



Family Empowerment in Efforts to Prevent High-Risk Pregnancy Based on Family-Centered Empowerment

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Abstract

BACKGROUND: The number of pregnant women with high risk is still very high. In 2019–2020, at the Merak Urak Health Center, there were 104 pregnant women, at the Palang Health Center 213 pregnant women. Meanwhile, the target of the Millennium Development Goals in 2015 is 102/100,000 live births.

AIM: The aim of the research is to empower families in preventing high-risk pregnancies based on Family-Centered Empowerment.

METHODS: The study used analytical observational methods to determine the influence between variables. The research approach uses cross-sectional. The study population was all families with pregnant women in the working area of Merak Urak Health Center and Palang Health Center, Tuban Regency. The analysis test used the rule of the thumb in SEM, with the maximum likelihood method requiring a minimum sample of 150 respondents. The independent variable is family centered empowerment and the dependent variable is efforts to prevent high risk of pregnancy. Data were collected by questionnaire and analyzed by pair T-test.

RESULTS: The results showed that there was an influence of family interpersonal factors with cognitive factors and personal traits on efforts to prevent high-risk pregnancies ($T = 2.44$; $T = 3.34$). The influence of cognitive factors on efforts to prevent high-risk pregnancy was found ($T = 2.56$). The influence of personal traits factors on efforts to prevent high-risk pregnancy was obtained ($T = 2.51$).

CONCLUSION: The new finding in this study is the formation of a Family centered empowerment model to improve the family's ability to prevent high-risk pregnancy, which consists of family interpersonal, cognitive, and personal traits. The family-centered empowerment model can improve the ability of families to care for pregnant women to prevent high risk of pregnancy through aspects of empowering, supporting, self-efficacy, knowledge, and attitude.

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Introduction

A risky pregnancy is a pregnancy that will cause greater danger and complications, both to the mother and to the fetus, it contains during pregnancy, childbirth, or postpartum when compared to normal delivery and postpartum pregnancies (Haryati 2012) [1]. The risk factors for pregnancy, if not treated immediately, can threaten the safety of the mother and even the worst thing can happen, namely, the death of the mother and baby. The factors that cause the high maternal mortality rate in Indonesia are eclampsia bleeding, unsafe abortion, prolonged labor, infection, and others. While the indirect causes of mother's death are the low level of mother's education, low socio-economic conditions, and unsupportive sociocultural conditions other than that due to limited access of mothers living in rural areas to obtain health services (Aeni, 2013) [2]. Good health services are indicated by the decline in the live birth rate, where in 2012 as many as 359/100,000 live births decreased to 305/100,000 live births in 2015 [3]. Although the achievement of maternal mortality has

decreased, this figure has not reached the target of the Millennium Development Goals (MDGs) [4] in 2015 of 102/100,000 live births and 70/100,000 live births, the target of the Sustainable Development Goals in 2030 (Pusdatin, 2016) [5].

The ability of pregnant women to prevent high-risk pregnancies is still low. Data from the Merak-Urak Health Center, the number of pregnant women in 2019–2020, were 506 people with a high risk of pregnancy 104 people, the Palang Health Center was found to be 765 people with 213 high-risk pregnant women. Serious interventions are needed to empower families so that they can increase family health beliefs or beliefs. Serious interventions are needed to empower families so that they can increase confidence in improving family health, so that they can have an impact on preventing health risks (Rosenstock et al., 1988) [6].

The family has five basic functions, namely, affective function, socialization function, reproductive function, economic function, and health-care function [7]. In relation to the function of health care and maintenance, the family has

an obligation to carry out health-care practices, namely, preventing high-risk pregnancies. This is done by empowering families in preventing high-risk pregnancies. This effort requires confidence in decision-making related to health and healthy behavior in the family. The combination of family-based empowerment theory and Health Promotion Model theory is expected to train families to identify high risk factors for pregnancy, namely cognitive, motivational, and personal traits.

The health promotion model is influenced by personal and interpersonal factors of the family, to take appropriate prevention, to make decisions for the family, to be able to protect with health workers based on belief. The goal that has been obtained from the research is empowering families in an effort to prevent high-risk pregnancies based on family-centered empowerment.

Methods

This study uses analytical observational methods to determine the influence between variables, with cross sectional research approach. The population is families with pregnant women in the working area of Merak Urak Health Center and Palang Health Center, Tuban Regency. The sample size uses the rule of the thumb in SEM, with the maximum likelihood method requiring a minimum sample of 150 respondents, with the following calculations:

$$10 \times 15 \text{ observed variables} = 150 \text{ respondents}$$

Sampling by purposive sampling based on the consideration of the researcher. The sample size for each region is 75 respondents. The independent variable is family centered empowerment and the dependent variable is the prevention of high-risk pregnancy. Data were collected by questionnaire and analyzed by Pair T-test and independent T-test ($\mu < 0.05$).

Results

Descriptive variable

Based on Table 1, it can be seen that 51.3% of families are aged 26-35 years, with a high school education level of 48.7%, as many as 73.3% work in the private sector, with a large income of Rp.1-2.5 million/month as much as 53.3%.

Table 1: Distribution of family personal factors in the Tuban District Health Center in 2021

Variable	Category	Frequency	%
Personal factors	Age		
	17–25 years	40	26.7
	26–35 years	77	51.3
	36–45 years	31	20.7
	>45 years	2	1.3
Total		150	100
Level of education	Primary school	9	6
	Junior high school	32	21.3
	High school	73	48.7
	Undergraduate diploma	36	24
	Total		150
Profession	Civil servant	6	4
	private	110	73.3
	Dose not work	34	22.7
Total		150	100
Income level	<1 million	36	24
	1–2.5 million	80	53.3
	>2.5 million	34	22.7
Total		150	100

Table 2 shows that almost half (48.7%) of families of pregnant women who provide informational support are in the good category, support in facilitating the needs of pregnant women is mostly good (61.3%), and family emotional support is in maintaining the health of pregnant women large (58%) good.

Table 2: Distribution of Family Interpersonal Factors in the Tuban District Health Center in 2021

Variable	Category	Frequency	%Mean	SD
Empowering	Well	73	48.71.627	0.679
	Enough	60	40	
	Not enough	17	11.3	
Total		150	100	
Enabling	Well		1.440	0.594
	Enough			
	Not enough			
Supporting	Well		1.467	0.585
	Enough			
	Not enough			
Total				

Table 3 shows that almost all of the family's ability to think in maintaining the health of pregnant women (92%) is moderate, the ability of families to be sensitive to health problems for pregnant women is almost entirely (88%) moderate, and most (60%) of family beliefs are in the moderate category. Families feel positive affect when taking care of the health of pregnant women to prevent high risk of pregnancy.

Table 3: Distribution of Family Cognitive Factors in the Tuban District Health Center in 2021

Variable	Category	Frequency	%	Mean	SD
Self-esteem	Well	5	3.3	2.013	0.283
	Enough	138	92		
	Not enough	7	4.7		
Total		150	100		
Self-control	Well	3	2	2.080	0.337
	Enough	132	88		
	Not enough	15	10		
Total		150	100		
Self-efficacy	Well	4	2.7	2.347	0.529
	Enough	90	60		
	Not enough	56	37.3		
Total		150	100		

Table 4 shows the strong desire of the family in meeting the care needs of pregnant women which include the needs of: Physiological, security, social,

Table 4: Distribution of family motivation factors in the Tuban District Health Center in 2021

Variable	Category	Frequency	%	Mean	SD
Motivation Fr	Well	63	42	1.620	0.562
	Enough	81	54		
	Not enough	6			
Total		150	100		

appreciation, and self-actualization mostly (54%) in the adequate category.

Table 5 shows that half of the knowledge possessed by the family of pregnant women (50%) is sufficient, almost all of the attitudes of the family (76.7%) are sufficient, the seriousness of the family regarding the prevention of high-risk pregnancy is almost entirely (78%) good.

Table 5: Distribution of family personal traits factors in the Tuban District Health Center Area in 2021

Variable	Category	Frequency	%	Mean	SD
Knowledge	Well	74	49.3	0.513	1.513
	Enough	75	50		
	Not enough	1	0.7		
Total		150	100		
Attitude	Well	29	19.3	0.458	1.847
	Enough	115	76.7		
	Not enough	6	4		
Total		150	100		
Perceived threats	Well	117	78	1.240	0.472
	Not enough	30	20		
	enough	3	2		
Total		150	100		

Table 6 shows that the ability of families to prevent high-risk pregnancy mostly (66%) is good.

The results of the analysis of the research structural model

Based on Figure 1, it is known that the indicators of age, education level, occupation, and income level on personal factor variables (X1), then enabling indicators on interpersonal factors (X2), self-esteem, and self-control indicators on cognitive factors (X3), resulting in a loading value factor is <0.5. Hence, it can be concluded that the indicators above are declared invalid to explain the latent variables; then, the indicators are removed.

Table 6: Distribution of family efforts in the Tuban District Health Center in 2021

Variable	Category	Frequency	%	Mean	SD
Family efforts	Well	99	66	1.380	0.562
High-risk prevention	Enough	45	30		
Pregnancy	Not enough	6	4		
Total		150	100		

Results of structural model analysis (inner model)

Based on Table 7, it shows that all exogenous variables to endogenous variables show a T count value above 1.96 with a positive value, which indicates that these variables have an effect and increase (Figure 2).

Table 7: T-test results of variables between variables in the structural model

Variable	Original sample (O)	T statistics (O /STDEV)	T Table	Keterangan
X2.interpersonal <- X3.kognitif	0.206	2.59	1.96	Signifikan
X2.interpersonal <- X4.motivasi	0.065	0.73	1.96	Tdk Signifikan
X2.interpersonal <- X5.personal traits	0.235	2.83	1.96	Signifikan
X1.personal <- X3.kognitif	0.077	0.58	1.96	Tdk Signifikan
X2.personal <- X4.motivasi	-0.059	0.54	1.96	Tdk Signifikan
X2.personal <- X5.personal traits	0.144	0.83	1.96	Tdk Signifikan
X3.kognitif -> Y.upaya	0.239	2.56	1.96	Signifikan
X4. Motivasi -> Y.upaya	0.117	1.17	1.96	Tdk Signifikan
X5.personal traits-> Y.upaya	0.175	2.51	1.96	Signifikan

Discussion

The influence of personal factors on cognitive (self-esteem, self-control, and self-efficacy) in an effort to prevent high-risk pregnancy

The results of this study indicate that there is no influence of personal factors (age, education level, occupation, and income level) on cognitive (self-esteem, self-control, and self-efficacy). This means that exogenous factors have no effect on endogenous factors, family personal factors, among others can be formed by knowledge. Most of human knowledge is obtained through the eyes and ears (Ika Nur Fauziah, 2015) [8].

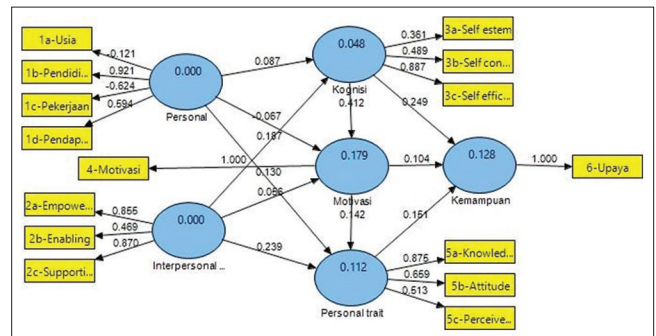


Figure 1: Research structural model (outer model)

There are six important things as a tool for knowing the occurrence of knowledge. The six things include: (1) Sensory experience, (2) reasoning (reasoning), (3) authority (authority), (4) intuition (intuition), (5) revelation, and (6) faith (faith) [9].

Education has no effect and is not absolutely obtained from formal education, but can be obtained from non-formal education. Not only people with high incomes who can provide certain facilities to obtain knowledge and information. Someone who has easy access to information will get new knowledge and innovations faster, resulting in changes or increased knowledge. Knowledge and family support while accompanying pregnant women can improve cognitive behavior and can minimize perceptions of the obstacles faced.

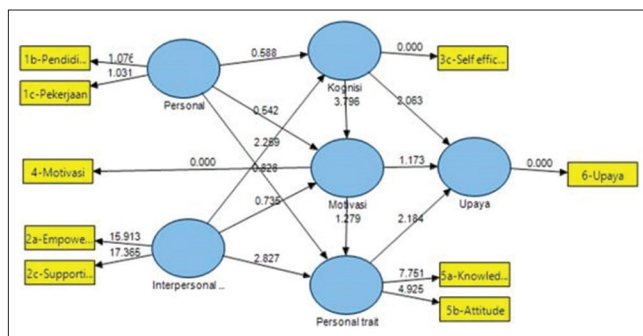


Figure 2: Structural model

The influence of personal factors on the motivation to prevent high-risk pregnancy

The results of this study indicate that there is no influence of personal factors (age, education level, occupation, and income level) on motivation. The calculated T-statistic value is smaller than the T-table value, which is 0.130. It is concluded that exogenous factors have no effect on endogenous factors.

Motivation is basically a person's interaction with certain situations he faces. Within a person to an object outside the person; therefore, motivation is a reason (reasoning) for a person to act to fulfill his life needs [10]. Motivation, as an inner process or psychological process within a person, is influenced by many factors. According to Ardana (2008) [11]:

- 1) Individual Characteristics: (a) Interest, (b) attitudes toward self, work, and work situations, (c) individual needs, (d) ability and competence, (e) knowledge of work, and (f) emotions, moods, feelings, beliefs, and values.
- 2) Employment Factors: (a) The work environment factors are: Salary and benefits received and human relations and (b) working conditions such as working hours, environment, physical, and so on.

Motivation is more influenced by the level of family desire to access health services in an effort to reduce risk (Sumasto and Sulikah, 2021) [12]. The desire of pregnant women to carry out examinations can reduce the high risk of pregnancy, so it is necessary to provide counseling or counseling.

The influence of personal factors on personal traits (knowledge, attitude, and perceived threat) in an effort to prevent high-risk pregnancy

The results of this study indicate that there is no influence of personal factors (age, education level, occupation, and income level) on personal traits (knowledge, attitude, and perceived threat). The calculated T-statistic value is smaller than the T-table value, which is 0.187, it is concluded that exogenous factors have no effect on endogenous factors.

Knowledge is an indicator of a person in taking action. If someone is based on good knowledge about health, then that person will understand the importance of maintaining health and motivate it to be applied in life [13]. After someone knows the stimulus or object, the next process will assess or behave toward the stimulus or health object [13]. This understanding and awareness of the family will have an impact on increasing their attitudes and behavior in providing care for pregnant women in their family. Hence, with the knowledge possessed, the family will take the right attitude in providing health care to pregnant women.

Family interpersonal factors (empowering, enabling, and supporting) on cognitive (self-esteem, self-control, and self-efficacy) in an effort to prevent high-risk pregnancy

The results showed that interpersonal factors (empowering and supportive) of the family greatly influenced cognitive (self-efficacy) in preventing high-risk pregnancies. The calculated T-statistic value is greater than the T-table value, which is 1,000. It is concluded that exogenous factors affect endogenous factors.

Empowerment is a process to give power to the weak (powerless) and reduce power (disempowered) to those who are too powerful so that there is a balance (Djohani, 2003) [14].

Not all families have the ability to be competent in dealing with family members who experience health problems. Some families show an inability to help family members to manage and master adaptive tasks related to health problems.

This is due to several related factors, including lack of supportive ability from the family, lack of information on the family, lack of understanding of the family, and incorrect information to the family about health problems faced by the family (Nanda, 2012) [15].

Family support (supporting and empowering) will foster self-efficacy in thinking and acting in making decisions about efforts to prevent high-risk pregnancies. Real actions are carried out through giving full control, full decision-making, and full responsibility for carrying out activities related to the pregnancy process for the wife.

Family interpersonal factors (empowering, enabling, and supporting) on motivation in efforts to prevent high-risk pregnancy

The results showed that family interpersonal factors (empowering, enabling, and supportive) did not affect family motivation in an effort to prevent high-risk pregnancies. The calculated T-statistic value is smaller than the T-table value, which is 0.056. It was concluded that exogenous factors had no effect on endogenous factors.

Motivation is a condition, in which a person's efforts and willpower are directed toward the

achievement of certain results (Nimran, 2005) [16]. Motivation is influenced by internal factors and external factors. Internal factors including the desire to live, the desire to have, the desire to gain appreciation, the desire to gain recognition, and the desire to power. External factors include working environment conditions, good supervision, job guarantees, award for achievements, flexible regulations, status, and responsibilities.

The influence of family interpersonal factors (empowering, enabling, and supporting) on personal traits (knowledge, attitude, and perceived threat) in an effort to prevent high-risk pregnancy

The results of this study indicate that there is a significant influence of family interpersonal, especially on empowering and supporting personal traits (knowledge and attitude,) in an effort to prevent high-risk pregnancies. The calculated T-statistic value is greater than the T-table value, which is 3.34. It is concluded that exogenous factors affect endogenous factors.

The family acts as the closest support system for pregnant women, because, in the family, there is a strong emotional bond so that pregnant women will feel more confident, happier and ready to go through pregnancy, childbirth, and the postpartum period (Fauzi, 2003) [17]. According to Notoatmodjo (2014) [13], an attitude is not automatically manifested in an action (overt behavior), supporting factors or enabling situations are needed, including facilities and support factors to realize the attitude into a real action.

The influence of the environment and beliefs from the family can affect the attitude of pregnant women. Family is very influential for pregnant women, because it is the biggest source of support. The family supports that pregnant women get will create a feeling of calm, a positive attitude toward themselves and pregnancy, making it easier for pregnant women to carry out pregnancy care and monitoring [18].

The influence of cognitive factors (self-esteem, self-control, and self-efficacy) on the family's ability to prevent high-risk pregnancy

The results showed that there was a significant effect of cognitive factors in this case on self-efficacy on the ability of families to prevent high-risk pregnancies with a calculated T-statistical value that is greater than the T-table value, which is 2.56. It is concluded that exogenous factors affect endogenous factors. Self-efficacy or perception of beliefs about personal abilities influences carrying out a particular action or behavior. Self-confidence in performing health behaviors well can increase commitment to action, high self-confidence will also reduce perceived barriers to certain health behaviors [19].

The higher the self-efficacy, the more confident in the ability to succeed, with family Cognitive Factors

which is one of the factors that form filial value for the dimensions of forming community empowerment. One of the principles that must be considered in family empowerment is to increase participation which makes the family increase its capacity and be able to take full control, full decision-making, and full responsibility for activities. Through good cognition, it can increase the family's self-efficacy, where self-efficacy refers to individual beliefs, with such conditions, it is necessary for the role of health workers to improve family abilities through empowerment so that families are able to independently make various efforts to optimize the prevention of high-risk pregnancy.

The influence of motivational factors on the family's ability to prevent high-risk pregnancy

The results showed that the motivational factor did not affect the family's ability to prevent high-risk pregnancy, with a T-statistical value that was smaller than the T-table value of 0.104. It was concluded that exogenous factors had no effect on endogenous factors.

Healthy behavior is behavior related to efforts to prevent or avoid disease and prevent or avoid the cause of disease or health problems (preventive), as well as behavior in seeking, maintaining, and improving health (promotive) (Notoatmodjo, 2009) [10].

According to Green (Notoatmodjo, 2014) [12], individual behavior is influenced by three factors, namely:

- a. Predisposing factors (predisposing), which is manifested in knowledge, attitudes, beliefs, values, and so on.
- b. Enabling factors (enabling), manifested in the availability of facilities, and infrastructure or facilities for the occurrence of healthy behavior.
- c. Reinforcing factors (reinforcing), which is manifested in the presence of social support, attitudes, and behavior of health workers as well as the presence of references from trusted individuals.

Family behavior in preventing high-risk pregnancy is not determined by the motivation of the family, but is largely determined by the knowledge, attitudes, and beliefs of the family, because motivational factors tend to decrease after the ability to prevent high-risk pregnancy is achieved, so it is temporary.

The influence of personal traits factors (knowledge, attitude, and perceived threat) on the family's ability to prevent high-risk pregnancies

The results showed that there was a significant influence of personal trait factor in this case on knowledge, attitude toward family ability in preventing high-risk pregnancy, with a T-statistical value that was

greater than the T-table value of 2.51. It is concluded that exogenous factors affect endogenous factors.

Knowledge as one of the dominant factors forming a person's behavior

Knowledge is the most important thing in determining a person's actions or behavior [20]. The higher a person's level of knowledge, the higher the individual's ability to evaluate a material or object. This assessment will be the basis for a person to act [21]. Attitude is the dominant variable forming behavior. Attitudes are not easy to form, let alone a positive attitude toward an object. According to Azwar (2000) [22] many factors influence the formation of a person's attitude, especially its relationship with certain objects in social interaction, where there is a mutual influence on the behavior of the individual as a member of society. Individuals react to form certain attitudes toward psychological objects they face [23].

Family knowledge and attitudes are factors that greatly influence the behavior of preventing high-risk pregnancy, meaning that knowledge and attitudes are the basis for the formation of high-risk pregnancy prevention behavior. The better the family's knowledge, the better the behavior and the positive attitude that the family has will encourage family behavior in preventing high-risk pregnancies [24].

Conclusion

Family interpersonal factors (empowering and supporting), cognitive factors (self-efficacy), and personal traits factors (knowledge and attitude) have contributed to the implementation of good family-centered empowerment, while personal factors and motivational factors did not contribute. Family empowerment improves family behavior by emphasizing direct reinforcement on cognitive factors (self-efficacy) and personal traits factors (knowledge and attitude) with indirect influence on family interpersonal factors (empowering and supporting). This family-centered empowerment-based family empowerment model is needed as an effort to increase family participation in efforts to prevent high-risk pregnancies and provide consulting services for pregnant women to anticipate danger signs of pregnancy.

References

- Haryati N. National Reference Book for Maternal and Neonatal Health Services. Jakarta: Earth Literacy; 2012.
- Aeni N. Risk factors for maternal death. *J Public Health*. 2013;7(10):453-9.
- World Health Organization. WHO Guidelines on Hand Hygiene in Health Care: First Global Patient Safety Challenge Clean Care is Safer Care Geneva. Geneva, Switzerland: World Health Organization; 2009.
- Arsita. Maternal and Child Health (MCH) in Millennium Development. Yogyakarta: Nuha Medika; 2012.
- Pusdatin. Immunization Situation in Indonesia. Ministry of Health of the Republic of Indonesia; 2016.
- Rosenstock IM, Strecher VJ, Becker MH. Social learning theory and the health belief model. *Health Educ Q*. 1988;15(2):175-83. <https://doi.org/10.1177/109019818801500203> PMID:3378902
- Friedman MM. Family Nursing: Theory and Practice. 3rd ed. Jakarta: EGC; 1998.
- Fauziah IN, Djuari L, Arief YS. Development of mother's behavior model in severe malnutrition prevention for under five children. *J Ners*. 2015;10(2):195-207. <https://doi.org/10.20473/jn.v10i2.1241>
- Kebung. Philosophy of Science. Jakarta: Prestasi Pustaka Publisher; 2011. Available from: <http://layanan.dispusip.bandung.go.id/opac/detail-opac?id=4173> [Last accessed on 2022 May 20].
- Notoatmodjo S. Development of Human Resources. Jakarta: PT. Rineka Cipta; 2009.
- Sunarti E. Family Empowerment and Counseling Program. Bogor: Faculty of Human Ecology, IPB; 2008.
- Sumasto H, Wisnu NT, Ngestiningrum AH, Setiawan SB, Najib M. Trauma healing during the earthquake disaster emergency response phase in Lombok, Indonesia. *Indian J Forensic Med Toxicol*. 2019;13(4):1745-8.
- Notoatmodjo S. Health Education and Behavior. Jakarta: Rineka Cipta; 2014.
- Djohani R. Community Participation, Empowerment, and Democratization: Repositioning Participatory Rural Appraisal (PRA) in Community Development Programs. Bandung: Studio Driya Media; 2003.
- NANDA International. Nursing diagnosis: Definition and classification 2012-2014. In: Medical Book: EGC. Mountain, WI, US: NANDA International; 2012.
- Nimran U. Organizational Behavior, Third Printing, CV. Surabaya: Citra Media; 2004.
- Fauzi AA. Emergency during Pregnancy; 2003. Available from: <https://www.kesrepro.info.com> [Last accessed on 2008 Apr 17].
- Qudriani M, Hidayah SN. Perceptions of Pregnant Women about High-Risk Pregnancy with Compliance with Antenatal care in Begawat Village, Bumijawa. Vol. 02. Prosiding 2nd Seminar Nasional IPTEK Terapan (SENIT); 2017. p. 197-203.
- Parsons MA, Pender NJ, Murdaugh CL. Health Promotion in Nursing Practice. London, England: Pearson Higher Ed; 2011.
- Mahesaniya A. Paclotrazol and Acibenzolar-S-Methyl Induced Tomato Seedling Growth Response and Resistance to Bacterial Speck (*Pseudomonas syringae* pv. Tomato), (Doctoral Dissertation). Canada: University of Guelph; 2002.
- Sumasto H, Sulikah S, Wisnu NT. Development of assessment instruments for disaster resilient campus capacity. *Health Not*. 2019;3(6):273-8. <https://doi.org/10.33846/hn30605>
- Azwar S. Human Attitude, Theory and Measurement. Jogjakarta: Student Libraries Jogja Offset; 2000.
- Rochjati P. Antenatal Screening off Pregnant Women in Surabaya FK. Indonesia: UNAIR; 2011.
- Kuswanti I. Pregnancy Care. Yogyakarta: Student Library; 2014.