DIFFERENCES IN KNOWLEDGE AND ATTITUDES OF PREGNANT WOMEN IN THE THIRTY TRIMESTER REGARDING LABOR PAIN MANAGEMENT WITH COMPLEMENTARY THERAPY THROUGH THE DEVELOPMENT OF INTERACTIVE E-MODULE MEDIA

Dianna[1], Henny Fitriani[2], Dini Fitri Damayanti[3], Devita Cahyani Putri[4]

[1,2,3,4]Poltekkes Kemenkes Pontianak, Pontianak, Kalimantan Barat
Email correspondence dianismail78@gmail.com

ABSTRAK : PERBEDAAN PENGETAHUAN DAN SIKAP IBU HAMIL TRIMESTER III TENTANG MANAJEMEN NYERI PERSALINAN DENGAN TERAPI KOMPLEMENTER MELALUI PENGEMBANGAN MEDIA E-MODUL INTERAKTIF

Latar Belakang: Seiring berlangsungnya proses pembukaan dan penipisan serviks, nyeri yang dirasakan oleh setiap ibu yang melahirkan akan semakin meningkat. Dari hal tersebut maka ibu hamil harus diberikan edukasi tentang bagaimana manajemen nyeri persalinan kala I. Salah satu media pembaruan yang dapat dikembangkan pada era digitalisasi 4.0 yaitu e-modul interaktif.

Tujuan: Menganalisis perbedaan pengetahuan dan sikap ibu hamil trimester III tentang manajemen nyeri persalinan dengan terapi komplementer melalui media e-modul interaktif.

Metode: Menggunakan metode quasy eksperimen, pendekatan *pre & posttest without control group design* pada 40 ibu hamil trimester III di wilayah kerja Puskesmas Segedong, menggunakan teknik simple random sampling. Pengambilan data menggunakan kuesioner. Analisis bivariat menggunakan uji Wilcoxon.

Hasil: Hasil penelitian diperoleh nilai p-value =<0,001 menunjukkan terdapat perbedaan pengetahuan dan sikap ibu hamil trimester III tentang manajemen nyeri persalinan dengan terapi komplementer

Kesimpulan: Terdapat perdedaan pengetahuan dan sikap ibu hamil trimester III tentang manajemen nyeri persalinan dengan terapi komplementer melalui pengembangan media e-modul interaktif

Saran: Pemanfaatan media dan referensi dalam penyuluhan saat kelas ibu hamil atau posyandu serta sebagai sumber pengetahuan.

Kata Kunci : E-Modul, Komplementer, Nyeri, Pengetahuan, Sikap

ABSTRACT

Background: As the process of cervical opening and thinning progresses, the pain felt by every mother who gives birth will increase. From this, pregnant women must be given education on how to manage labor pain in the first stage. One of the media updates that can be developed in the era of digitalization 4.0 is interactive e-modules.

Purpose: Analyzing the differences in knowledge and attitudes of pregnant women in the third trimester regarding labor pain management with complementary therapy through interactive e-module media.

Methods: Using the quasi-experimental method, pre & posttest approach without control group design on 40 pregnant women in the third trimester in the Segedong Health Center work area, using simple random sampling techniques. Data collection using questionnaires. Bivariate analysis using the Wilcoxon test.

Results: The results of the study obtained a p-value = <0.001 indicating that there are differences in knowledge and attitudes of pregnant women in the third trimester regarding labor pain management with complementary therapy

Conclusion: There are differences in knowledge and attitudes of pregnant women in the third trimester regarding labor pain management with complementary therapy through the development of interactive e-module media

Suggestions: Utilization of media and references in counseling during pregnancy classes or integrated health posts and as a source of knowledge.

Keywords: E-Module, Complementary, Pain, Knowledge, Attitude.

 DOI 10.33024, http://ejurnalmalahayati.ac.id/index.php/kebidanan

INTRODUCTION

When entering the first stage of labor, the mother will feel pain due to changes in the cervix (cervical thinning) and uterine ischemia. This painful sensation is mainly felt in the lower abdomen and spreads to the buttocks, back, and thighs during contractions, the pain will decrease between contractions. As the process of cervical dilation and expansion continues, the pain experienced by each mother will increase ((Fitriani et al., 2023; Fitriawati et al., 2020).

According to *the World Health Organization* (WHO), in 121 obstetric centers in 36 countries, there were only 15 births of pregnant women with no or mild pain. As many as 35% of births experienced moderate pain, 30% severe pain, and 20% very severe pain. Data from the Indonesian Health Profile conducted on 700 mothers in labor showed that only 15% of deliveries experienced mild pain, 35% experienced moderate pain, and 35% experienced severe pain, and 20% of births. Labor pain that is not effectively controlled can cause various problems, including increased anxiety during childbirth. This increases the production of the hormone adrenaline, which ultimately causes vasoconstriction, reducing blood flow from the mother to the fetus. Lack of oxygen and blood flow to the uterus and tissue ischemia can cause fetal hypoxia. This can prolong the labor process and increase maternal pain levels (Aslamiyah et al., 2021; Sari, 2020; Untari et al., 2022).

One of the intervention steps to reduce pain during labor can be implemented through non-pharmacological methods. Non-pharmacological approaches include various techniques such as breathing exercises, music therapy, massage, use of aromatherapy, *birth balls* , and others. These approaches have minimal risk of side effects, are affordable, and can be done by family or close people. This approach aims to help pregnant women stay calm and control the pain felt during labor (Fitriawati et al., 2020; Maimunah et al., 2023; Maolinda et al., 2025; Mutoharoh & Indrayani, 2019).

Adequate understanding of the labor process can help mothers cope with the pain that occurs during labor. Positive and negative factors influence a person's understanding of something. These two components will affect an individual's attitude. The more factors are known, the more likely the attitude will be more positive. Mothers have a negative view of labor pain management with complementary therapies because they do not know about the method. Therefore, pregnant women must be educated on how to deal with labor pain so that they can do what they need to do to reduce pain during the labor process (Astiasih et al., 2022; Rejeki, 2020).

Data from the West Kalimantan health profile, Mempawah Regency is a Regency with the highest coverage of deliveries in health facilities in West Kalimantan in 2022, which is 112%. Segedong Health Center is one of the Health Centers located in Segedong District, Mempawah Regency, based on data from the health center, the coverage of deliveries with health workers from January to September 2023 was 75.30%. The results of observations conducted by researchers at the Segedong Health Center in September - October 2023 showed that 72.2% of mothers who gave birth experienced severe labor pain, and 27.7% experienced moderate labor pain, 15.3% of 13 mothers who experienced severe labor pain experienced prolonged labor. When experiencing labor pain, no intervention was carried out to relieve labor pain, this was due to the lack of knowledge of mothers and families in managing pain in the first stage of labor and the lack of facilities to carry out labor pain management at the Health Center.

The industrial revolution 4.0, also known as the digital revolution, is a time when all aspects of life are integrated with technology and information. Medical services, health promotion, and many other medical purposes use terms *such as e-health, m-health, connected health* , and community health (A'Yunin, 2020). One of the learning media and development of extension media in the era of digitalization 4.0 is electronic media, for example, interactive electronic modules (*e-modules). E-modules* are information presented in book format and available through electronic media, so they can be read using *a smartphone* or laptop. The development of interactive *e-modules* is done through *Flip Builder. Flip Builder* is a program designed to help create learning materials in *Flip PDF Professional format.* One of the advantages of this *software* is the ability to insert videos directly into electronic modules which eliminates the need to open them elsewhere or use separate applications and there are various features such as connecting to the evaluation *web* and creating *tools* that can be connected to the desired page (Rindaryati, 2021; Setyawan & Roesminingsih, 2022).

Based on data from the Central Statistics Agency (BPS) in 2022, as many as 66.48% of the Indonesian population has used the internet. The large number of people who use internet access shows that they can adapt to technological advances, resulting in a society that is connected to information. The rapid development of mobile phones is largely responsible for the rapid growth of

internet users in Indonesia. The development of mobile phones has increased the number of internet users in Indonesia. In 2022, 67.88 percent of the Indonesian population had smartphones (BPS, 2022).

From this background, the author was motivated to create a development of useful health information media and conduct a study entitled "Differences in Knowledge and Attitudes of Pregnant Women in the Third Trimester regarding Labor Pain Management with Complementary Therapy Through the Development of Interactive *E-Module Media* " this study will be conducted in the working area of Segedong Health Center.

This study aims to analyze the differences in knowledge and attitudes of pregnant women in the third trimester regarding labor pain management with therapy through the development of interactive e-module media in the Segedong Health Center work area.

RESEARCH METHODS

This study is a quantitative study with a quasi-experimental design using a pretest & posttest without control group design approach. In this study, the experimental group was given health promotion on labor pain management with complementary therapy with interactive e-module media with a multimedia format that had been designed with PDF Professional. Before the intervention, a pretest was given to the group, then an intervention was given. After the intervention was completed, a post-test was given.

The population in this study consists of all third-trimester pregnant women in the working area of the Segedong health center in March 2024, totaling 167 people. The sample for this study is 40 third-trimester pregnant women. The determination of sample members used a simple random sampling technique, namely by making a list of names of pregnant women in the third trimester per village and then randomizing the names of all samples using a lottery system. The first lottery to fall became the first sample and so on to get the number of pregnant women in the third trimester per village that had been determined. The sample criteria were inclusion criteria including pregnant women who had smartphones, pregnant women who could read, willing to be research subjects, while the exclusion criteria were pregnant women who were not present during the research or implementation and pregnant women whose data could not be collected.

This study was conducted in the working area of Segedong Outpatient Health Center. Primary data collection in this study was conducted using a questionnaire by filling out a questionnaire. The data collected were regarding the knowledge status of third trimester pregnant women about labor pain management with complementary therapy and the attitudes of third trimester pregnant women about labor pain management with complementary therapy in third trimester pregnant women in the working area of Segedong Health Center. Secondary data sources in this study were obtained through data on the number of third trimester pregnant women per village taken from the monthly report of Segedong Health Center.

Filling out the questionnaire was used in the data collection process of this writing to identify respondents and obtain the information the author needed during the pre-test. The data taken included data on the level of knowledge and attitudes of pregnant women about labor pain management with complementary therapy. Then, according to the results of the respondent draw, the author shared the e-module link to respondents through a previously created WhatsApp group.

Univariate analysis is used to describe the characteristics of the variables studied. The results of this analysis will be presented in the form of frequency distribution and average of the characteristics of pregnant women in the third trimester, namely average age, gravida, last education, and occupation. Changes in knowledge and attitudes are first tested for data normality using Shapiro-Wilk. An alternative test if it does not meet the requirements of the paired t-test is to use the Wilcoxon test, namely with a significance level of 5% with a Confidence Interval (CI) of 95%. From the data analysis, it is known that p functions to test the significance of the relationship between the two variables. For of 0.05, the independent variable is said to be effective against the dependent variable if p 0.05 (Ha is accepted, H0 is rejected) otherwise p> 0.05 then (Ha is rejected, H0 is accepted).

RESEARCH RESULT

Univariate analysis

The table above shows the results of univariate analysis that describe the results of 40 respondents in this study, based on age, most respondents (75%) were mothers of healthy reproductive age, most respondents were multiparous (75%), most respondents had secondary education (87.5%) and most respondents did not work (52.5%).

 DOI 10.33024, http://ejurnalmalahayati.ac.id/index.php/kebidanan

Table 1
Frequency Distribution of Respondent Characteristics

Characteristics	Frequency	%
Age		
<20 years	3	7,5
20-35 years	30	75,0
>35 years	7	17,5
Number of pregnancies		
Primigravida	10	25,0
Multip	30	75,0
Education		
Base	2	5,0
Intermediate	35	87,5
Tall	3	7,5
Work		
Work	19	47,5
Doesn't work	21	52,5

Bivariate analysis

Table 2
Results of the Normality Test of Knowledge and Attitude Before and After Providing E-Modules

Variables	*Pre-test*	*Post-test*
Knowledge	0.040	<0.01
Attitude	0.58	0.18

The table above shows the results of the normality test for the knowledge score before being given the e-module shows a value of p> 0.05, while after being given the e-module the value is p < 0.05. This shows that the data is not normally distributed, so the data analysis uses the Wilcoxon Statistical test. For the attitude score, the results of the normality test before being given the e-module also show a value of p> 0.05, and after being given the e-module the value is p> 0.05. This shows that the data is normally distributed, so the data analysis uses the paired t-test.

Table 3
Differences in Knowledge Values of Pregnant Women Before and After Being Given the Module

Variabel	Median	Minimum	Maximum	*p value*
Knowledge				
Pretest	61	38	83	<0.001
Posttest	94	72	94	

The table above shows the results of the Wilcoxon test of knowledge of pregnant women in the third trimester with a p-value <0.05, this shows that there is a difference in knowledge before and after being given an e-module to pregnant women in the third trimester regarding labor pain management with complementary therapy in the Segedong Health Center work area.

Table 4
Differences in the Attitude Values of Pregnant Women Before and After Being Given the Module

Variabel	Mean±SD	*p*
Attitude		
Pre-test	25.43±2.308	<0.001
Post-test	35.00±2.320	

The table above shows the results of the paired t-test of the attitudes of pregnant women in the third trimester with a p-value <0.05, this shows that there is a difference in attitudes before and after the e-module was given to pregnant women in the third trimester regarding labor pain management with complementary therapy in the Segedong Health Center work area.

DISCUSSION

Differences in knowledge scores of pregnant women in the third trimester before and after being given an interactive *e-module*

The average value of knowledge of pregnant women in the third trimester before being given an interactive *e-module* on labor pain management with complementary therapy was 62.7, and after being given the intervention it increased to 90 points. The results of the *Wilcoxon test of* the difference in knowledge before and after being given *the e-module* in table 5.3 obtained *a p-value* = <0.001 (*p-value* <0.05), so it can be concluded that there is a difference in knowledge of pregnant women in the third trimester before and after being given *the e-module.*

Some pregnant women in the third trimester know quite well about labor pain management because they can easily access information via the internet, but many still do not know about specific indicators of labor pain reduction, especially pain management with complementary therapy (Heryani

et al., 2024; Skania et al., 2024; Yunika et al., 2022). Knowledge is not only obtained formally but also obtained informally. Knowledge is the result of human perception, or human knowledge of something through their senses (eyes, nose, ears, and so on). New behavior begins at the cognitive level, as known to the subject, before external stimuli trigger an internal response in the form of perception. Finally, known and complete stimuli will cause a deep response in the form of action. Knowledge of information plays an important role in accepting something because it is the first step for someone in choosing someone's attitude and behavior (Darsini et al., 2019; Rahmayanti & Oktafia, 2022).

Most respondents experienced an increase in knowledge scores about labor pain management with complementary therapy after being given health education with interactive (Oktapianti & Triyanti, 2022; Yunika et al., 2023)shows that there are differences in the knowledge of pregnant women about how to deal with pain during labor through health education with *power point* and leaflet media. Accurate and reliable information is very important for pregnant women to increase their knowledge. By providing accurate information and simple and appropriate health education, pregnant women get better information and can make the right decisions. The more information they get about health, the more experience they will gain and be able to broaden their horizons and increase their knowledge in dealing with labor pain (Veftisia & Khayati, 2019; Widyaningrum et al., 2024).

This study found that age, gravida, education, and occupation have a positive relationship with the attitude of pregnant women towards labor pain management with complementary therapy. Pregnant women who are older, multiparous, highly educated, and unemployed tend to have a more positive attitude. This shows that life experience, previous pregnancy experience, education level, and busyness of reading *e-modules* have a significant influence on pregnant women's knowledge of the use of complementary therapy. In this study, there were 3 respondents with knowledge scores that did not increase too high, while the others got quite high scores during *the posttest.* This shows that the ability to receive knowledge and the way a person responds to information is different. The cause can be from educational background, previous knowledge, and busyness so that they do not optimally understand the contents of *the e-module,* for example, lack of concentration with the information given, so that they are not interested, and so on.

Everyone has a different way of learning in terms of media. For example, some people understand better by writing, reading, listening, watching or learning directly. Another factor that plays a role in the formation of knowledge is the environment. The environment will support the level of knowledge. Culture will have a significant impact on a person's level of knowledge because new information will be filtered in such a way that it is more or less in accordance with the culture and religion of the person. Participants in this study came from different social and cultural backgrounds. The health education provided in this study used interactive *e-modules.* E-modules as learning media have met the feasibility test as learning materials to support teaching and learning activities with a percentage value or rate of >80% by media experts, learning material experts, even respondents also gave the same value or rate. This is proven in research conducted by Sholikha (2022) which states that there is a significant difference between before and after learning using *e-module media* (Sholikha et al., 2022).

The results of this study are in line with research conducted by Kurnia regarding the effect of nutrition education with *e-module media* on knowledge, attitudes, and nutritional behavior in *overweight* and obese adolescents. Providing health education with *e-modules* has an effect on increasing knowledge of health education in adolescents (Kurnia *et al.* , 2021)

Another study by (Asmariana, 2022)on the development of *e-modules* for maternal and child health books to improve maternal knowledge showed an increase in respondents with good knowledge and a significant difference was found between the level of knowledge before and after health education was provided (p = 0.000). Research by (Isti, 2022) on the effect of using preconception *e-modules* on healthy pregnancy preparation behavior in women of childbearing age with the results of the study found that there was a significant effect of using preconception *e-modules on pregnancy preparation behavior in women of childbearing age.*

Differences in the Attitude values of pregnant women in the third trimester before and after being given an interactive *e-module*

The mean value of the attitude score after the intervention increased from 24.5 to 35. This means that there was an increase in the attitude score of pregnant women in the third trimester regarding labor pain management with complementary therapy by 10.5 points. The results

 DOI 10.33024, http://ejurnalmalahayati.ac.id/index.php/kebidanan

of the *paired t-test on* the difference in attitudes before and after being given *the e-module* in table 5.4 obtained *a p-value* = <0.001 (*p-value* <0.05), so it can be concluded that there is a difference in the attitude of pregnant women in the third trimester before and after being given *the e-module.*

Most respondents experienced an increase in Attitude scores regarding labor pain management with complementary therapy after being given health education with interactive *e-module media. The increase in attitude scores can be influenced by various factors, one of which is the information received by respondents. Research by* (Devi, 2018) shows that there is a difference between the attitude scores of high-risk pregnant women using media before and after being given health information. Attitudes can be influenced by various factors because attitudes are emotional reactions to social stimuli, so they can be hidden (Zahra et al., 2021).

This study found that age, gravida, education, and occupation have a positive relationship with the attitude of pregnant women towards labor pain management with complementary therapy. Pregnant women who are older, multiparous, highly educated, and unemployed tend to have more positive attitudes. This shows that life experience, previous pregnancy experience, education level, and busyness of reading *e-modules* have a significant influence on the attitude of pregnant women towards the use of complementary therapy. In addition, personal experience also plays an important role in shaping a person's attitude, where events that have been experienced and are ongoing also influence social stimuli. Another factor that also influences is the influence of other people, which can change the attitude of pregnant women.

A person's understanding of an object consists of two components, namely positive components and negative components. These two components will shape the individual's attitude towards the object. The more positive components a person knows about the object, the more positive their attitude. Thus, the negative attitudes held by respondents are also influenced by the knowledge they have and how they respond to that knowledge (Darsini et al., 2019; Yulizawati et al., 2021; Zuraida, 2023).

Pain management during labor is very crucial to do because labor pain not only affects the physical but also the psychological. Perfect pain management can prevent labor complications in both the mother and the fetus. Reducing pain during labor can use various complementary methods because it is easy, cheap, minimal risk and other ways to reduce labor pain.

The researcher's assumption is that changes in respondents' perceptions *in the pretest* and *posttest* are influenced by several factors, including changes in respondents' views and thoughts about childbirth, where respondents initially thought that childbirth was painful, with the provision of health information about labor pain management with complementary therapy, respondents became aware that labor pain can be minimized. This knowledge will also create a positive attitude towards labor pain management with complementary therapy.

CONCLUSION

There is a difference in the knowledge scores of pregnant women in the third trimester before and after being given an interactive e-module on labor pain management with complementary therapy and there is a difference in the attitude scores of pregnant women in the third trimester before and after being given an interactive e-module on labor pain management with complementary therapy.

SUGGESTION

Utilization of media and references in counseling during pregnancy classes or integrated health posts and as a source of knowledge about handling first stage labor pain with complementary therapy so that complaints of pain experienced can be reduced and reduce the incidence of prolonged/obstructed labor and unpleasant labor experiences.

REFERENCES

A'Yunin, A. Q. (2020). Promosi Kesehatan di Era Digital. *Development Jago Preventif*.

Aslamiyah, T., Hardiato, G., & Kasiati, K. (2021). Reducing Labor Pain with Warm Compress on the 1st Stage Labor of Active Labor Phase. *Indonesian Midwifery and Health Sciences Journal*, *4*(4), 295–305. https://doi.org/10.20473/imhsj.v4i4.2020.295-305

Asmariana, Y. (2022). Pengembangan E-Modul Buku Kesehatan Ibu dan Anak untuk Meningkatkan Pengetahuan Ibu. *Jurnal Abdimas ADPI Sains Dan Teknologi*, *3*(3), 07–11. https://doi.org/10.47841/saintek.v3i3.224

Astiasih, T., Nurainih, N., & Prima, E. (2022). Hubungan Pengetahuan, Dukungan Suami, Sikap Ibu Hamil Trimester 3 Dengan Kecemasan Menghadapi Persalinan. *SENTRI: Jurnal Riset Ilmiah*, *1*(3), 716–727.

https://doi.org/10.55681/sentri.v1i3.282

BPS. (2022). *Statistik Telekomunikasi Indonesia 2022*.

Darsini, D., Fahrurrozi, F., & Cahyono, E. A. (2019). Pengetahuan ; Artikel Review. *Jurnal Keperawatan*, *12*(1), 95–107. http:///lppmdianhusada.ac.id/e-journal/index.php/jk/article/view/96

Fitriani, A., Friscila, I., & Jasmiati. (2023). *Asuhan Kebidanan Persalinan dan Bayi Baru Lahir*. Klaten : Penerbit Underline.

Fitriawati, L., Kurniawati, D., & Juliningrum, P. P. (2020). Perbedaan Tingkat Nyeri Persalinan Sebelum Dan Sesudah Terapi Acupressure Point For Locatation Pada Ibu Bersalin Kala 1 Di Rumah Sakit Jember Klinik Kabupaten Jember. *Jurnal Keperawatan Sriwijaya*, *7*(2), 11–16. https://jks-fk.ejournal.unsri.ac.id/index.php/jk_sriwijaya/article/view/98

Hartini, I. (2022). Pengaruh Penggunaan E-Modul Prakonsepsi Terhadap Perilaku Persiapan Kehamilan Sehat Pada Wanita Usia Subur Di Kabupaten Wonosobo Tahun 2022. *Journal of Health (JoH)*, *9*(2), 63–72. https://doi.org/10.30590/joh.v9n2.474

Heryani, P. T., Parwati, N. W. M., & Darmayanti, P. A. R. (2024). Kelas Antenatal: Persepsi Dan Dukungan Suami Terhadap Keikutsertaan Ibu Hamil. *Jurnal Riset Kesehatan Nasional*, *8*(1), 29–38. https://doi.org/https://doi.org/10.37294/jrkn.v8i1.544

Indrawati, N. D., Damayanti, F. N., & Nurjanah, S. (2018). Peningkatan Pengetahuan Dan Sikap Ibu Hamil Resiko Tinggi Dengan Penyuluhan Berbasis Media. *Jurnal Kebidanan*, *7*(1), 69–79. https://doi.org/10.26714/jk.7.1.2018.69-79

Maimunah, M., Friscila, I., Maolinda, W., & Zulliati, Z. (2023). Effectiveness Of Moxa And Acupressure Therapy For Changes In Fetal Presentation In PMB Delima WM. *Proceeding Of Sari Mulia University Midwifery National Seminars*, 1–8. https://ocs.unism.ac.id/index.php/PROBID/article/view/1154

Maolinda, W., Mohtar, M. S., Friscila, I., & Hasanah, S. N. (2025). Perbedaan Penggunaan Moxa dan Prenatal Yoga terhadap Perubahan Posisi Janin Abnormal. *Malahayati Nursing Journal*, *7*(3), 1071–1077. https://doi.org/10.33024/MNJ.V7I3.17489

Mutoharoh, S., & Indrayani, E. (2019). *Efektivitas Birth Ball Selama Kehamilan terhadap Lama Persalinan*. Penerbit LeutikaPrio.

Oktapianti, R., & Triyanti, D. (2022). Peningkatan Pengetahuan Ibu Hamil Tentang Cara Mengatasi Nyeri Saat Persalinan Melalui Penyuluhan Kesehatan. *JUKESHUM: Jurnal Pengabdian Masyarakat*, *2*(2), 119–124. https://doi.org/10.51771/jukeshum.v2i2.300

Prihatin, S., Tursilowati, S., Yuniarti, Y., & Larasati, M. D. (2021). Pengaruh Edukasi Gizi dengan Media E-Modul terhadap Pengetahuan, Sikap, dan Perilaku Gizi pada Remaja. *Jurnal Riset Gizi*, *10*(1), 1–10. https://doi.org/https://doi.org/10.31983/jrg.v10i1.7708

Rahmayanti, R., & Oktafia, R. (2022). Penyuluhan Manajemen Nyeri Persalinan Menggunakan Effleurage Massage Pada Ibu Hamil Trimester III. *Jurnal Abdimas Madani Dan Lestari (JAMALI)*, *4*(2), 106–110. https://doi.org/10.20885/jamali.vol4.iss2.art7

Rejeki, S. (2020). *Buku Ajar Manajemen Nyeri Dalam Proses Persalinan (Non Farmaka)*. Semarang: UNIMUS Press.

Rindaryati, N. (2021). E-Modul Counter Berbasis Flip Pdf pada Mata Pelajaran Penerapan Rangkaian Elektronika. *Jurnal Ilmiah Pendidikan Dan Pembelajaran*, *5*(2), 192–199. https://doi.org/https://doi.org/10.23887/jipp.v5i2.31240

Sari, E. (2020). Pengaruh Terapi Relaksasi Akupresur (Genggam Jari) Terhadap Nyeri Persalinan Kala I Aktif di Bidan Praktek Mandiri Afah Fahmi Surabaya. *Jurnal Kebidanan*, *8*(1), 12–21. https://doi.org/10.47560/keb.v8i1.129

Setyawan, O., & Roesminingsih, E. (2022). Implementasi Moodle: Sebuah Solusi Pembelajaran Online di Masa Pandemi. *JIPM (Jurnal Ilmiah Pendidikan Matematika)*, *11*(1), 38–50. https://doi.org/10.25273/jipm.v11i1.11080

Sholikha, S. M., Farid, M. M., & Andriansyah, E. H. (2022). Penggunaan Modul Digital Dalam Meningkatkan Prestasi Belajar Siswa Program Percepatan Sks Kota Surabaya. *Jurnal Ekonomi Pendidikan Dan Kewirausahaan*, *10*(1), 73–82. https://doi.org/10.26740/jepk.v10n1.p73-82

Skania, P. C., Halimatusyadiah, L., & Jamilah, J. (2024). The Effectiveness of Lavender Aromatherapy on Reducing Pain Intensity in The First Stage of Labor Active. *Jurnal Biologi Tropis*, *24*(3), 525–533. https://doi.org/https://doi.org/10.29303/jbt.v2

4i3.7405

Untari, S., Kumalasari, N., & Khodiyah, N. (2022). Pengaruh Aromaterapi Lavender Terhadap Nyeri Persalinan Pada Primipara Kala I Fase Aktif. *THE SHINE CAHAYA DUNIA KEBIDANAN*, *7*(2), 10–16. https://doi.org/10.35720/tscbid.v7i2.375

Veftisia, V., & Khayati, Y. N. (2019). Analisis Pengetahuan Ibu Nifas Tentang Tanda Bahaya Bayi Baru Lahir Di Wilayah Kabupaten Semarang. *Indonesian Journal of Midwifery (IJM)*, *2*(1), 43–48. https://doi.org/10.35473/ijm.v2i1.160

Widyaningrum, A. G., Hubeis, A. V. S., Sarwoprasodjo, S., & Matindas, K. (2024). Komunikasi Kesehatan Persalinan dalam Media Sosial: Kajian Literatur Sistematik. *Jurnal Ilmu Komunikasi*, *21*(3), 348–368. https://doi.org/10.31315/jik.v21i3.7843

Yulizawati, Fitria, H., & Chairani, Y. (2021). Modul Continutty of care (Tinjuan Asuhan Pada Masa Kehamilan, Bersalin, Nifas, Bayi Bayi Baru Lahir Dan Keluarga Berencana). In *Continutty Of Care (Tinjuan Asuhan Pada Masa Kehamilan, Bersalin, Nifas, Bayi Bayi Baru Lahir Dan Keluarga Berencana)*.

Yunika, R. P., Ulya, Y., & Herlina, S. M. (2022). Literatur Review: Pengaruh Terapi Non Farmakologi Terhadap Nyeri Persalinan Kala I Fase Aktif. *Journal Of Midwifery*, *10*(2), 127–136. https://doi.org/10.37676/jm.v10i2.3267

Yunika, R. P., Ulya, Y., & Herlina, S. M. (2023). Pendidikan Kesehatan tentang Penatalaksanaan Non Farmakologi untuk Mengurangi Nyeri Persalinan. *ADMA : Jurnal Pengabdian Dan Pemberdayaan Masyarakat*, *4*(1), 83–90. https://doi.org/10.30812/adma.v4i1.2794

Zahra, A. S., Fitriani, S., & Yogaswara, D. (2021). Perbedaan Pengetahuan dan Sikap Ibu Hamil Sebelum dan Sesudah Menggunakan Media Booklet tentang Stunting. *Jurnal Penelitian Dan Pengembangan Kesehatan Masyarakat Indonesia*, *2*(2), 123–128. https://doi.org/10.15294/jppkmi.v2i2.52427

Zuraida. (2023). Persepsi Terhadap Organisasi Ditinjau Dari Minat Berorganisasi Mahasiswa Jurusan Keperawatan Universitas Ratu Samban. *Jurnal Ilmiah PSYCHE*, *17*(1), 1–6. https://doi.org/https://doi.org/10.33557/jpsyche.v17i1.2513