

EFFORTS TO INCREASE PREGNANT WOMEN'S KNOWLEDGE ABOUT HIGH-RISK PREGNANCY WITH HEALTH EDUCATION

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Abstract

Pregnancy is a physiological condition that can become pathological if there are complications that affect the health of both the mother and the baby. Pregnant women need to be aware of potential high-risk pregnancy factors and understand the importance of early detection. Health education is an essential tool for improving pregnant women's knowledge in this area. The aim of this study is to explore the impact of health education on pregnant women's knowledge about high-risk pregnancy. To achieve this, we conducted a review of existing research sources obtained from Google and Google Scholar. The sources were taken within the last five years, from 2018 to 2022. A total of 13 articles were identified, consisting of national and international journals that focused on pregnant women who received interventions in the form of health education about high-risk pregnancy. The findings suggest that health education has a positive impact on pregnant women's knowledge and can help reduce the risks associated with high-risk pregnancies.

Keywords: Effectiveness, Health Education, High-Risk Pregnancy, Knowledge of Pregnant Women

1. INTRODUCTION

Pregnancy is a physiological condition experienced by women, which occurs due to the meeting of sperm cells with eggs, resulting in the formation of a zygote. This is followed by the formation of the placenta and the growth and development of the fetus. However, this physiological condition can become pathological if there is a problem that makes the pregnancy high-risk, which can cause complications and even maternal and fetal death if not treated immediately (Susanti et al., 2021).

High-risk pregnancies are those that can have adverse effects on pregnant women and babies, such as the presence of a disease or disorder that can cause complications during pregnancy and even death (Lestari & Nurrohmah, 2021). Various conditions during pregnancy that are included in high risk are hypertension, bleeding, infectious diseases, pregnancy at <20 years and >35 years of age, and pregnancies with a short interval between them (Budhi & Nurhayati, 2020). The hazards that can result from risky pregnancies include premature birth, low birth weight (LBW), abortion, bleeding before and after delivery, intrauterine fetal death (IUFD), and maternal death (Apriliasari & Pujiastuti, 2021).

Based on the 2020 Indonesian Health Profile, the maternal mortality rate (MMR) in Indonesia is very high, at 305 per 100.000 live births. The number of maternal deaths recorded by the family health program at the Ministry of Health in 2020 was 4.627 deaths in Indonesia, with most of the causes being high-risk events during pregnancy, including bleeding, hypertension, and circulatory system disorders (KEMENKES RI, 2021).

Many factors influence the incidence of high-risk pregnancies. A significant factor is the knowledge of pregnant women. Knowledge is a person's understanding of an object obtained through human senses (Lamdhawara, 2020). Pregnant women's knowledge about high-risk pregnancies is an understanding of what is related to high-risk events during pregnancy and how to prevent and manage them. With this knowledge, pregnant women and their families can detect high risks early (Budhi & Nurhayati, 2020), which can prevent or reduce the frequency of high-risk pregnancies. Early detection also enables immediate treatment to reduce maternal and child mortality (Tarini et al., 2021).

One of the efforts that can be made to improve the knowledge of pregnant women is to provide health education (Isnaini et al., 2022). Health education is an activity or effort to deliver health messages to the community, groups, or individuals so that they can gain better knowledge about health and modify their behavior (Noviyanti et al., 2021). Education can be delivered using tools or media such as visual aids (slides, pictures, charts, books, pamphlets), audio aids (radio, sound tapes, vinyl records), and audio-visual aids (videos, films) (Herinawati et al., 2021).

Previous studies have shown that providing health education can improve pregnant women's knowledge about high-risk pregnancies. Therefore, this literature review aims to examine the effect of health education on the knowledge of pregnant women about high-risk pregnancies by exploring several existing studies in more depth.

2. RESEARCH METHOD

The method used in this writing was a literature review on how to increase the knowledge of pregnant women about high-risk pregnancies. This literature review was a series of studies whose research objects came from various literature information. This review used several existing research sources, where the sources were obtained from Google and Google Scholar taken within the last 5 years from 2018-2022. The criteria used to find key search terms for the literature review were "health promotion," "health education," "knowledge of pregnant women," and "high risk of pregnancy."

3. RESULT AND DISCUSSION

Thirteen articles were included in this literature review, comprising national and international journals that used pregnant women as research subjects who were given interventions by receiving health education on high-risk pregnancies. The studies used in this review are as follows:

Table 1. Review Results on 13 Journal

No	Title	Method	Result
1.	“Implementation of Health Education on Pregnancy Danger Signs to Increase Pregnant Women's Knowledge in the Working Area of UPTD Puskesmas Purwosari Kec. Metro Utara in 2021.”	The research design used a case study with a sample size of two pregnant women respondents. The intervention media used was a booklet.	The results showed that after health education, the level of maternal knowledge about the danger signs of pregnancy in Subject I (Mrs D) did not increase the score of knowledge level, which remained 95%, while in Subject II (Mrs N), the knowledge level score increased from 90% to 100%. (Nabila et al., 2021)
2.	“The Effect of Health Education on Maternal Knowledge About Danger Signs of Pregnancy at RS Mitra Medika Amplas”	This study utilized a pre-experimental method with a one-group pre-test-post-test design approach. The sample size consisted of 48 pregnant women who received the intervention in the form of a discussion and leaflet provision.	The results of the analysis showed a significant effect of health education on the knowledge of pregnant women about the danger signs of pregnancy at Mitra Medika Amplas Hospital (p-value = 0.000, z = 5.046, α = 0.05) (Saragi & Hasibuan, 2022)
3.	“The Effect of Counselling During Antenatal Care (ANC) on Knowledge and Attitudes of Pregnant Women About Signs of Dangerous Pregnancy in the Kapasa Health Centre Working Area.”	The research design used was a pre-experimental design: one group pre-test and post-test design. The sample consisted of 16 pregnant women, and the method used was counseling.	The study aimed to investigate the effect of counseling during antenatal care on the knowledge and attitudes of pregnant women about the danger signs of pregnancy in the working area of the Kapasa Health Centre. The results of the Wilcoxon test showed a value of p = 0.011, which is smaller than the value of α = 0.05. This means that Ho (null hypothesis) is rejected, indicating that there is an effect of counseling on the knowledge of pregnant women about the danger signs of pregnancy. (Eppang, 2020)
4.	“The Effect of Providing Health Promotion on Pregnant Women's Knowledge About the Dangers of Hypertension in the Tanjung Batu Health Centre Working Area, Kundur District 2018”	This study utilized a quasi-experimental one group pre-test and post-test research design, with a sample size of 62 pregnant women. The intervention was conducted through lecture methods using slide and poster media	The results showed an increase in the average knowledge score from 1.1613 to 1.9677 after the health promotion intervention, indicating a significant improvement with a p-value of 0.000 (p-value < 0.05). Thus, there is a significant difference in the mean score of knowledge before and after the provision of health promotion about the dangers of hypertension to pregnant women in the Tanjung Batu Health Centre working area. (Yusdiana & Mona, 2019)
5.	“Counseling with Video Media Through WhatsApp Group About Hepatitis B Can Increase the Knowledge Score of Pregnant Women.”	This experimental research used a pretest-posttest control design method with a sample size of 54 pregnant women. The intervention was conducted using video media through WhatsApp.	The results of the Wilcoxon test showed a significance of 0.000 < 0.05, indicating a difference in knowledge before and after counseling. The difference in knowledge between the intervention group and the control group was

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		analyzed using the Mann-Whitney test, showing a significance of $0.004 < 0.05$. Therefore, it can be concluded that the hypothesis is accepted, and there is a difference in results between the control group and the intervention group, indicating that counseling with video media through WhatsApp can increase the knowledge score of pregnant women regarding hepatitis B. (Yanti et al., 2021)
6.	“Effects of a Health Educational Intervention on Malaria Knowledge, Motivation, and Behavioral Skills: A Randomized Controlled Trial”	<p>The research design was a randomized controlled parallel-group trial with a sample size of 372 pregnant women, and the intervention media used was a module on malaria.</p> <p>The results showed that the intervention was significant in achieving higher total scores of knowledge, motivation, and behavioral skills for the intervention group over the control group, with increases of 12.75% ($P < 0.001$), 8.55% ($P < 0.001$), and 6.350% ($P < 0.001$) respectively. Therefore, it can be concluded that the intervention module is effective in improving knowledge, motivation, and behavioral skills related to malaria. (Balami et al., 2019)</p>
7.	“Effect of Health Promotional Program on Pregnant Women' Knowledge and Practices regarding Pregnancy Nutritional Problems”	<p>This study utilized a pre-post-test quasi-experimental research design, with a sample size of 410 pregnant women. The media used for health promotion was a booklet.</p> <p>The findings showed a significant relationship between the knowledge and practices of pregnant women about nutritional problems before and after the implementation of the health promotion program ($p = 0.001$). This suggests that the health promotion program had a positive effect on increasing the knowledge and practices of pregnant women about nutritional problems during pregnancy. (Abd Elhaleem Ebraheem Elagamy et al., 2021)</p>
8.	“The Application of Health Counseling on Chronic Energy Deficiency (Kek) to the Knowledge Level of Pregnant Women in the Ganjar Agung Health Centre Working Area”	<p>This study used a case study design, with two pregnant women as the subjects. The intervention was carried out through counseling using leaflet media.</p> <p>The results showed that after receiving health education, the subjects' knowledge levels increased and were categorized as good. (Noviyanti et al., 2021)</p>
9.	“Application of Health Counseling on Pregnant Women's Knowledge about Anemia in Pregnancy in the Yosomulyo Metro Health Center Working Area in 2021”	<p>This research uses a case study design. The subjects used were two pregnant women in the first and second trimester. Counseling was carried out with leaflet media.</p> <p>The results showed an increase in the subjects' knowledge after being given health counseling. (Nadia et al., 2022)</p>
10.	“Implementation of Pregnant Women's Classes as an Effort	<p>This study used a Quasi Experiment design with a</p> <p>From the results of data analysis, it can be concluded that the</p>

	to Increase the Knowledge of Mothers, Families and Cadres in Early Detection of High Risk Pregnant Women in the Sambeng Health Centre Working Area, Lamongan Regency.”	Pre-Post Design approach. Respondents in this study were 40 pregnant women, 40 families and 20 cadres. Pregnant women's classes are conducted to improve the skills and knowledge of mothers with practical exercises based on the guidebook provided.	implementation of 'pregnant women's classes' has an effect on increasing the knowledge of pregnant women, families and health cadres in early detection of maternal risks. (Muhith et al., 2019)
11.	“Effectiveness of Health Education on the Knowledge Level of Pregnant Women About Preeclampsia in Duren Village, Tengaran Subdistrict, Semarang Regency.”	This study used a one group pre-test post-test design. The population in this study was 33 pregnant women, and the intervention was carried out using lecture methods and sharing experiences between respondents.	The results showed a significant difference between knowledge before and after receiving health education about preeclampsia in pregnant women, with a p-value of $0.000 < \alpha$ (0.05). Therefore, it can be concluded that health education is effective in increasing the knowledge of pregnant women about preeclampsia. (Rita, 2019)
12.	“Educational Program for Pregnant Women Regarding Obstetrics Dangerous Signs in Rural Areas”	This study used a quasi-experimental design, with a sample number of 70 pregnant women. Booklet media was used in this study	The education program has effectively improved mothers' knowledge and practices regarding danger signs for pregnant women in rural areas, with highly statistically significant differences across all items tested between pre- and post-program implementation, with a value of ($P < 0.001$). (Gobran et al., 2021)
13.	“Effectiveness of Health Education Program on the Level of Knowledge and Attitude of Pregnant Women Regarding Obstetric Danger Signs in Upper Egypt”	This study was a quasi-experimental study, with a sample of 300 pregnant women. The education program is carried out with counseling accompanied by the provision of <i>posters</i>	This study revealed that most of the study participants had a positive attitude towards ODS/obstetric danger signs. The implementation of the education program had a positive impact on improving women's knowledge about ODS. (21). (Ali et al., 2020)

The results of the above article review indicate that providing health education has an impact on pregnant women's knowledge about high-risk pregnancy. This knowledge is a crucial factor in the incidence of high-risk pregnancies since it determines the actions that pregnant women will take in the future. Mothers with high knowledge will understand how to maintain their pregnancy, manage their diet, and monitor their pregnancy closely. They will also recognize the importance of undergoing regular check-ups during pregnancy and identifying the signs of pregnancy and high-risk pregnancies (Fitrianingsih & Suindri, 2019).

According to Budhi and Nurhayati (2020), high-risk pregnancies are still the leading cause of maternal mortality, and efforts must be made to increase the knowledge of pregnant women, as their knowledge is related to the incidence of high-risk pregnancy. The implementation of health education is one way to increase the knowledge of pregnant women and strengthen primary health services (Sudarmi, 2021).

Based on the reviewed articles, the provision of health education yields different results in the knowledge of pregnant women before and after the intervention. Pregnant women's knowledge about high-risk pregnancy increases after receiving an intervention in the form of health education. The articles also reveal that the provision of education can be supplemented by using supportive media. The role of the media is to make it easier for respondents to understand the information and clarify the learning message (Balami et al., 2019). Various media, including visual, audio, and audiovisual media, can be used in providing health education.

Previous studies have shown that leaflets, booklets, posters, and modules are the most widely used media for health education interventions targeting pregnant women due to their practicality and convenience for self-study (Saragi, 2022). However, some people may have difficulty capturing messages conveyed through visual forms alone, and therefore, audiovisual media, such as videos or lectures accompanied by slides, are also commonly used. This is because audio provides an additional explanation to the visual message, which can improve the possibility of understanding and remembering the information. Small group education, such as pregnant women's classes, is also a successful intervention method. In these groups, participants can share experiences, practice based on guidebooks, and discuss with mentors or researchers (Saragi, 2022). Nevertheless, the success of these discussions depends on the researcher's mastery of the material. Providing counseling is another viable option, as it allows for privacy and may make participants feel more comfortable. However, the counseling method may take a longer time to complete.

Despite the variation in methods used by the studies reviewed, the results consistently demonstrate that health education has a positive effect on the knowledge of pregnant women regarding high-risk pregnancies. Regardless of the intervention method, health education activities aim to increase an individual's knowledge through communicative messages (Ekayani et al., 2020).

4. CONCLUSION

Based on the review of 13 scientific articles on the effect of health education on the knowledge of pregnant women about high-risk pregnancies, it was found that providing health education had a positive impact on their knowledge. It is recommended that healthcare providers give full attention to pregnant women and provide them with all useful information for the welfare of both mother and baby. Furthermore, pregnant women are encouraged to increase their curiosity about all conditions related to their pregnancy. By improving knowledge and awareness, pregnant women can take proactive steps to detect and manage high-risk pregnancies, which can ultimately reduce the maternal and fetal mortality rates in Indonesia.

REFERENCES

- Abd Elhaleem Ebraheem Elagamy, M., Ebrahim Ahmed, S., Talaat Mohamed, A., & Sabry, F. (2021). Effect of Health Promotional Program on Pregnant Women' Knowledge and Practices regarding Pregnancy Nutritional Problems. *Egyptian Journal of Health Care*, 12(2), 705–717.

- Ali, R., Mohamed, A., Arief, A., Abdel-Salam, D., & Khalaf, F. (2020). Effectiveness of Health Education Program on the Level of Knowledge and Attitude of Pregnant Women Regarding Obstetric Danger Signs in Upper Egypt. *Journal of High Institute of Public Health*, 0(0), 118–124. <https://doi.org/10.21608/jhiph.2020.111317>
- Apriliasari, D. T., & Pujiastuti, N. (2021). Hubungan Pemeriksaan Kehamilan dengan Risiko Kehamilan Menggunakan Skoring Poeji Rochyati pada Ibu Hamil Trimester III. *JUMANTIK (Jurnal Ilmiah Penelitian Kesehatan)*, 6(2), 145–154.
- Balami, A. D., Said, S. M., Zulkefli, N. A. M., Bachok, N., & Audu, B. (2019). Effects of a health educational intervention on malaria knowledge, motivation, and behavioural skills: a randomized controlled trial. *Malaria Journal*, 18, 1–14.
- Budhi, N., & Nurhayati, T. (2020). Effectiveness of Guidance for Pregnant Women About Early Detection of Danger Signs in Pregnancy Using Leaflet and Audiovisual Media. *Jurnal Riset Kesehatan Poltekkes Depkes Bandung*, 12(1), 1–11.
- Ekayani, N. P. K., Nurmayasari, N., & Gumilang, I. (2020). Antenatal Education with Booklet Media on Knowledge and Readiness of Pregnant Women under the Age of 20 Years. *Jurnal Info Kesehatan*, 18(1), 50–58.
- Eppang, Y. (2020). Pengaruh Konseling Saat Antenatal Care (ANC) Terhadap Pengetahuan Dan Sikap Ibu Hamil Tentang Tanda-Tanda Bahaya Kehamilan Di Wilayah Kerja Puskesmas Kapasa. *Jurnal Keperawatan Muhammadiyah*, 5(2).
- Fitrianingsih, W., & Suindri, N. N. (2019). Hubungan Antara Pengetahuan Pendapatan Dan Pekerjaan Ibu Dengan Kehamilan Risiko Tinggi Di Puskesmas Kecamatan Denpasar Barat. *Jurnal Ilmiah Kebidanan (The Journal Of Midwifery)*, 7(1), 42–52.
- Gobran, M. A., Fatah, M. T. A., Ramadan, M. S. H., Amer, G. A., Rabeh, M. M., Elshafei, R. M., Bosilah, A. H., Khalil, H. H. S., Hassanine, S. T., & Mostafa, M. M. (2021). Educational Program for Pregnant Women Regarding Obstetrics Dangerous Signs in Rural Areas. *Open Journal of Obstetrics and Gynecology*, 11(5), 529–552.
- Herinawati, H., Heryani, N., Susanti, S., Nst, A. F. D., Imelda, I., & Iksaruddin, I. (2021). Efektivitas Self Efficacy terhadap Pemahaman Tanda Bahaya Kehamilan menggunakan Video dan Buku Kesehatan Ibu dan Anak. *Jurnal Akademika Baiturrahim Jambi*, 10(1), 109–119.
- Isnaini, R. D., Darmawan, E., & Dewi, F. Y. (2022). The Function of Recommendation of a Pharmacists in Reduce PIMs (Potentially Inappropriate Medications) of Geriatric Patients at The General Hospital Dr. Moewardi Surakarta. *Pharmacology, Medical Reports, Orthopedic, and Illness Details (COMORBID)*, 1(2), 9–18. <https://doi.org/https://doi.org/10.55047/comorbid.v1i2.81>
- KEMENKES RI. (2021). *Profil Kesehatan Indonesia 2020*. Kementerian Kesehatan Republik Indonesia. <https://pusdatin.kemkes.go.id/resources/download/pusdatin/profil-kesehatan-indonesia/Profil-Kesehatan-Indonesia-Tahun-2020.pdf>
- Lamdhawara. (2020). *Gambaran Tingkat Pengetahuan Ibu Hamil Tentang Risiko Pada Kehamilan*. <http://library.umpo.ac.id>
- Lestari, A. E., & Nurrohmah, A. (2021). Pengetahuan ibu hamil tentang kehamilan resiko tinggi di wilayah kerja Puskesmas Cepogo Kabupaten Boyolali. *Borobudur Nursing Review*, 1(1), 36–42.
- Muhith, A., Fardiansyah, A., & Larasati, Y. (2019). Pelaksanaan Kelas Ibu Hamil Sebagai Upaya Peningkatan Pengetahuan Ibu, Keluarga Dan Kader Dalam Deteksi Dini Resiko

- Tinggi Ibu Hamil Di Wilayah Kerja Puskesmas Sambeng Kabupaten Lamongan. *Care: Jurnal Ilmiah Ilmu Kesehatan*, 7(1), 37–44.
- Nabila, H., Dewi, T. K., & Immawati, I. (2021). Penerapan Pendidikan Kesehatan Tentang Tanda Bahaya Kehamilan Untuk Meningkatkan Pengetahuan Ibu Hamil Di Wilayah Kerja Uptd Puskesmas Purwosari Kec. Metro Utara Tahun 2021. *Jurnal Cendikia Muda*, 2(2), 202–209.
- Nadia, Ludiana, & Dewi, T. K. (2022). Penerapan Penyuluhan Kesehatan Terhadap Pengetahuan Ibu Hamil Tentang Anemia Pada Kehamilan Di Wilayah Kerja Puskesmas Yosomulyo Metro Tahun 2021. *Jurnal Cendikia Muda*, 2(3).
- Noviyanti, W., Sari, S. A., & Hasanah, U. (2021). Penerapan Penyuluhan Kesehatan Tentang Kurang Energi Kronik (KEK) Terhadap Tingkat Pengetahuan Ibu Hamil Di Wilayah Kerja Puskesmas Ganjar Agung. *Jurnal Cendikia Muda*, 2(2), 295–301.
- Rita, D. (2019). *Efektifitas Pendidikan Kesehatan Terhadap Tingkat Pengetahuan Ibu Hamil Tentang Preeklamsia Di Desa Duren Kecamatan Tenganan Kabupaten Semarang*. Universitas Ngudi Waluyo.
- Saragi, D. S. (2022). Pengaruh Pendidikan Kesehatan Terhadap Pengetahuan Ibu Tentang Tanda Bahaya Kehamilan di RS Mitra Medika Amplas. *JIDAN: Jurnal Ilmiah Kebidanan*, 2(1), 54–59.
- Saragi, D. S., & Hasibuan, W. J. (2022). Pengaruh Pendidikan Kesehatan Terhadap Pengetahuan Ibu Tentang Tanda Bahaya Kehamilan Di RS Mitra Medika Amplas. *Jurnal Ilmiah Kebidanan*, 2(1), 60–65.
- Sudarmi, S. (2021). Efektifitas Media Audio Visual pada Kelas Ibu Hamil Terhadap Pengetahuan dan Sikap Ibu dalam Pencegahan Komplikasi Kehamilan dan Persalinan. *Jurnal Kesehatan Metro Sai Wawai*, 14(1), 19–29.
- Susanti, E., Fitriani, I. S., & Susilo, H. M. (2021). Deteksi Dini Kehamilan Resiko Tinggi Pada Ibu Hamil Grandemultipara Fisiologis Dengan Skor Poedji Rochjati Tinggi. *Health Sciences Journal*, 5(2), 43–50.
- Tarini, N. W. D., Astini, N. N. A. D., & Widiarta, M. B. O. (2021). Analisa Perilaku Antenatal Care, Pola Hidup Sehat dan Status Kesehatan Ibu Hamil pada Masa Pandemi Covid-19. *Jurnal Keperawatan*, 13(4), 937–948.
- Yanti, N. N. L., Mahayati, N. M. D., & Armini, N. W. (2021). Pengaruh Penyuluhan Dengan Media Video Melalui Whatsapp Group Tentang Hepatitis B Terhadap Peningkatan Skor Pengetahuan Ibu Hamil. *Jurnal Kebidanan Malahayati*, 7(4), 824–829.
- Yusdiana, Y., & Mona, S. (2019). Pengaruh Pemberian Promosi Kesehatan Terhadap Pengetahuan Ibu Hamil Tentang Bahaya Hipertensi Di Wilayah Kerja Puskesmas Tanjung Batu Kecamatan Kundur Tahun 2018. *Zona Kebidanan: Program Studi Kebidanan Universitas Batam*, 9(2).