. Psychiatry research. 2021;300:113912.
4. Ponting C, Mahrer NE, Zelcer H, Dunkel Schetter C, Chavira DA. Psychological interventions for depression and anxiety in pregnant Latina and Black women in the United States: A systematic review. Clinical psychology & psychotherapy. 2020;27(2):249–65.
5. Ding W, Lu J, Zhou Y, Wei W, Zhou Z, Chen M. Knowledge, attitudes, practices, and influencing factors of anxiety among pregnant women in Wuhan during the outbreak of COVID-19: a cross-sectional study. BMC pregnancy and childbirth. 2021;21(1):1–9.
6. Agarwal S, Sethi V, Srivastava K, Jha PK, Baqui AH. Birth preparedness and complication readiness among slum women in Indore city, India. Journal of health, population, and nutrition. 2010;28(4):383.

7. Kemenkes Republik Indonesia. Profil Kesehatan Indonesia tahun 2020 [Internet]. Pusdatin. Jakarta; 2020. Available from: https://www.kemkes.go.id/downloads/resources/download/pusdatin/profil-kesehatan-indonesia/Profil-Kesehatan-Indonesia-Tahun-2020.pdf. Last accessed: 19 July 2022.
8. Anwar A, Malik M, Raees V, Anwar A. Role of mass media and public health communications in the COVID-19 pandemic. Cureus. 2020;12(9).
9. Reuter K, MacLennan A, Le N, Unger JB, Kaiser EM, Angyan P. A software tool aimed at automating the generation, distribution, and assessment of social media messages for health promotion and education research. JMIR Public Health and Surveillance. 2019;5(2):e11263.
10. Latif MZ, Hussain I, Saeed R, Qureshi MA, Maqsood U. Use of smart phones and social media in medical education: trends, advantages, challenges and barriers. Acta informatica medica. 2019;27(2):133.
11. Stellefson M, Paige SR, Chaney BH, Chaney JD. Evolving role of social media in health promotion: updated responsibilities for health education specialists. International journal of environmental research and public health. 2020;17(4):1153.
12. Mheidly N, Fares J. Leveraging media and health communication strategies to overcome the COVID-19 infodemic. Journal of public health policy. 2020;41(4):410–20.
13. Zayapragassarazan Z. COVID-19: Strategies for Engaging Remote Learners in Medical Education. Online Submission. 2020;9(273):1–18.
14. Zinger L, Sinclair A. Using blogs to enhance student engagement and learning in the health sciences. Contemporary Issues in Education Research (CIER). 2013;6(3):349–52.
15. Retalia R, Soesilo TD, Irawan S. Pengaruh Penggunaan Smartphone Terhadap Interaksi Sosial Remaja. Scholaria: Jurnal Pendidikan dan Kebudayaan. 2022;12(2):139–49.
16. Boreskie PE, Chan TM, Novak C, Johnson A, Wolpaw J, Ong A, et al. Medical education blog and podcast utilization during the COVID-19 pandemic. Cureus. 2022;14(3).
17. Wu H, Sun W, Huang X, Yu S, Wang H, Bi X, et al. Online antenatal care during the COVID-19 pandemic: opportunities and challenges. Journal of medical Internet research. 2020;22(7):e19916.

18. Özkan Şat S, Yaman Sözbir Ş. Use of mobile applications by pregnant women and levels of pregnancy distress during the COVID-19 (Coronavirus) pandemic. Maternal and Child Health Journal. 2021;25(7):1057–68.

19. Aziz. Telehealth for High-Risk Pregnancies in the Setting of the COVID-19 Pandemic. Jurnal Ilmiah Rekam Medis dan Informatika Kesehatan. 2020;

20. Alamiyah SS, Arviani H, Achmad ZA. Mothers medical-based experience as the most sought-after online information by new mothers during pandemic COVID-19. The Journal of Society and Media. 2021;5(1):78–98.

21. Chen X-W, Jiang L-Y, Chen Y, Guo L-F, Zhu X-H. Analysis of online antenatal education class use via a mobile terminal app during the COVID-19 pandemic. BMC Pregnancy and Childbirth. 2022;22(1):1–10.

22. Jefferly J. A Complete Guide To The Futures Market with Blog. 2019.

23. Notoadmojo. Promosi Kesehatan dan Perilaku Kesehatan. Jakarta: Rineka Cipta; 2014.

24. Wiroadmojo. Psikologi dan Self Improvement. Jakarta: Rineka Cipta; 2014.

25. Thiboutut et all. A web based patient activation intervention to improve-hypertension care: study design and baseline characteristics in the web hypertension study. https://media.neliti.com/media/publications/228933-pengaruh-blog-edukatif-tentang-hipertens-705c69c7.pdf. 2011;

26. Ulfa. Pengaruh Penyuluhan Terhadap Perencanaan Persalinan Dan Pencegahan Komplikasi Pada Ibu Hamil Beresiko Di Puskesmas Pundong Bantul. Naskah Publikasi. 2015;

27. Kamau M, Mirie W, Kimani S, Mugoya I. Effect of community based health education on knowledge and attitude towards iron and folic acid supplementation among pregnant women in Kiambu County, Kenya: A quasi experimental study. PloS one. 2019;14(11):e0224361.

28. Tuli A, Chopra S, Kumar N, Singh P. Learning from and with menstrupedia: Towards menstrual health education in India. Proceedings of the ACM on Human-Computer Interaction. 2018;2(CSCW):1–20.

29. Firmawati. Pengaruh Blog Edukatif Tentang Hipertensi Terhadap Pengetahuan Tentang Hipertensi dan Perilaku Diet Hipertensi pada Pasien Hipertensi di Wilayah Kerja Puskesmas Wirobrajan Yogyakarta. https://journal.umy.ac.id/

index.php/ijnp/article/view/649. 2015;

30. Permatasari TAE, Rizqiya F, Kusumaningati W, Suryaalamsah II, Hermiwahyoeni Z. The effect of nutrition and reproductive health education of pregnant women in Indonesia using quasi experimental study. BMC Pregnancy and Childbirth. 2021;21(1):1–15.

31. Gomes ML de S, Rodrigues IR, Moura N dos S, Bezerra K de C, Lopes BB, Teixeira JJD, et al. Evaluation of mobile Apps for health promotion of pregnant women with preeclampsia. Acta Paulista de Enfermagem. 2019;32:275–81.

32. Şat SÖ, Sözbir ŞY. Use of mobile applications and blogs by pregnant women in Turkey and the impact on adaptation to pregnancy. Midwifery. 2018;62:273–7.