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FAMILY-BASED PREGNANCY RISK DETECTION WITH FAMILY-CENTERED MATERNITY CARE

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ABSTRACT

The ability of pregnant women to detect early high-risk pregnancies is still below average which is one of the causes of complications that can endanger the well-being of the mother and fetus. Family involvement and other social sources of support in the perinatal period are associated with the detection and reduction of pregnancy risk factors. Approach to families in early dedetermination of pregnancy risk can be done with Family Center Maternity Care (FCMC). FCMC is care designed to meet the informational, social, emotional, comfort, and support needs of normal pregnant women during pregnancy and childbirth. The purpose of this study was to determine the determinants of early detection factors for pregnant women with family-based risk with FCMC. This type of research is quantitative and non-experimental with an analytical observational design through a cross-sectional approach. The population in this study was all pregnant women who experienced risk factors in the Kedungwuni I, Kedungwuni II, Bojong Health Center Area as many as 103 pregnant women. The sampling technique used is the Total Population. The results of this study show that there is a positive and statistically significant relationship of knowledge with the implementation of early detection. Pregnant women who have good knowledge have a likelihood of carrying out early detection of pregnancy risk well by 3,193 times higher than respondents with less knowledge (OR=3,193; CI 95%=1.123-9.078; p=0.029). It is hoped that health workers, especially midwives, can involve their families, especially for early detection of the risk of pregnant women so that pregnant women get optimal health services.

Keywords: Pregnant Women, Risk Detection, Family Centered Maternity Care

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INTRODUCTION

The World Health Organization (WHO) estimates that 15-20% of women who become pregnant in both Developed and developing countries will experience a high risk of complications. The leading causes of maternal death are hemorrhage, eclampsia, and infection, which may contribute to 60% of total maternal deaths. This condition can be prevented if early detection of risk factors for pregnancy is sufficient during antenatal care. This is in line with the target of SDGs 3.1, which is to reduce global maternal mortality by 70/100,000 live births by 2030 (1). This target also continues the program from the target of MDGs 5a, which is to reduce 75% of maternal mortality from 1990 to 2015. The maternal mortality rate is an indicator that reflects the health status of the mother, especially the maternal risk of death during pregnancy and childbirth (2). The three leading causes of maternal death are heart disease, preeclampsia/eclampsia, and hemorrhage. All three variables of this study, such as pregnancy complications, childbirth complications, and history of disease, probably influenced maternal mortality. It is recommended for mothers to carry out early detection of risk factors and potential obstetric complications, especially in childbirth, to make optimal prevention efforts (3).

The ability of pregnant women to detect high-risk pregnancies is still below average which is one of the causes of complications that can endanger the welfare of the mother and fetus (4). This is because the family, which is the smallest unit of the community and the closest people to pregnant women, is less empowered to be able to help recognize any danger signs or problems experienced and participate in caring during pregnancy Early detection of pregnancy can be used as an effort to prevent pregnancy at high risk for pregnant women (5). Early detection of high-risk pregnancy by the public is expected to be 80%, but its achievement in the last 3 years is far from what was targeted. Early detection of risk factors for complications is an activity to find pregnant women with risk factors and obstetric complications. Every pregnancy is a normal experience for a woman, but sometimes there are complications so it is necessary for early detection activities to be carried out by health workers, families and the community, especially pregnant women so that adequate treatment as early as possible can be done (6).

Family involvement and other social sources of support in the perinatal period are associated with detection and reduction of pregnancy risk factors (7). Approach to families in early dedetermination of pregnancy risk can be done with Family Center Maternity Care (FCMC). The results of research conducted in India with the application of FCMC on pregnant women who are hospitalized, with the help of families can develop independence in decision-making steps and families also receive information and are able to provide support to get optimal health care (8)(9).

FCMC is defined as care that emphasizes the full range of women's needs and uses education and family involvement as primary tools to engage women in their own care process. FCMC is care designed to meet the informational, social, emotional, comfort and support needs of normal pregnant women and

their families during pregnancy and childbirth. FCMC aims to provide superior healthcare with a mindful, focused focus on the needs of clients, infants, and families. The service is designed to dig thoroughly, ensuring the needs of clients and their families are met. The important points of this service are to pay special attention to mother and baby, create unity in the family, and maintain physical safety and comfort. The services provided are focused on family care, with special emphasis on the needs of the mother and family during the period of pregnancy, childbirth, and puerperium. This approach involves the family and the surrounding environment as optimized resources, with the primary goal of improving the well-being of mothers and babies (10)(11).

FCMC is one of the activities of providing support to pregnant women by involving the family in full, with the support of this family, it is hoped that pregnant women and villages will be able to carry out pregnancy care which includes early detection of pregnancy risks. The family participates in monitoring in pregnancy, independence in decision making, the family is also able to provide support to pregnant women to identify their abilities, and provide healthy education that has been obtained (12).

The participation of family members in a way that allows families, patients, and health care teams to collaborate is at the core of family-centered care. Strategies for delivering family-centered care typically include family presence, family support, and regular, structured communication with family members. This detection with FCMC prepares family members for decision-making and caregiving roles, with the goal of reducing family members' experiences of anxiety. Family-centered care desired by patients and families, can increase the knowledge of pregnant women and families about pregnancy, childbirth, postpartum and care of healthy babies (13). Asmuji (2016) stated that with the results of her research, mothers are able to have maternal abilities during pregnancy, childbirth, postpartum as well as increasing the ability to care for babies with family support through the FCMC approach. When family knowledge and support are lacking, there is an increased risk for pregnant women and infants (10). he purpose of this study was to determine the determinants of early detection factors of pregnant women risk with FCMC.

METODE

This research is included in the type of quantitative non-experimental, because the researcher did not provide any intervention to the research subjects. The design used observational analytics with a cross sectional approach. The population in this study was all pregnant women who experienced risk factors in the Kedungwuni I, Kedungwuni II, Bojong Health Center Area as many as 103 pregnant women. The sampling technique used is Total Population. The variables in this study consist of independent variables, namely Family Support, Communication with Family, Family Socioeconomics, Health Worker Education, ANC Frequency, Knowledge of Pregnant Women about Pregnancy Risk Factors, Attitudes of Pregnant Women and Dependent Variables for Early Detection. This study used

primary data, namely with questionnaires / questionnaires that had been tested for validity and reliability with valid results (r count > r table) with r values between 0.469-0.839, and alpha values = 0.910 (> 0.444) means that the questionnaire item is reliable. To analyze the relationship of one or several independent variables with a category dependent variable that is dichotomous, the test used is multiple logistic regression. The research conducted has been carried out by an ethical test at the University of Muhammadiyah Semarang with a certificate of passing the ethical test with No: 612 / KEPK-FKM / UNIMUS / 2022.

RESULT

Table 1. Characteristics of Research Subjects

Variable	Frequency	Percentage (%)
Age		
20-35	42	40,8
<20 and >35	61	59,2
Education Level		
SD/SMP	60	58,3
SMA/PT	43	41,7
Gravida Status		
Primigravida	21	20,4
Multigravida	64	62,1
Grandemulti	18	17,5

Table 1 shows that more than half (59.2%) are aged 20-35 years, more than half (58.3%) have primary / secondary education, most (62.1%) are multigravida.

Table 2 Distribution of research subjects based on risk factors experienced

Variable	n	%
Pregnant < 20 years old or >35 years old, Grandemultipara	58	58,3
Pregnancy distance > 10 years or < 2 Years	10	9,7
Lila <23.5 cm. History SC, TD > 140mmHg, TB < 145cm, Hb <11gr%	33	32

Table 2 shows more than half of the risk factors experienced by pregnant women are pregnant < 20 years or >35 years, and grandemultipara.

Table 3 Frequency distribution of research subjects based on Family Support, and Implementation of Early Detection

Variable	n	%
Family Support		
Less Support	35	34
Support	68	66
Communication with family		
Less	44	42,7
Good	59	52,3
Social Economy		
Low	43	41.7
Middle/Upper	60	58,3
Health Worker Education		
Less	24	23,3
Good	79	76,7
ANC (Antenatal Care) Frequency		
Disorganized	24	23,3
Orderly	79	76,7
Knowledge		
Less	56	54,4
Good	47	45,6
Attitude		
Negative	48	46,6
Positive	55	53,4
Early Detection Implementation		
Less	39	37,9
Good	64	62,1

Table 2 shows 66% of families are supportive, 52.3% of family communication with mothers is good, 58.3% of family social status is upward, 76.7% of health worker education is done well, 76.7% do antenatal care regularly, 54.4% have less knowledge about the risks of pregnant women, 53.4% have a positive attitude towards pregnancy risk detection, and 62.1% carry out early detection well.

Tabel 4 Bivariate Analysis of the Relationship between the Implementation of Early Risk Detection for FCMC Pregnant Women

Variable		Implementation of Early Detection with FCMC				Total		p	OR
		Less		Good					
		n	%	n	%	n	%		
Family Support	Less Support	12	34,3	23	65,7	35	100	0,742	0,104
	Suport	27	39,7	41	60,3	68	100		

Variable		Implementation of Early Detection with FCMC				Total		p	OR
		Less		Good					
		n	%	n	%	n	%		
Communication with Family	Less	20	45,5	24	54,5	44	100	0,244	1,360
	Good	19	32,2	40	67,8	59	100		
Family Socioeconomics	Low	14	32,6	29	67,4	43	100	0,463	0,539
	Middle/Upper	25	41,7	35	58,3	60	100		
Health Worker Education	Less	10	41,7	14	58,3	24	100	0,843	0,039
	Good	29	36,7	50	63,3	79	100		
ANC (Antenatal Care) Frequency	Disorganized	10	41,7	14	58,3	24	100	0,843	0,039
	Orderly	29	36,7	50	63,3	79	100		
Knowledge	Less	25	44,6	31	55,4	56	100	0,179	1,807
	Good	14	29,8	33	70,2	47	100		
Attitude	Negative	18	37,5	30	62,5	48	100	1.000	0,000
	Posititve	21	38,2	34	61,8	55	100		

The results of bivariate analysis using chi square test from several variables tested in relation to early implementation, showed no significant relationship between the variables of Family Support, Communication with Family, Family Socioeconomics, Health Worker Education, ANC Frequency, Knowledge of Pregnant Women, Attitudes of Pregnant Women with the Implementation of Early Detection of Risk of Pregnant Women with FCMC.

Table 4 Multivariate Analysis with Multiple Logistic Regression Test Family Support Relationship Between the Implementation of Early Detection of Risk of Pregnant Women based on FCMC

Variable	OR	CI 95%		*p*
		Lower	Upper	
Family support	0,845	0,345	2,072	0,713
Socio-economic village	1,945	0,826	4,581	0,128
Health Worker Education	0,200	0,050	0,805	0.024
ANC (Antenatal Care) Frequency	2,08	0,381	12,805	0.377
Knowledge	0,712	0,079	6,403	0,762
Attitude	3,193	1,123	9,078	0.029
	1,588	0.460	5,473	0,464
N Observation = 103				
-2 Log Likehood = 127,914				
Nagelkerke R^2 = 13%				

Table 4 shows the results of multiple logistic regression analysis of Family Support Relationship, Communication with Family, Family Socio-Economy, Health Worker Education, ANC Frequency, Knowledge of Pregnant Women, Attitudes of Pregnant Women with the Implementation of Early Risk Detection of Pregnant Women based on FCMC. There is a positive and statistically significant association of knowledge with the implementation of early detection. Pregnant women who have good knowledge have the likelihood of carrying out early detection of pregnancy risk well by 3,193 times higher than respondents with less knowledge (OR=3,193; CI 95%=1.123-9.078; p=0.029).

DISCUSSION

The Relationship Between Family Support and the Implementation of Early Risk Detection of Pregnant Women based on FCMC

While pregnancy and childbirth can result in psychological and social changes, a woman's experience in pregnancy and childbirth has long-term or short-term effects on the health of herself and her baby. These experiences can affect her physical and emotional responses to motherhood, the achievement of self-esteem, relationships with her partner and with the baby to form a family. A traumatic birth can lead to postpartum depression (14). Family Center Maternity Care is one of the efforts to provide care to pregnant women who focus on meeting their needs by involving families, especially people who are trapped and live in the same house with pregnant women (15).

The results of the study above show no relationship between family support and the implementation of early detection of risk of pregnant women based on FCMC. Family support studied in this study is informational, rewarding, instrumental and emotional support that is stautistically not related to the implementation of risk detection for pregnant women because early detection is influenced by other factors. The results of the study are in line with other studies that state the implementation of FCMC is influenced by many things, including knowledge of pregnant women and education and services provided by health workers (16). Other research results also show in the ability to detect early pregnancy risks related to parity, knowledge, and exposure to information about pregnancy danger signs and pregnancy risk factors (4)(17).

The Relationship Between Family Communication and the Implementation of Early Risk Detection of Pregnant Women based on FCMC

One of the models of care given to pregnant and maternity women is how to carry out effective communication, emotional support from the partner, food intake, and most importantly communication with family (18). Family empowerment model with effective communication to make pregnant women feel more responsive, and alert, pay attention to self-care and immediately check with health if there are

signs of danger. For health care providers, this method is particularly useful in decreasing pregnancy, childbirth, and postpartum complications and can lower maternal and infant mortality (19).

The results of this study showed a positive relationship between family communication and the implementation of early detection of risk of pregnant women although statistically not significant (OR = 1.945, p value : 0.128, CI 95% : 0.826-4.581). Communication within the family does not take place randomly, but is influenced by certain patterns that shape the way family members communicate. These patterns include understanding the extent of family intimacy, its level of individuality, and external factors such as friendships, work, geographic distance, and so on. In this study, the importance of communication within the family sphere was manifested in early detection of risks in pregnant women. This communication aims to identify and understand whether pregnant women face certain risks. This communication effort is expected to guide pregnant women in preventing potential complications that can arise due to the risks they face. In this context, communication involves disclosing the complaints of pregnant women to the family, while families, especially husbands who have received information from health workers, can provide preventive and care support. This collaboration aims to prevent possible risk complications for pregnant women, by involving special assistance from health workers, especially midwives (11).

Healthy relationship & and communication skills are essential to support a family. For expectant mothers and couples with communication skills abilities will be the most enjoyable life experience for them and promote their own physical & and psychological health and the health of their children (20). Having a good relationship with your partner can have a protective effect against many stress factors. One of the factors influencing the problem is the lack of communication with the partner. The ability to build efficient relationships is the most critical one can have (21).

Other studies have shown a link between communication skills and pregnancy anxiety. In line with this study, communication is carried out in detecting the risk of pregnancy when the client or pregnant woman experiences a complaint, then the family will listen, and the family itself has been given education on how to detect the risk of pregnant women early, so that when the client experiences a complaint, communicates about pregnancy, the family will also respond according to the knowledge possessed about the risk detection of pregnant women. Healthcare providers can provide regular pre-marital consultation programs, pre-pregnancy & prenatal care so that couples get a high level of marital satisfaction & overcome many psychological disorders during pregnancy and can also create healthy communication with each other (22).

The Relationship Between Family Socioeconomics and the Implementation of Early Risk Detection of Pregnant Women based on FCMC

Socioeconomic status is one of the most important factors associated with medical outcomes. When socioeconomic is low, medical care is inadequate and this has been linked to adverse outcomes.

In pregnant women, low socioeconomic status can increase the risk of adverse pregnancy outcomes. Previous research has revealed that low economic status is linked to pregnancy complications such as abortion, preterm labor, preeclampsia, eclampsia, and gestational diabetes. Inadequate prenatal care is associated with poor obstetric outcomes, including preterm labor, preeclampsia, and stillbirth (23).

The results of this study show that there is a positive and statistically significant relationship between Family Socioeconomics and the Implementation of Early Risk Detection of Pregnant Women based on FCMC (OR = 0.200, p value : 0.024, CI 95% : 0.050-0.805). The results of this study are in line with research that states financial income to meet the daily needs of households in the community, especially with funding, someone will be able to take advantage of existing health facilities such as treatment, and control in order to be able to maintain the health of pregnant women. This income is very influential on family behavior, including pregnant women. Low income will affect low ANC visits, making early detection also low (24).

The Relationship Between Health Worker Education and the Implementation of Early Risk Detection of Pregnant Women Based on FCMC

The education of health workers is closely related to the health of pregnant women. Education of health workers provided to pregnant women and families can increase knowledge and understanding of pregnancy, childbirth, postpartum, and newborn care. Communication and education provided by health workers can improve decision-making in pregnant women about themselves. Education of health workers can be provided not only to patients or clients but also to their families who will accompany pregnant women (9)(14).

The results of this study show that there is a positive relationship between the education of health workers and the Implementation of Early Detection of Risk of Pregnant Women although statistically it is not significant. Education from health workers can increase the knowledge of pregnant women who have risk factors and also their families so that the village is also able to carry out early detection and optimal treatment. This increase in knowledge of pregnant women's families also reduces cases of delay in handling emergency cases of pregnant women (25).

The Relationship Between ANC Frequency and the Implementation of Early Risk Detection of Pregnant Women based on FCMC

Antenatal care services are basic health services for pregnant women that must be carried out according to standards, which is at least 4 times during pregnancy. Any pregnancy can develop into problems or complications, so monitoring is necessary during pregnancy. Pregnant women should also know about the dangers of pregnancy. Maternal mortality should be prevented by early detection of high-risk or complications during pregnancy, by making antenatal visits or care to available health services. The high maternal mortality rate indicates the low quality of maternal health services, including

antenatal care (ANC) services for pregnant women (26)(27). The results of other studies also show that ANC is also related to psychological health, routine ANC can reduce psychological complaints in pregnant women (28).

Antenatal care has a very important role including early detection and management of complications that may arise during childbirth. If the mother comes to a health facility in the second trimester of pregnancy or the mother comes directly to labor without a previous antenatal history of treatment, then risk factors and possible complications during labor are difficult for health workers to handle (29).

Many pregnancy risks lead to patients being referred to higher health services. Antenatal care is one attempt to prevent unwanted health conditions by providing health promotion and information about health during Pregnancy is like giving patients a chance to know the dangerous signs of pregnancy Moreover, the problem of neonatal infections in developing countries is the cause of second largest Maternal Mortality Rate in the world. This is caused by the lack of optimization of conditions during pregnancy, both medical and non-medical conditions that can interfere with fetal development. Thus, knowledge related to early detection of high-risk pregnancies needs to be possessed by midwives so that cases of high-risk pregnancies can be detected early (30).

The results of this study show no relationship between ANC frequency and Early Detection of Pregnant Women's Risk with the Implementation of Early Detection of Pregnant Women's Risk based on FCMC. The results of this study are not in line with other studies that show a relationship between the detection of at-risk pregnant women and compliance in conducting ANC (31). This relationship cannot be influenced by many factors, one of which is the stage of the ANC itself, namely the 10T standard, where communication standards require midwives to communicate and convey information about the health of pregnant women, but the results of other studies show that 25.8% of counseling is not carried out during ANC services at puskesmas so that information media are needed that can be displayed when patients wait for ANC services (32).

The Relationship Between Pregnant Women's Knowledge of Early Detection of Pregnant Women's Risk and the Implementation of Early Detection of Pregnant Women's Risk based on FCMC

Efforts need to be made to improve the implementation of pregnancy for pregnant women, one of which is to increase information and knowledge of mothers, attitudes, and family support to knowledge, attitudes, and skills of early detection of danger signs during pregnancy (33). The results of this study show that there is a positive and statistically significant relationship between knowledge and the implementation of early detection of the risk of pregnant women based on FCMC. In line with this

study, the same results show that pregnant women's knowledge about the risk of pregnancy is related to their ability to do early detection in their pregnancy(4).

Knowledge of the risks of pregnancy is an important first step in receiving appropriate and timely referrals to maternal and newborn care. Poor knowledge of risk is one of the most common causes of failure to recognize complications and delays in decision-making in the event of an emergency. Not being able to recognize the risk of pregnancy causes side effects in both the mother and the unborn baby or the pregnancy itself. If not increased, this can lead to neonatal morbidity and mortality, and premature termination of pregnancy. Evidence suggests that raising women's awareness of midwifery risks will improve early detection of problems and reduce delays in deciding to seek midwifery care (34)(35)(36).

Providing knowledge to pregnant women can be done in pregnancy classes which can also be attended by husbands or families of pregnant women. This can improve the ability of pregnant women and their families regarding early detection of pregnancy risks. There is an influence of the pregnant woman's class on the mother's knowledge of the mother's attitude to recognize the risk of pregnancy, there is an influence of the pregnant woman's class on the mother's skill to recognize the risk of pregnancy. Optimization of pregnant women classes by involving families participating in the class can increase the knowledge of mothers and families, and reduce the occurrence of delays in decision making (25) (33).

The Relationship Between Pregnant Women's Attitudes about Early Detection of Pregnant Women's Risk and the Implementation of Early Detection of Pregnant Women's Risk based on FCMC

Every pregnancy has the possibility of complications or complications that can endanger the mother or baby, both in low-risk and high-risk pregnancies. A high-risk pregnancy is a pregnancy process that has a higher and greater risk than usual or in general pregnancy (both for mother and baby) with a risk of illness or death before or after later birth. One of the efforts to prevent high-risk pregnancies from pregnant women is to detect early high-risk pregnancies (24). The mother's behavior regarding pregnancy care is supported by knowledge and a good attitude toward her pregnancy (29).

The results showed no relationship between attitudes and the implementation of early detection of risk for pregnant women based on FCMC. In line with this study, the behavior of pregnant women is not only influenced by attitudes but also by lifestyle, perception of pregnancy and activity patterns that exist in pregnant women (37). In contrast to the results of this study, the existence of motivation and family support as well as good services from health workers will affect the behavior of pregnant women. The behavior of pregnant women can be towards if they lack knowledge and good attitudes towards their pregnancy, especially in detecting pregnancy risk (29).

CONCLUSION AND SUGGESTION

The determinants of factors associated with the implementation of early detection of pregnancy risk based on FCMC are socioeconomic (OR = 0.200, p-value: 0.024, CI 95% : 0.050-0.805) and knowledge (OR = 3.193, p-value: 0.029, CI 95%: 0.281-12.805. It is hoped that health workers, especially midwives, can involve their families, especially for early detection of the risk of pregnant women so that pregnant women get optimal health services and prevent delays in the event of emergencies.

REFERENCE

1. WHO. World Health Statistics SDGs. World Heal Stat 2016 [Internet]. 2016;130. Available from: http://www.who.int/gho/publications/world_health_statistics/en/
2. Suarayasa K, Bangkele EY, Sumarni S, Harun H, Bohari B. The effectiveness of m.D-risti application as an alternative for independent early detection of risk of pregnancy during the pandemic covid-19 in palu city, central sulawesi, indonesia. Open Access Maced J Med Sci. 2021;9:43–9.
3. Kurniawan A, Sistiarani C, Hariyadi B. Early Detection of High Risk Pregnancy. J Kesehat Masy. 2017;12(2):225–32.
4. Greenaway CM, Paterson M, Keller B, John P. The independence of pregnant women in early detection of high risk of pregnancy in terms of parity, knowledge and information exposure. 2012;71(2):267–78.
5. Chou JL, Pierce KJ, Pennington LB, Seiler R, Michael J, Mc Namara D, et al. Social Support, Family Empowerment, Substance Use, and Perceived Parenting Competency during Pregnancy for Women with Substance Use Disorders. Subst Use Misuse. 2018 Nov;53(13):2250–6.
6. Clay AM, Parsh B. Patient- and Family-Centered Care: It's Not Just for Pediatrics Anymore. AMA J Ethics. 2016;18(1):40–4.
7. Buek KW, O'Neil M, Mandell DJ. Opportunities and challenges for family-centered postpartum care during the COVID-19 pandemic: a qualitative study of nurse perspectives. BMC Nurs [Internet]. 2022;21(1):1–9. Available from: https://doi.org/10.1186/s12912-022-00875-5
8. Samal J. Assessing the Family Centered Maternity. Asian J Pharm. 2016;10(3):309–10.
9. Awaliyah SN, Budiati T. Family Center Maternity Care Di Ruang Bersalin : Evidence Based Nursing Practice. PIN-LITAMAS II Pros Pertem Ilm Nas Penelit Pengabdi Masy II "Tantangan dan Inov Kesehat di era Soc 50." 2019;2(1):135–40.
10. Asmuji, Diyan Indrayani. Family centered maternity care model as the strategy to optimize competent mothering. J Ners [Internet]. 2016;11(1):17–28. Available from: https://www.e-journal.unair.ac.id/JNERS/article/view/1905/0
11. Aisyah RD, Suparni S, Kartikasari D. Deteksi Dini Risiko Ibu Hamil Berbasis Keluarga. . NEM;

2023. 31–32 p.

12. Chalisnia Putri S, Widyastutik D. Pengaruh Edukasi Family Centered Maternity Care (Fcmc) Terhadap Tingkat Pengetahuan Resiko Tinggi Dalam Kehamilan Di Wilayah Kerja Puskesmas Kismantoro Kabupaten Wonogiri. 67.
13. Hart JL, Turnbull AE, Oppenheim IM, Courtright KR. Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID- 19 . The COVID-19 resource centre is hosted on Elsevier Connect , the company ' s public news and information. J Pain Symptom Manage. 2020;60(2):93–7.
14. Sudhinaraset M, Landrian A, Golub GM, Cotter SY, Afulani PA. Person-centered maternity care and postnatal health: associations with maternal and newborn health outcomes. AJOG Glob Reports [Internet]. 2021;1(1):100005. Available from: https://doi.org/10.1016/j.xagr.2021.100005
15. Jimenez V, Klein MC, Hivon M, Mason C. A mirage of change: Family-centered maternity care in practice. Birth. 2010;37(2):160–7.
16. Dall'Oglio I, Mascolo R, Portanova A, Ragni A, Amadio P, Fiori M, et al. Staff Perceptions of Family-Centered Care in Italian Neonatal Intensive Care Units: A Multicenter Cross-Sectional Study. Children. 2022;9(9):1–16.
17. Harrison TM. Family centreed pediatric nursing care. J ournal Pediatr Nurs [Internet]. 2017;25(5):335–43. Available from: https://www.kidney.org/patients/pdf/ff_vol8no3.pdf%5Cnpapers2://publication/uuid/AFA0FC43-3840-4D1D-8625-3C5E5509008A
18. Shamoradifar Z, Asghari-Jafarabadi M, Nourizadeh R, Mehrabi E, Areshtanab HN, Shaigan H. The impact of effective communication-based care on the childbirth experience and satisfaction among primiparous women: an experimental study. J Egypt Public Health Assoc [Internet]. 2022;97(1). Available from: https://doi.org/10.1186/s42506-022-00108-2
19. Mardiyanti I, Nursalam, Ernawati, Devy SR, Anggasari Y. The effectiveness of family empowerment model on early detection ability of risk pregnancy during the COVID-19 pandemic. Bali Med J. 2022;11(2):976–80.
20. Røsand GMB, Slinning K, Eberhard-Gran M, Røysamb E, Tambs K. Partner relationship satisfaction and maternal emotional distress in early pregnancy. BMC Public Health. 2011;11.
21. Esmaeilpour K, Khajeh V, Mahdavi N. Predicting Couples' Marital Satisfaction Based on Relationship Beliefs and Relationship Skills. J Fam Res. 2015;9(1):29–44.
22. Malary M, Shahhosseini Z, Pourasghar M, Hamzehgardeshi Z. Couples Communication Skills and Anxiety of Pregnancy: A Narrative Review. Mater Socio Medica. 2015;27(4):286.
23. Kim MK, Lee SM, Bae SH, Kim HJ, Lim NG, Yoon SJ, et al. Socioeconomic status can affect

pregnancy outcomes and complications, even with a universal healthcare system. Int J Equity Health. 2018;17(1):2.

24. Mardiyanti I, Anggasari Y. Analysis of Factors That Influence the Behavior of Pregnant Woman in Early Detection of High Risk Pergnancy. J Heal Sci. 2020;13(02):2477–3948.
25. Aisyah RD, Suparni S, Fitriyani F. Optimization Of The Class Of Pregnant Women With Family Centered Maternity Care (Fcmc) In Early Detection Of Optimalisasi Kelas Ibu Hamil Dengan Family Centered Maternity Care (Fcmc) Dalam Deteksi Dini Risiko Kehamilan. 2022;1414–20.
26. Zainurrah S, Katmini K. Theory of Planned Behavior Application to ANC behavior for Early Detection of Pregnancy Risk in Public Health Center Saronggi, Sumenep Regency. J Qual Public Heal. 2021;5(1):195–202.
27. Widiastuti T, Kartasurya MI, Dharminto. Manajemen Deteksi Dini Ibu Hamil Risiko Tinggi pada Pelayanan Antenatal di Tingkat Puskesmas Kabupaten Jepara Management of High Risk Pregnancy Early Detection on Antenatal Care at Primary Health Care in Jepara District. Manaj Kesehat Indones. 2015;02(03):261–7.
28. Budiyati A, Poltekkes Kemenkes Semarang Jl Tirto Agung R, Banyumanik K, Semarang K, Tengah J. The Role of Information Systems in Early Detection of Pregnant Psychological Issue: A Systematic Review. IjnhsNet [Internet]. 2022;5(1):63–74. Available from: https://ijnhs.net/index.php/ijnhs/article/view/529
29. Abbas NA, Limbong T, Subriah. Pregnant Mother's Behavior In Their First Pregnancy Examining In The Working Area Of Jumpandang Baru Health Center, Makassar City Nurul Amaliah Abbas. J Poltekkes Makassar. 2019;2(1):91–6.
30. Kundaryanti R, Effendi N, Asmawi M. The comparison of knowledge level in antenatal care, early detection of pregnancy risks and interpersonal communication of midwives during pre and post ANC: RINI training module development in Tangerang District, Banten, Indonesia. Malaysian J Public Heal Med. 2019;19(Supplement 3):5–8.
31. Daryanti MS. The Relationship of Early Detection of Risk Pregnancy with Antenatal Care Visit Compliance in Wonosari Regional Public Hospital Hubungan Deteksi Dini Kehamilan Berisiko dengan Kepatuhan Kunjungan Antenatal Care di Rumah Sakit Umum Daerah Wonosari. 2022;380–91.
32. Aisyah RD, , S, Susiatmi SA. Evaluasi Pelaksanaan Standar 10T Dalam Pelayanan Antenatal Terpadu. J Kebidanan. 2017;9(01):74.
33. Sugiartini DK. The Influence of Pregnant Women Classes on Knowledge, Attitudes and Skills of Conducting Early Detection of Danger Signs during the Second Trimester of Pregnancy in Buleleng Regency. J Qual Public Heal. 2020;3(2):564–74.

34. Getachew D, Getachew T, Debella A, Eyeberu A, Atnafe G, Assefa N. Magnitude and determinants of knowledge towards pregnancy danger signs among pregnant women attending antenatal care at Chiro town health institutions, Ethiopia. SAGE Open Med. 2022;10:205031212210751.
35. Hamil I, Padang A. Pentingnya Deteksi Dini Tanda dan Bahaya Kehamilan pada The Importance of Early Detection of Pregnancy Signs and Hazards of Pregnancy in Pregnant Women at Andalas Public Health Center. 2022;1(2):30–4.
36. Intan Mulya Hapsari K, Pramono D, Utami A. The Effect of Training on Knowledge and Skill of Early Detection of High Risk Pregnancy in Community Health Workers in Semarang, Central Java. 2018;(April 2018):197–197.
37. Pratami E, Sukesi S, Husni E, Nursalam N. The Behavioral Model development of pregnant women in accordance to pregnancy treatment lifestyle. Clin Epidemiol Glob Heal [Internet]. 2021;12(June):100802. Available from: https://doi.org/10.1016/j.cegh.2021.100802