



## Effectiveness of MCH handbook development with the addition of fps variables as an early detection for pregnancy and childbirth complications

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### ABSTRAK

**Latar Belakang:** Pengembangan buku panduan deteksi dini faktor risiko komplikasi pada ibu hamil yang dikemas dalam buku KIA dinilai efektif bagi petugas kesehatan dan ibu sebagai pedoman pencegahan komplikasi. Namun pemanfaatan buku KIA belum maksimal. Dari 81,5% ibu yang memiliki buku KIA, hanya 60,5% yang memahaminya. Hal ini menjadikan salah satu penyebab kematian ibu dan bayi adalah ketidaktahuan akan tanda-tanda komplikasi. Selain itu, dalam buku KIA hanya ada penilaian gangguan fisik tanpa menilai dari psikologis dan sosiologis.

**Tujuan:** Tujuan dari penelitian ini adalah untuk menghasilkan model buku KIA dengan penambahan faktor FPS (Psikologis, Psikologis dan Sosiologis) BARU untuk memaksimalkan pemahaman ibu hamil dan penegakan diagnosis potensi risiko tinggi secara cermat dan akurat.

**Metode:** Penelitian ini merupakan penelitian Research and Development (R&D) dengan menggunakan model Borg and Gall. Data dalam penelitian diperoleh dengan menggunakan wawancara, kuesioner FPS BARU, kuesioner uji coba respon ibu hamil. Populasi dalam penelitian ini terdiri dari 16 orang dan diambil sampel sebanyak 16 responden yang merupakan ibu hamil trimester 3 sampai 3 tahun dengan menggunakan teknik Simple Random Sampling.

**Hasil:** Hasil penelitian menunjukkan pengembangan buku KIA dengan penambahan variabel FPS efektif digunakan sebagai salah satu upaya deteksi dini kehamilan dan persalinan dengan hasil persentase: fisiologis (56,2%) psikologis (62,5%) dan sosiologis (68,7%) . Berdasarkan hasil penelitian, respon ibu hamil terhadap uji coba dalam pengembangan buku KIA diperoleh persentase rata-rata (87%), penambahan variabel FPS pada buku KIA efektif digunakan sebagai upaya deteksi dini komplikasi kehamilan dan persalinan. Pemenuhan ketiga aspek tersebut dapat meningkatkan pencapaian program KIA dalam skrining dini komplikasi.

**Kesimpulan:** Penelitian ini menyimpulkan bahwa penambahan variabel FPS BARU pada buku KIA layak dan efektif digunakan sebagai salah satu media untuk melakukan deteksi dini terjadinya kehamilan dan persalinan.

**KATA KUNCI :** pengembangan buku kia; fisiologi psikologis dan sosiologis; deteksi dini; kehamilan; persalinan

### ABSTRACT

**Background:** The development of an early detection guidebook for risk factors in pregnant women's complications packaged in MCH books was considered effective for health workers and mothers as guidelines for the prevention of complications. However, the use of MCH books has not been maximal. Of the 81.5% of mothers who own MCH books, only 60.5% understand it. This makes one of the causes of maternal and infant mortality is ignorance of the signs of complications. In addition, in MCH books there is only an

assessment of physical disorders without judging from psychological and sociological.

**Objectives:** The purpose of this study was to produce an MCH handbook model with addition NEW FPS (Physiological, Psychological and Sociological) factors to maximize the understanding of pregnant women and the enforcement of high potential risk diagnoses carefully and accurately.

**Methods:** This was Research and Development (R&D) study using Borg and Gall models. The data in the study was obtained using interviews, NEW FPS questionnaires, pregnant women's response trial questionnaires. The population in this study consisted of 16 people and taken a sample of 16 respondents who were pregnant women in trimester 3 to 3 years by using Simple Random Sampling technique.

**Results:** The results showed the development of MCh handbooks with the addition of FPS variabels effectively used as one of the efforts in early detection of pregnancy and childbirth with percentage results: physiological (56.2%) psychological (62.5%) and sociological (68.7%). Based on the results, the response of pregnant women to trials in the development of MCH handbooks obtained an average percentage (87%), the addition of FPS variabels to MCH handbooks was effectively used as an effort to early detection of pregnancy and childbirth complications. The fulfillment of these three aspects can increase the achievement of the MCH program in the early screening of complications.

**Conclusions:** This study concludes that the addition of NEW FPS variabels in MCH handbooks is feasible and effectively used as one of the media to conduct early detection of the occurrence of pregnancy and childbirth.

**KEYWORD:** mch handbook development; psychological and sociological physiology; early detection; pregnancy; childbirth

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## INTRODUCTION

The World Health Organization (WHO) said maternal deaths generally occur due to complications during, and post-pregnancy. The types of complications that cause the majority of maternal deaths of about 75,000 people are bleeding, infection, high blood pressure during pregnancy, complications of childbirth, and unsafe abortions. Currently still far from the target of the Sustainable Development Goals (SDGs) which is 70,000 people out of 100,000 live birth mothers by 2020 (1).

In 2018 East Java had a maternal mortality rate of 91.42%. There were three high causes of maternal death in 2018: 32.57% or 170 other causes of maternal mortality, 31.32% or 163 other complications and complications from peer

hemorrhage by 22.8% or 119 people, where other causes of complications increased in the last three years (2).

Mother and Child Health Book or referred to MCH handbook are one of the media that is used for recording maternal and child health. MCH handbook is also equipped with immunization schedule, fulfillment of maternal and child nutritional needs, stimulation of growth and development in children (3). One of the MCH handbook's benefits is to reduce the health issues in mothers and children through improving the quality of services in mothers and prenatal at the level of basic services and primary referral services (4).

MCH Handbooks has been used in more than 30 countries, including Indonesia, Utah, Kenya,

Palestine, Thailand, Netherland, Cameroon, Japan, Dominica, Vietnam, Myanmar and others. Little literature known about the form and the content of MCH handbooks from other countries. However, there has been a lot of discussion about psychological assessment in pregnant women should be done. To support pregnant mother appropriately, Australian guidelines recommend routine screening for depression and psychosocial risk assessment by midwives in pregnancy (5). Pregnancy as a developmental phase involves not only physiological but also psychological adaptations that are acceptable to certain extent, but if excessive happened, may lead to pathological changes. So assessment for psychological condition is held in London (6).

The development of an early detection guidebook for risk factors in pregnant women's complications packaged in MCH books was considered effective for health workers and mothers as guidelines for the prevention of complications (7).

Unfortunately, the use of MCH books has not been maximal in Indonesia. Based on the National Health Survey in 2016, data found that 81.5% of pregnant women have MCH handbooks, but only 60.5% of pregnant women can understand it This makes one of the causes of maternal and infant mortality is ignorance of the signs of complications (8). Other research has also revealed concerns about the lack of inappropriate use of MCH handbooks by mothers/health workers (9).

In addition, MCH handbook still focuses on the physical health condition of the mother, it should be noted that not only physical changes, pregnant women also experience adjustments to psychological changes. This happens because there is a change in the role and also the mother's coping mechanism in overcoming physical changes (10). The psychological condition of the mother can affect the health of fetus starting from conception. About 10% of pregnant women

and 30% of postpartum mothers experience mental disorders, especially depression and anxiety disorder. Health workers should pay more attention to the psychological condition of the mother. In fact, many of them are only focused on giving this-and-that advice to a disease, but forget that many disorders of the disease are not related to pathological conditions but associated by emotional instability in the mother (11).

Not only that, during the COVID-19 pandemic there was an increase of anxiety in pregnant women related to the health condition of them and their babies. Pregnancy accompanied by anxiety disorders itself will decrease the immunity of pregnant women so that mothers will be more susceptible to COVID-19 infection and other health problems and have a longer recovery period if they have been infected. Under normal conditions, it was estimated that 10% of pregnant women develop depression, especially in developing countries. This is exacerbated by the COVID-19 pandemic and the absence of health facilities / services that pay attention to the psychological condition of pregnant women (12).

Sociological conditions also need to be considered, humans as social creatures, tend to seek support from others. Sociological conditions can affect the physiological and psychological conditions of the mother. The inattention of these two things can lead the mother to depression that indirectly affects the mother's health (13). The results of the study were obtained from pregnant women with stress, caused by various problems from sociological aspects that they experienced socio-economic problems, family problems, limited access to health facilities which experienced not only by pregnant women, but also postpartum mothers in the era of pandemics (14).

The existence of regulations that require the use of MCH books and the incidence above encouraged researchers to make improvements with the addition of FPS factors to maximize

the understanding of pregnant women and the enforcement of high potential risk diagnoses carefully and accurately. This development can be called "MCH NEW FPS" with the addition of Physiological, Psychological, and Sociological variables in MCH handbooks to improve the main function of MCH handbook to conduct early detection of pregnancy and childbirth complications.

The development of measuring instruments based on FPS factors was developed by refining the content components of MCH handbooks on pages 8, 9, 12, 17, and 19 to get valid and reliable data recording and measurement tools. So that, the data obtained will be in good quality and it can be used as a basis to establish a diagnosis about the potential high risk of maternal pregnancy.

## **MATERIALS AND METHODS**

This research was conducted by Research and Development (R&D) methods with independent variables the effectiveness of adding FPS-based MCH book variables, and the dependent variable was early detection of pregnancy and childbirth complications. The study used design sequences with descriptive quantitative research to test the effectiveness of development and qualitative analysis to produce products.

The stage of development was carried out using the Borg and Gall model. The first stage was the information collection for problem analysis which was conducted by dividing questionnaires and interviews with simple random sampling techniques to 12 respondents consisting of 4 health center midwives, 2 village midwives, and 8 pregnant women until postpartum mothers in Tulungagung district. The second step was done by planning the addition of FPS factor into the MCH handbooks. The third step was done with the product design. The fourth step was the media validation step, carried out by expert lecturers, judged from materials, materials,

and grammar. Step five was to test the product on returning respondents. Step six, product revision was carried out based on reviews from respondents. Step 7 with a trial of use to 16 new respondents in the form of pregnant women in the 3rd trimester and postpartum mothers. In the end of the study, midwives who participated in the 4th step gave valuation about effectiveness of addition to each variables by filling out a questionnaire.

## **RESULTS AND DISCUSSION**

### **RESULTS**

Midwives conducted examinations to respondents (3rd trimester and postpartum mothers) using MCH handbooks with the addition of FPS variables. There are 3 categories in the assessment of physiological aspects, which were the history of antenatal visits in present pregnancy, the risks found at the time of the ANC (which includes hemorrhagic postpartum, anemia, fetal malposition, multiple pregnancy, macrosomia, edema in the face/hand, hypertension, other chronic diseases), and a history of complications in childbirth (which includes bleeding before delivery, bleeding after childbirth, atonia uteri, vaginal tear, prolonged labor, preeclampsia, eclampsia, other diseases). From the examination, it was found:

### **Addition of Physiological Variables**

Based on **Table 1**, found all respondents (100%) made a complete ANC visit, some respondents (43.8%) had a risk of pregnancy and found no risk of complications in most respondents (62.5%).

After that, the midwife filled out a questionnaire about effectiveness of physiological variables addition and obtained the results of the assessment.

Based on the decisions of researchers, results are said to be effective if the percentage value is more or equal to 50% and said to be

**Table 1. Frequency distribution with the addition of physiological variables**

Physiological aspects	Frequency	Percentage (%)
History of ANC visits in present pregnancy		
Complete	16	100
Incomplete	0	0
<b>Total</b>	<b>16</b>	<b>100</b>
Risks found during the ANC		
Risk	7	43,8
Not at risk	9	56,2
<b>Total</b>	<b>16</b>	<b>100</b>
Risk of complications found during the ANC		
Complications	6	37,5
No complications	10	62,5
<b>Total</b>	<b>16</b>	<b>100</b>

Source : Primary data

**Table 2. Frequency distribution of effectiveness of physiological variable addition**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid				
Effective	9	56.3	56.3	56.3
Ineffective	7	43.8	43.8	100.0
<b>Total</b>	<b>16</b>	<b>100.0</b>	<b>100.0</b>	

Source: Primary data

ineffective if the value is less than 50%. Based on **Table 2**, which is the result of SPSS calculations, it was known that the effective percentage value was 56.3%. So in conclusion, the addition of physiological variables can be said to be effective.

### Addition of Psychological Variables

In the addition of psychological variables added assessment of several conditions that were expected to be the "start" of the emergence of psychological disorders in the mother including a history of previous obstetrics, a history of complications in childbirth, the existence of referrals. From the examination, it was found:

According to **Table 3**, all respondents (100%) had no history of risk of pregnancy and most respondents (81.25%) also had no complications during labor and no referral (68.7%).

**Table 3. Frequency distribution with the addition of psychological variables**

Psychological aspects	Frequency	Percentage (%)
Previous obstetric history and complications of previous labor		
Not at risk	16	100
Risk	0	0
<b>Total</b>	<b>16</b>	<b>100</b>
History of complications in previous pregnancies/ childbirth		
Complications	3	18,75
No Complications	13	81,25
<b>Total</b>	<b>16</b>	<b>100</b>
Referral		
Yes	5	31,3
No	11	68,7
<b>Total</b>	<b>16</b>	<b>100</b>

Source : primary data

Besides the addition above, researchers also added Edinburgh Postpartum Depression (EPDS) as part of the psychological variable examination in the MCH handbook. After that, the midwife filled out a questionnaire about the effectiveness of physiological variables addition and obtained the results of the assessment:.

**Table 4. Frequency distribution of effectiveness of addition of psychological variables**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid				
Effective	10	62.5	62.5	62.5
Ineffective	6	37.5	37.5	100.0
<b>Total</b>	<b>16</b>	<b>100.0</b>	<b>100.0</b>	

Source : primary data

Based on **Table 4**, which was the result of SPSS calculations, it was known that the effective percentage value reached 62.5%. So in conclusion, the addition of psychological variables can be said to be effective.

### Addition of Sociological Variable

In addition to sociological variables added an assessment of several circumstances that can pose risk conditions in pregnancy, namely

in terms of personal/family/community such as whether it is too late to seek help, whether anyone refuses treatment, socioeconomic status, whether there is a health support system in the community (*Program Perencanaan Persalinan dan Pencegahan Komplikasi (P4K), Desa Siaga, DASOLIN, etc*), whether the pregnancy is unwanted, whether there is domestic violence, and how the mother relates to family, community, and health workers, also traditional beliefs. In terms of logistics, added an assessment in the form of transportation from home to health center, is there communication interference between health center, whether the location of the health center is difficult to reach, is there money available for delivery or referral. In addition, in terms of facilities, it was asked whether there are shortcomings in health support facilities including blood availability, is there a shortage of health workers around the environment. Half of respondents (50%) still follow traditional beliefs in their area and most of them (75%) had no cost yet for labor or referral in the event of further complications.

After that, the midwife filled out a questionnaire about the effectiveness of sociological variables addition and obtained the results of the assessment:

**Table 5. Frequency distribution of effectiveness of addition of sociological variables**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid				
Effective	11	68.8	68.8	68.8
Ineffective	5	31.3	31.3	100.0
Total	16	100.0	100.0	

Source : primary data

Based on **Table 5**, the result of spss calculations, known effective percentage value 68.8%. So in conclusion, the addition of sociological variables can be said to be effective.

## DISCUSSION

### Effectiveness of Adding Physiological Variables

The development Mother and Child Health (MCH) handbook with the addition of physiological variables as one of the early detection efforts for complications in pregnant women and maternity mothers began with the discovery of potential problems carried out by researchers through the identification of problems carried out in Tulungagung Regency, East Java, with the conduct of preliminary studies in Public Health Center in Tulungagung Regency. One aspect of addition in physiological variables as an effort to early detection of pregnancy and childbirth complications, can be seen from the history of ANC visits in the working area of Rejotangan and Banjarejo health center which get ANC care complete (100%), it was complemented by the results of interviews that pregnant women always get ANC care every time they do an examination either at the health center midwife, village midwife, or obstetrician at the hospital.

This is in line with Widiastuti's research (2015) that the management of early detection of pregnant women with high risk is influenced by antenatal services such as program planning, monitoring, and coaching of health workers. Coaching health workers is one of the efforts to foster motivation for health workers to be able to do programs more optimal (15).

From the results of interviews conducted by researchers to several informants it was known that the antenatal services received by one of them was health promotion, pregnant women got the information needed about pregnancy and childbirth, preparations that needed to be done if there's an emergency, this aimed to increase knowledge for pregnant women in facing their pregnancy until delivery. Here's the quote:

...“Usually health promotion... (iu 3)  
 ...“I was be told about pregnancy and

preparation for the birth later... (iu 5)  
...“The midwife explained what I should do if at any time I was bleeding.... (iu8).  
...“For adding information to pregnant mothers... (pb 2) “so that pregnant women better and health in pregnancy... (pb4).

It is known that the better the knowledge of pregnant women and the more information the mother gets about pregnancy examinations that have a high risk, the higher the ability of pregnant women in early detection of high risk and pregnancy complications that arise during pregnancy (16).

The provision of information by health workers at ANC visits is useful to increase the knowledge of pregnant women. Increased knowledge is one of the important aspects in changing the behavior of the mother. Mothers with good knowledge about pregnancy eating will behave in maintaining, preventing, and can do early detection of high risk and complications of pregnancy and can do an ANC examination as early as possible village midwives or midwives of the nearest health center as health workers (17).

Communication, education, and health information by utilizing MCH handbooks are one of the communication tools that can be used to pregnant women, although pregnant women can read the information contained in MCH handbooks, not all pregnant women can understand the contents of it. Therefore, the role of health workers in antenatal care visits in providing information about the book from MCH handbooks to pregnant women can improve healthy behavior practices in pregnant women (18).

One of the efforts in suppressing maternal mortality rate (MMR) is to make early detection of high risk of danger signs and complications of childbirth, one of which is by using the Poedji Rochjati Score Card (KSPR). Filling KSPR is

usually done at ANC examination by a midwife or obstetrician, filling KSPR completely will be very helpful to describe the condition of pregnant women, whether the pregnancy has a high risk of danger signs, has pregnancy complications, or is in good condition. According to KSPR, mothers get score of 2 with a green code for low-risk pregnancy, get score of 6 to 10 with a yellow code for high-risk pregnancy, and score of 12 with a red code for very-high-risk pregnancy (19).

Table 2, found the ineffectiveness of nearly half of the respondents (43.8%), most of this ineffectiveness was due to the risk aspects found when the ANC with some complications emerged. So the need to do anamnesis more deeply by midwives or other health workers in the aspect of possible risks of pregnancy and childbirth complications found during the ANC examination, so that early detection can be done to overcome complications that may arise during pregnancy and that can harm the delivery process.

### **Effectiveness of Adding Psychological Variables**

At any time, the pregnancy will develop or there may be complications, so monitoring the health of pregnant women is needed. Monitoring can be done through regular antenatal care visits by health workers. During the pregnancy process, several changes may occur, which are physical changes or psychological changes. Most pregnant women will experience stress, anxiety in the face of labor. Psychological factors are one of the causes complications in pregnancy and childbirth.

The results of research conducted in Rejotangan and Banjarejo health center about the addition of psychological variables in MCH handbooks as an effort to early detection of pregnancy and childbirth complications were seen from several aspects. One aspect assessed in the questionnaire added psychological variables

was the history of previous obstetrics and history of complications during pregnancy or previous labor with the category "not at risk" 100%. One of the psychological problems that arose was the occurrence of pre-eclampsia in pregnant women, the age of the mother becomes one of the factors causing pre-eclampsia where age has a role in determining a person's physical, emotional and personal maturity in dealing with pregnancy. The results of research conducted by Irawati (2017) that there was a relationship between maternal age and the risk of preeclampsia with a value (p-value 0.002) where the younger or older the age pregnant women have a higher risk of developing preeclampsia (20).

Complications of preeclampsia in pregnant women will usually cause nervous system dysfunction, kidney dysfunction, and cardiopulmonary dysfunction. While in the fetus will result in solutio placentae, prematurity and neonatal death. Risk factors for preeclampsia are one of the relevant alternatives to be used as an effort to early detection of childbirth complications with the prevention of preeclampsia (21).

Most cases of maternal death are caused by several risk factors that can be detected from the points contained in the KSPR (Poedji Rochjati Score Card) and 4 late. The higher risk level of pregnancy, the more delayed factors are found in the early detection of signs and dangers of pregnancy, so it is necessary to do the screening of pregnant women, at a certain gestational age or trimester. Delays in detecting signs and dangers and complications of pregnancy will affect one of the points in decision making to refer patients. In NEW FPS in the psychological aspect, there are already several aspects that can facilitate health workers in making a diagnosis to know the condition of pregnancy also in postpartum time by adopted EDPS so that there is no delay in detection if the mother has a high risk and pregnancy and postpartum complications so it is not too late in providing referrals. While

with KSPR can be done early detection of risk factors and pregnancy comparison using score assessment.

The phase of pregnancy with stressful conditions will have an impact on the psyche of pregnant women and is at high risk for the mother and fetus. In pregnant women in the 3rd trimester more experienced positive psychic changes of 54.3%. In early pregnancy, the mother will usually pay attention to the changes experienced by both physical changes and psychological changes. While in the 3rd trimester the mother will begin to accept the physical changes experienced and begin to prepare to welcome labor (22). During pregnancy, the physical and psychological changes experienced by the mother will cause discomfort such as more frequent urinate intensity, dyspnea, back pain, constipation and increased anxiety (23).

In Table 4, most respondents (62.5%) found the addition of this psychological variable effective. One of the problems or complications of childbirth that arises psychologically is postpartum depression. Postpartum depression is a mood disorder that appears in mothers after giving birth. It is very important to do early detection of postpartum depression to prevent the symptoms caused. The assumption of prevention efforts that can be done is the provision of psychological counseling when visiting the ANC to pregnant women, husbands, or families and explaining the symptoms of postpartum depression so that when the mother experiences these symptoms the mother, husband or family can provide appropriate treatment.

This is in line with previous research, which stated that counseling about postpartum depression in integrated health centers is needed. In general, this activity can increase pregnant women's knowledge about the symptoms and prevention of postpartum depression. With increasing knowledge, pregnant women can increase their confidence in welcoming a

new role as a mother. In addition to providing psychological counseling, preventive efforts that can be done to provide emotional support to mothers who have just given birth, providing recommendations for relaxing massage for postpartum mothers to reduce muscle tension commonly experienced by mothers after giving birth (24).

Another study conducted in Japan, stated that psychological of mothers must be assessed regularly especially in pandemic era. Studies on the link between COVID-19 pandemic and mental health issue has been released in different countries, and the impact is obvious that COVID-19 increases the incidence of anxiety disorders and depression in adults, especially pregnant women and postpartum mothers (25).

One of the roles of MCH handbooks as a form of intervention for changes in the behavior of pregnant women, where MCH handbooks have a role in ensuring the continuity of care of mothers, newborns, and children, a study in Vietnam showed that MCH handbooks contribute to improving the practice of antenatal care visits and increasing maternal knowledge about exclusive breastfeeding, but still have shortcomings in the completeness of recording in it (26). So that the addition of NEW FPS in the psychological aspects for MCH handbooks can help improve the provision of interventions more clearly and precisely and can increase the mother's knowledge about the danger signs in case of pregnancy complications so that the mother can take the right decision and minimize the risk of maternal and infant mortality.

### **Effectiveness of Adding Sociological Variables**

Non-medical problems were an aspect assessed in the addition of sociological variables to the development of MCH handbooks as an effort to early detection of pregnancy and childbirth complications. Economic status was

one of the aspects assessed in this case where pregnant women with low economic status are at risk of having difficulty meeting good nutritional needs for mothers and fetuses so that malnourished pregnant women will tend to experience anemia that will have an impact on babies born with low body weight. This study conducted at the Rejotangan and Banjarejo health centers of East Java, Tulungagung regency, obtained the results of the economic status of some respondents in the category of "sufficient" with a percentage rate of 81.3%, this was supported by information received by researchers from several informants through in-depth interviews which most informants said:

..."well, it's enough to cover daily needs... (iu 3)

..."my husband is a factory worker and I'm a housewife, and the important one that his income enough to us eat and everyday need .. (iu4)

... "I'm trying to provide nutritional needs for my child.. (iu 7)"

This is relevant to the study conducted by Lumempouw (2016) that economic status and income are related to maternal health with a p-value of 0.003. Socioeconomic status affects the mother's pregnancy because it is related to meeting the nutritional needs of pregnant women with the consumption of healthy and nutritious foods needed by pregnant women (27).

The addition of variables F and S in MCH handbook assessment is also in line with previous study conducted in Palestine, there were adjustments to the assessment of economic conditions, the history of current and previous ANC examinations, the level of maternal education, and the distance to health facilities (28).

Social and family support are needed by pregnant women, where family support greatly affects the mother's behavior in maintaining a pregnancy to prevent complications. When women undergo the process of pregnancy,

social support such as encouraging mothers to continue to live a healthy life and continue to move and socialize with their surroundings is needed. Husband support in taking maternity classes can prepare the mother for safe and comfortable delivery. Some activities such as pregnant women's gymnastics, breathing exercises in childbirth, and how to breastfeed the baby are also given. The higher husband's support for mother in taking class of pregnant, the lower anxiety becomes in undergoing the pregnancy process and facing labor. It can also minimize the emergence of complications during pregnancy (29). Family support and the existence of traditional beliefs are parts that also need to be considered in sociological aspects as an effort to early detection of pregnancy and childbirth complications.

Family support and traditional or cultural customs in the local village are some of the factors that need to be considered for the early detection of pregnancy and childbirth complications. In this study, patients had good family support with a percentage of 87.5% and for traditional beliefs or customs after pregnancy, as many as 50% of respondents stated there was a traditional belief in their village or family environment, the informant maintained that:

...“In my family environment always perform mitoni ceremonies, my mother-in-laws ask for the traditional event to be held... (iu 2)

...“ My parents said, pregnant women should not sit at the door she said it would be difficult to give birth.... (iu5)

...“ Should not eat fruit that is crowded, because he said later his child can be born conjoined (iu 8).

This is in line with research conducted by Juriah (2018), people in Karangasari village still carry out habits and cultures left behind by their ancestors, where pregnant women must carry out established habits and must avoid

restrictions that have been set. They assume that if the abstinence is violated it will cause bad things to the mother and the baby who is being conceived (30).

In the addition of Sociological variables in MCH handbook as one of the early detection efforts of pregnancy and childbirth complications obtained that the addition of Sociological variables was effective with a percentage value (68.7%) and ineffective with percentage (31.3%), most of the ineffectiveness was due to aspects of economic status, traditional beliefs in society, incompatibility of cost for delivery referrals. The difficulty factor of looking for midwives, non-existent four-wheeled transportation, the distance to health facilities or hospitals that are relatively far away, and relatively low family income are among the factors of maternity maternal mortality. In addition, cultural factors such as traditional beliefs still apply abstinence in consuming something nutritious for pregnant women. So it's important to establish a health extension program about the importance of knowing early on the danger signs of maternity and about traditional beliefs in the village, myths about pregnancy that are good for pregnant women or otherwise harmful to pregnant women.

## CONCLUSION AND RECOMMENDATION

In the trial of pregnant women's responses to the use of FPS variables in the MCH handbook that had been processed, it is known that the addition of FPS variables is "effectively" used as early detection for pregnancy and childbirth complications.

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