ANALYSIS OF FACTORS AFFECTING FAMILIES ABILITY IN EARLY DETECTION OF HIGH RISK PREGNANCIES

Nursalam Nursalam[1*], Ika Mardiyanti[2,3], Ernawati Ernawati[4], Shrimarti Rukmini Devy[5]

[1] Faculty of Nursing, University of Airlangga, Surabaya, Indonesia.
[2] Doctoral Program of Public Health, University of Airlangga, Surabaya, Indonesia.
[3] Universitas Nahdlatul Ulama Surabaya, Indonesia.
[4] Faculty of Medicine, University of Airlangga, Surabaya, Indonesia.
[5] Faculty of Public Health, University of Airlangga, Surabaya, Indonesia

ABSTRACT

The purpose of this study is to analyze the factors that influence the ability of families to detect early high risk of pregnancy. The study design used observational analytic cross-sectional study approaches. The sample size consisted of 120 families of pregnant women working in the Primary Health Care working area in the city of Surabaya, East Java, Indonesia. The independent variables are personal factors, resources, the influence of cognition, interpersonal influence, basic values, and commitment. The dependent variable is family ability. Data were collected using a questionnaire that was tested for validity and reliability. Logistic regression is used to analyze the results. Complementary education (p = 0.001), level of knowledge (0.002), self-esteem (p = 0.047), self-motivation (p = 0.022), and previous behavior (p = 0.010) affect personal factors. Family connection (p = 0,001), community resources (p = 0,003), and competing role demand (0,008) influence the resources factor. Benefits (p = 0,000), obstacles (p = 0.026), and self-efficacy (p = 0,000) affect the influence of cognition. Family support (p = 0,000) and midwife support (p = 0.024) influence interpersonal factors. Responsibility (p = 0.047), attention (p = 0,000) and care (p = 0.046) affect the basic values. Affective (p = 0.011), Continuance (p = 0.001), and Normative (p = 0.012) affect the commitment factor. Introduction (p = 0.000), decision (p = 0.008), care (p = 0.001) and utilization (p = 0.001). The connection of family connection and interpersonal factors, including family support and midwife support, is very important to improve the ability of families in early detection of high risk pregnancies.

INTRODUCTION

The health of pregnant women is a process that requires special care so that the pregnancy can take place properly, which involves the life of the mother and fetus. Pregnant women who are initially normal can suddenly be at high risk and experience complications with various symptoms such as nausea, vomiting, vaginal bleeding, pelvic pain and more severe conditions [1]. Pregnancy is considered risky if there are medical conditions that can affect the health or life of the mother or both [2]. Pregnant women who are at high risk have a burden related to achieving the role of being a mother and carrying out functions or roles in their family. In addition there are fears about the condition of pregnancy, both now and in the future, whether experiencing risks or complications of pregnancy [3][4].

Surabaya is one of the cities in East Java with the highest number of pregnant women experiencing obstetric complications, amounting to 9,496 out of 47,480 pregnant women in 2016 [5]. Pregnant women experienced an increase from 2015 to 2017, contrary to success, amounting to 17,656, 17,928, and 19,698 [6].

It is undeniable that there are still many pregnant women and families who do not have the ability to make early detection of a high risk of pregnancy [7]. If early detection of high-risk pregnancies is not done optimally by the family it will allow three delays, namely late in recognizing danger signs of pregnancy and childbirth, late making decisions, late arriving at the hospital or being referred late. These three delays will cause the maternal mortality rate (MMR) and the infant mortality rate (IMR) to increase[8][9].

The inability of pregnant women and families to recognize the condition of pregnancy, as well as the lack of knowledge in recognizing danger signs of pregnancy can result in low utilization and delay in access to health services which ends with complications and death of the mother and her baby [10]. The ability of participating families to recognize the high risk of pregnancy is an important aspect of caring for pregnant women [11].

Some factors that influence family empowerment include age of caregiver, social support, care burden, use of care, household income and strong family ties [12]. Husband's support is very useful to reduce anxiety and

complications during pregnancy[13]. Support, especially from the husband, also influences decision-making to seek delivery help and management of obstetric complications [14].

The mechanism of recognizing the high risk of pregnant women is carried out proactively on all pregnant women, as early as possible by trained health or non-health workers, for example PKK (Family Health Empowerment) women, Cadres, Youth Organization, pregnant women themselves, husband or family [15]. The earlier it is known that there is a high risk and complications, it will improve long-term health in mothers and babies [16].

The community empowerment program through the use of the MCH handbook is able to provide benefits for mothers, husbands and other family members because it contains information that is very useful for the health of mothers and children under five. The MCH Handbook also contains information on danger signs in pregnancy and maternal and child health problems that can endanger health [17][18]. In addition, there is the Pudji Rochyati Score Card (KSPR) which can be used to detect low, high or very high risk pregnancies. But, so far, only health workers and trained cadres have used the MCH and KSPR books for early detection of high risk of pregnancy, while mothers, husbands and other family members do not yet know how to do early detection of high risk pregnancies.

At present, there are no studies that explore the factors that influence the ability of families to detect early high-risk pregnancies. Therefore, this study emphasizes the integration of several factors that influence and strengthen family work in pregnancy care in the hope of increasing the ability of families, especially in the early detection of high-risk pregnancies. By knowing which factors influence, it is expected to increase the ability of families in the early detection of high risk pregnancies. Among them is the introduction of high risk factors for pregnancy according to the KSPR, capable of decision-making, being able to treat high risk pregnant women with comorbidities and poor pregnancy history (BOH / bad obstetric history) and being able to utilize health service facilities. The purpose of this study is to analyze the factors that influence the ability of families to detect early high-risk pregnancies.

METHODS
Research Design and Settings
This study was an observational analytic study with a cross-sectional study approach conducted in August 2019. The population was pregnant women who checked into the Surabaya City Health Center, East Java, Indonesia.

Samples
Samples taken were 120 family members (husbands) using the inclusion criteria. The sampling technique uses the type of multistage sampling: gradual sampling. There were two stages of sampling. Phase one determines five selected community health centers from five areas of the City of Surabaya through the use of simple random sampling. The selected community health centers are Simomulyo, Ketabang, Dupak, Pacar Keling, and Wonokromo.

RESULTS
Characteristics of Respondents
Data include parity, occupation of pregnant women,

The second stage took samples from the families of pregnant women examined at the health center. The inclusion criteria in this study were family members living with pregnant women in Trimester II and III, are residents of at least three months and pregnant women planning to give birth in the area where they currently live. Respondents who participated in the research process were explained the research objectives, procedures, rights, and obligations, benefits and losses during data collection. Respondents who agreed to participate were asked to sign an informed consent sheet. This study has received ethical approval from the Ethics Team of the Faculty of Nursing Airlangga University No. 1752-KEPK in August 2019.

Data Collection
A questionnaire was used to collect data, detailing the patient's personal or family history and their resources, cognitive behavioral factors, interpersonal factors, basic values (filial values), and commitment. Personal factors include age, education, knowledge, self-esteem, self-motivation and previous behavior. The resource factors include family connectedness, community resources, and competing role demands. Cognitive behavioral factors include benefits, obstacles and self-efficacy. Interpersonal influences include family support and the role of midwives. The basic values (filial values) include responsibility, attention (respect), and care. Commitments include affective, continuance and normative. The questionnaire was developed by researchers from several theories, including the Caregiver Empowerment Model (CEM) [19], Health Promotion Models [20], and Family Centered Nursing [21].
The questionnaire was about the ability of families in early detection of high risk of pregnancy questioning integration of healthcare tasks. The ability of families in early detection of high risk of pregnancy consists of four components: introduction of high risk factors for pregnancy according to KSPR, able to make decisions, able to care for high risk pregnant women with comorbidities and poor pregnancy history (BOH) and able in the utilization of health service facilities. The purpose of this study is to analyze the factors that influence the ability of families to detect early high-risk pregnancies.

Data Analysis
Factors in early detection of high risk pregnancy include personal factors, resources, cognitive influences, interpersonal influences, basic values, and commitment, as well as the ability of families in early detection of high risk pregnancy. As a preliminary analysis, a descriptive analysis is performed which is presented in the form of frequencies and percentages.
The variables analyzed in the description are supporting information related to research. Then, afterwards, personal factors, resources, cognitive influences, interpersonal influences, basic values, and commitment, as well as the ability of early detection are described. Data processing is performed with the help of SPSS software version 24.1.

education of pregnant women, risk of pregnancy, companion during pregnancy, age of companion, sex of companion, companion occupation. The majority of parity of pregnant

women is multigravida, 67.5%, with work mostly as housewives 73.3%, then the majority of middle-level education is 70%, with the risk of pregnancy faced by the majority of risks low category, 54.2%. Furthermore, information related to assistance for pregnant women, the majority are husbands 84.2%), where the age of pregnant women's companions is the majority of the early adult category (53.3%), with the majority of male sex (85%), and the majority of private assistants are 76.7% . Detailed information is presented in the following description table (Table 1).

Variable of Development Model
Factors related to early detection of high risk in pregnancy are personal, resources, cognitive influence, interpersonal influence, basic values , commitment and family members' abilities in early detection. The description results are presented as follows. For description of personal factors (X1), which is an internal condition of the family of pregnant women, it is known that the majority are in good condition (53.3%), which is relatively slightly more than unfavorable conditions.

Then, for the resource factor (X2), which is a component that is owned and used by families to support the implementation of early detection of high risk pregnancies, it is known that the majority are in less supportive conditions (74.2%), which are relatively more than in supportive conditions. Of the three indicators that compose the resource factor, family connection indicators are known in early detection, with the highest score (2.10 ± 0.301), while the lowest score is of the competing role demands indicator (2.07 ± 0.282).

For cognitive behavior factor (X3), which is the ability to understand the benefits and perceived barriers of self-action and efficacy, it is known that the majority are in the unfavorable category (67.5%), whose numbers are relatively more than good conditions. Of the three indicators that compose cognitive behavior factors, self-efficacy indicators in early detection are known, with the highest score (2.23 ±

0.425), while the lowest score is the obstacle indicator (1.83 ± 0.560).

For interpersonal influence factor (X4), which is a social interaction shown in the form of support from both the family and the role of health workers, it is known that the majority in the category of less support (55%), which is relatively slightly more than the supporting conditions. Of the two indicators that compose interpersonal influence factors, it is known that indicators of support of health workers in early detection have the highest score (2.57 ± 0.514), while the lowest score is the indicator of family support (2.45 ± 0.548).

The basic values factor (X5), which is the values to increase family empowerment in caring for high-risk pregnant women, show that the majority are in the poor category (50.8%) whose numbers are relatively the same as good conditions. Of the three indicators that compose the basic values factor, responsibility indicators have the highest score (2.49 ± 0.518), while the lowest score is the caring indicator (2.40 ± 0.525).

Commitment factor (X6), which is a family attitude that reflects the extent to which the family knows and is bound to other family members who are pregnant, shows that the majority are in the unfavorable category (62.5%), whose numbers are relatively more in good condition. Of the three indicators that make up the commitment factor, the continuance commitment indicator has the highest score (2.23 ± 0.419), while the lowest score is the normative commitment indicator (2.13 ± 0.379).

Early detection ability factor (Y), which is changes that can occur in the family in its ability to detect early high risk of pregnancy, shows that the majority (55%) in the category of being able are relatively few in number with less able conditions. Of the four indicators that compose early detection capability factors, it is known that the utilization indicators of the nearest health care facility has the highest score (2.98 ± 0.129), while the lowest score is the indicator of introduction of high risk factors for pregnancy (2.14 ± 0.882). The complete results are presented in Tables 2 and 3 below:

Table 1: Respondents Characteristics (n = 120)

Variable	Frequency	Percentage
Parity		
Primigravida	36	30.0%
Multigravida	81	67.5%
Grandemultigravida	3	2.5%
Pregnant mother's occupation		
Housewife	88	73.3%
Private employees	29	24.2%
Civil servants	1	.8%
Teacher	1	.8%
Traders	1	.8%
Education for Pregnant Women		
Low	22	18.3%
Middle	84	70.0%
High	14	11.7%
Risk of Pregnancy		
Low risk	65	54.2%
High risk	46	38.3%
Very high risk	9	7.5%

Pregnancy companion		
Husband	101	84.2%
Mother	17	14.2%
Children	2	1.7%
Companion age		
Late teens	20	16.7%
Early adulthood	64	53.3%
Late adult	22	18.3%
Early elderly	10	8.3%
Late elderly	3	2.5%
Seniors	1	.8%
Companion gender		
Men	102	85.0%
Female	18	15.0%
Companion work		
Housewives	15	12.5%
Private	92	76.7%
Self-employed	11	9.2%
Civil servants	2	1.7%

Table 2: Description of the factors that affect the ability of families to detect early high risk of pregnancy (n = 120)

Variable	Frequency	Percentage
Personal factor (X1)		
Not good	56	46.7%
Good	64	53.3%
Resources (X2)		
Less supports	89	74.2%
Supports	31	25.8%
Cognitive behavior (X3)		
Not good	81	67.5%
Good	39	32.5%
Interpersonal effect (X4)		
Less supports	66	55.0%
Supports	54	45.0%
Filial value (X5)		
Not good	61	50.8%
Good	59	49.2%
Commitment (X6)		
Not good	75	62.5%
Good	45	37.5%
Early detection ability (Y)		
Not capable	54	45.0%
Capable	66	55.0%

Table 3: Item scores of factors that affect the ability of families to detect early high risk of pregnancy (n = 120)

Factors in the ability of early detection M	Indicator	Mean	SD
Personal factor (X1)	X1_1. Companion's Entity	2.29	.982
	X1_2.Companying education	2.13	.379
	X1_3. Family knowledge related to early detection	2.03	.772
	X1_4. Positive family attitude toward early detection	2.48	.622
	X1_5. Encouragement to carry out duties and responsibilities as a family	2.28	.621
	X1_6. Experience of family behavior in conducting early detection	2.48	.549
	Average	2.28	.65
Resources (X2)	X2_1. Involvement of family members with each other	2.10	.301
	X2_2. Availability of facilities and infrastructure in the community	2.09	.290
	X2_3. Role of the family while caring for pregnant women	2.07	.282
	Average	2.09	.29
Cognitive behavior (X3)	X3_1. The advantages gained from individual actions	2.13	.341
	X3_2. The influence of emotions (negative) experienced by the family	1.83	.560
	X3_3. Feeling of family's confidence in their abilities	2.23	.425
	Average	2.06	.44
Interpersonal effect (X4)	X4_1. Support family facilities and infrastructure	2.45	.548
	X4_2. The role of health workers in providing support	2.57	.514
	Average	2.51	.53
Filial value (X5)	X5_1. Family attitude toward a sense of responsibility in assisting and caring for pregnant women	2.49	.518
	X5_2. Family attitude in accompanying and caring for related complaints, prevention and treatment	2.43	.498
	X5_3. Family attitude in accompanying and caring related to the wishes of pregnant women	2.40	.525
	Average	2.44	.51
Commitment (X6)	X6_1. Willingness to be directly involved in early detection	2.22	.414
	X6_2. Family awareness about the disadvantages associated with pregnancy with high risk	2.23	.419
	X6_3. The family's obligation to stay with the pregnant women with high risk	2.13	.379
	Average	2.19	.40
Early detection ability (Y)	Y1_1. Family's ability to know the signs and symptoms of problems / high risks	2.14	.882
	Y1_2. The ability of the family to determine the actions taken	2.90	.397
	Y1_3. The ability of the family to take care of high-risk pregnant women	2.80	.512
	Y1_4. Ability of the family to use the closest health facilities and facilities	2.98	.129
	Average	2.71	.48

Effect of Personal Factors, Resources, Cognition, Interpersonal, Basic Values, and Commitment and Family Ability in Early Detection of High Risk of Pregnancy

Significant indicators influencing family personal factors in early detection of high risk of pregnancy are accompanying education (P = 0.001; OR = 1.264), level of knowledge (P = 0.002; OR = 3.072), self-esteem (P = .047; OR = 2.645), self-motivation (P = .022; OR = 3.567) and previous experience behavior (P = .010; OR = 3,677). While the companion age indicator does not significantly affect the personal factors of

family members, because the value of P = 0.361> α = 0.05. Of the five significant indicators, it is known that the greatest influence value is the one with the largest Odds Ratio (OR) value, which is an indicator of previous experience behavior of 3.677, which means that previous experience behavior will have an impact on increasing the family's personal ability to detect early high risk of pregnancy, by 3.677 times.

The resource factor is a component that is owned and used by families to support the implementation of early detection of high risk pregnancies. The results of the analysis concluded that it was significantly influenced by three indicators, namely Family connection (P = .001; OR = 113.5); Community resources (P = .003; OR = 30.03); Compete role demand (P = .008; OR = 27.75).

Of the three significant indicators, it is known that the biggest influence value is the one with the largest OR value, which is a family connection indicator of 113.5, which means a good family connection will have an impact on supporting the implementation of early detection of high risk pregnancy, by 113.5 times.

The influence factor of cognition is the ability to understand the benefits and perceived barriers of self-efficacy and actions that affect family behavior. Indicators that significantly influence the influence of cognition factors are Benefits (P = 0.000; OR = 23.13); Obstacles (P = 0.026; OR = 3.57); Self-Efficacy (P = 0,000; OR = 12.49). The value of the biggest influence on the influence of cognition factor having the largest OR value is the Benefit indicator of 23.13, which means the benefits or benefits of early detection measures; this has an impact on increasing family behavior in early detection of high risk of pregnancy, amounting to 23,13 times.

Interpersonal influence factors are social interactions shown in the form of support from both the family and the role of health workers (midwives). The results of the analysis concluded that the indicators of family support (P = 0.00; OR = 63.78) and midwife support (P = 0.024; OR = 3.68) were significant influences on interpersonal influence factors.

The greatest value of influence on the interpersonal influence factor, seen from the highest OR value, is the Family Support indicator of 63.78, which means family support in the form of the availability of facilities and infrastructure, will

impact increase in the ability of early detection of high risk pregnancy, by 63.78 times.

The basic values factor is the basic values that the family has in behaving to increase family empowerment in caring for pregnant women with awareness, enhancement, capacity, trust in health workers, actions and family participation in early detection of high risk pregnancies. Significant indicators that influenced the basic values factor were Responsibility (P = 0.047; OR = 3.47); Attention (P = 0,000; OR = 12.67); Caring (P = 0.046; OR = 3.65). The greatest value of influence on the factors of basic values, seen from the highest OR value is the Attention indicator of 12.67, which means attitudes of family attention in assisting and caring for complaints that are experienced, prevention and handling of problems / high risks that occur in pregnant women, will have an impact on increasing the ability to detect high risks of early pregnancy, by 12.67 times.

The commitment factor is a family attitude that reflects the extent to which the family knows and is bound to other family members who are pregnant.

The result of logistic regression analysis concluded that it was significantly influenced by Affective Commitment (P = 0.011; OR = 6.09); Continuance (P = 0.001; OR = 14.62); and Normative (P = 0.012; OR = 2.58). The greatest value of influence on the commitment factor, seen from the highest OR, is Continuance commitments of 14.62, which means continuous commitments will have an impact on increasing the family's attitude to knowing and being bound to other family members who are pregnant in early detection of a high risk of pregnancy, amounting to 14.62 times.

Furthermore, the ability of families to detect early high risk of pregnancy is a change that can occur in the family. It was concluded from the results of the analysis that of the indicators of Introduction (P = 0,000; OR = 14.28), Decisions (P = 0.008; OR = 2.05), Nursing (P = 0.001; OR = 7.20), and Utilization (P = 0.001 ; OR = 5.24), the greatest influence value, seen from the highest OR value, is Introduction at 14.28, which means the family's ability to know the signs and symptoms of problems / high risks in pregnancy, which include low, high, and very high risk, will the impact increase in the ability of early detection at a high risk of pregnancy, by 14.28 times.

Table 4: Logistic Regression Analysis Results

	Coefficient	S.E.	Wald	df	P-value	Odd Ratio (OD)	95% C.I.for EXP(B)	
							Lower	Upper
Personal factors								
Companion age	.023	.251	.091	1	.361	1.258	.769	2.058
Companion education	.234	.072	3.272	1	.001	1.264	.254	4.217
Knowledge level	1.122	.360	9.714	1	.002	3.072	1.517	6.224
self-esteem	.973	.489	3.950	1	.047	2.645	1.013	6.902
self-motivation	1.272	.557	5.210	1	.022	3.567	1.197	10.628
Behavior before	1.302	.505	6.652	1	.010	3.677	1.367	9.892
Resources Factor								

Family connection	4.732	1.468	10.383	1	.001	113.515	6.384	2018.479
Community resources	3.402	1.148	8.786	1	.003	30.031	3.166	284.849
Compete role demand	3.323	1.263	6.925	1	.008	27.746	2.335	329.682
Cognitive Influence Factors								
The benefits	3.141	.863	13.259	1	.000	23.130	4.265	125.451
Resistance	1.273	.571	4.977	1	.026	3.572	1.167	10.934
Self-efficacy	2.525	.600	17.722	1	.000	12.488	3.855	40.456
Interpersonal Influence Factors								
family support	4.155	.700	35.208	1	.000	63.778	16.165	251.638
midwife support	1.302	.652	1.997	1	.024	3.677	.272	4.593
Filial Value								
Responsibility	1.245	.627	3.941	1	.047	3.472	1.016	11.862
Respect	2.539	.648	15.346	1	.000	12.667	3.556	45.119
Care	1.296	.649	3.980	1	.046	3.653	1.023	13.046
Commitment Factor								
Affective	1.808	.712	6.447	1	.011	6.096	1.510	24.604
Continuance	2.682	.778	11.879	1	.001	14.617	3.180	67.187
Normative	.947	.413	2.290	1	.012	2.577	.130	3.150
Early Detection Ability								
Introduction	2.659	.457	33.900	1	.000	14.277	5.834	34.939
Decision	.719	.298	2.412	1	.008	2.053	.196	21.492
Care	1.974	.913	3.063	1	.001	7.202	.789	65.715
Utilization	1.656	.550	3.014	1	.001	5.241	.991	27.708

DISCUSSION

The ability of families to detect early high-risk pregnancies is needed to prevent complications during pregnancy, childbirth and childbirth. Several factors can affect the ability of families to detect early high-risk pregnancies, including personal factors, resources, cognition, interpersonal, basic values, and commitment. The results of this study indicate that personal factors, resources, cognition, interpersonal, basic values, and commitment affect the ability to conduct early detection of high risk pregnancies including the introduction of high risk pregnancy factors according to the KSPR (Pudji Rochyati Score Card), able to make decisions, able to care for high risk pregnant women with accompanying diseases and poor pregnancy history (BOH) and able to use health service facilities.

Based on the results of the study, more than half (55%) of respondents showed the ability to do early detection of high risk pregnancies. Ability is the ability or potential to master a skill that is innate or is the result of practice and is used to do something that is realized through actions. The family plays a role in determining the way or care needed at home. The low role of the family is also triggered by the low motivation of the family as a driving force. Family motivation can be enhanced by providing family-focused midwifery care, not just restoring the client's condition [22]. When comparing the

average value of each item influencing the ability to detect early high-risk pregnancies, the order of scores from highest to lowest is interpersonal influence, basic values, personal factors, commitment, resources, and cognitive behavior.

The interpersonal effect is the highest average score on the ability of families to detect early high-risk pregnancies. The role of health workers (midwives) in providing support is the highest value that supports families to conduct early detection of high risk pregnancies. These results illustrate that the family will be able to carry out its role in early detection of high risk in family members who are pregnant when getting support from midwives.

Support to recognize the symptoms and responses felt by pregnant women is very important given by the husband, family and health workers, in this case a midwife [23]. Midwives as health service providers need to optimize the ability of families through health promotion efforts [24]. Appropriate support from health workers improves the ability of families to be able to carry out care effectively [25].

In terms of basic values, the highest score is the family's attitude toward a sense of responsibility in assisting and caring for pregnant women. These results illustrate that the ability of families to detect early high-risk pregnancies is a family responsibility because consideration of high-risk

pregnancies can threaten the lives of mothers and their babies. There is importance of shared parenting strategies such as effective communication and shared role responsibilities [26].

The highest average score of personal factors in improving the ability of families to detect early high-risk pregnancies is the experience of family behavior in conducting early detection. These results illustrate that, in introducing high risk factors for pregnancy, decision-making, treatment of high risk pregnant women with comorbidities and poor pregnancy history (BOH) and utilization of health care facilities are also based on previous experience. There is a need for prior experience to be able to recognize both emotional and physical discomfort and changes that occur during pregnancy [27].

The average value of commitment with the highest score on the ability of families to detect early high-risk pregnancies is family awareness of the disadvantages associated with high-risk pregnancy. The results showed that the family was aware of the importance of early detection of emergency risks and the impact that would be caused in the event of complications. Family functions and the achievement of the role of the mother will be able to successfully adapt to the burden faced with all hopes and worries when a pregnancy is at risk [4].

The highest average score of resources on the ability of families to detect early high-risk pregnancies is the involvement of family members with each other. There is need for ongoing collaboration and capacity building for families to improve the care of family members who are pregnant with high risk [25].

The highest average score of cognitive behavior on the ability of families to make early detection of high risk pregnancies is the family's self-efficacy for their abilities. In a

chaotic, challenging environment, such as a risky pregnancy, communication, self-efficacy and behavior that support, respond and acknowledge, require family ability to enhance positive outcomes [25]. The perceived benefits will increase the patient's knowledge to influence positive behavioral changes [28].

Based on the results of factor analysis, it was found that personal factors, resources, cognition, interpersonal, basic values, and commitment affect the ability of families to make early detection of high risk pregnancies. Indicators of introduction of high risk factors for pregnancy, decision-making, treatment of high risk pregnant women with comorbidities and poor pregnancy history (BOH) and utilization of health care facilities are significant influences on family ability factors in early detection of high risk of pregnancy. The greatest influence value, namely the introduction of high risk factors for pregnancy by 14.28, means the family's ability to know the signs and symptoms of problems / high risks in pregnancy, which include low, high, and very high risk, will have an impact on increasing the ability of early detection at high risk pregnancy, amounting to 14.28 times. Family functions, roles and tasks to increase family capacity and potential are important in fulfilling family health and healthcare functions, carrying out family roles in both formal and informal roles, and being able to carry out family health tasks according to the stage of family development [29].

Support from the family of someone who is experiencing health problems will be able to improve healthcare behavior [30]. In addition, there is need for education and training in the ability to care for family members which can help families feel confident in giving care [31][32]

CONCLUSION
The relation of family connection and interpersonal factors, including family support and midwife support, is very important to improve the ability of families in early detection of high risk pregnancies.

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