

# The Effect of Counselling Intervention during Antenatal Care on the Knowledge and Attitude about Danger Signs in Pregnancy: A Cross-Sectional Study in Takalar Regency

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**Abstract:** *Objective:* This study was to examine the effects of counselling delivered during antenatal care on the knowledge and attitudes of pregnant women about danger signs in pregnancy.

*Methods:* This was a pre-experimental design using one group pre- and post-test only. This study was conducted in Takalar, specifically within Sanrobone Community Health Service working area. Takalar is located in South Sulawesi Province Indonesia and this area is coastal with the majority of people working as a fisherman. Participants of this study were pregnant women living in the villages which are included in the working area of Sanrobone Community Health Service.

*Results:* The study shows that counselling improved knowledge and attitude of pregnant women about danger signs in pregnancy ( $p=0.011$  and  $p=0.025$ , respectively). The number of pregnant women with good knowledge and positive attitude increased after the intervention (43.8% vs 93.8%, 62.5% vs 93.8%, respectively).

*Conclusions:* It can be concluded that intervention by means of counselling can improve the knowledge and attitude of pregnant women about danger signs in pregnancy. Therefore, it is important to implement the counselling program delivered by health workers in Community Health Service in order to mitigate the risk of maternal mortality.

**Keywords:** Antenatal care, danger signs in pregnancy, maternal health, pregnancy.

## INTRODUCTION

During pregnancy, women should be aware of all danger signs that may occur during the antenatal period, especially for pregnant women living in low-middle income countries. These signs are related to psychological and metabolic complications that can lead to maternal death, including bleeding, eclampsia, complications of abortion and infection. Improving the health of pregnant women is the key to reduce these complication risks and it could be done by increasing the knowledge of the mothers. Midwives, one of the health workers in the Community Health Center, have the ability and capability to deliver an intensive counselling to increase the knowledge of pregnant women about the importance of their fetus'

development. The role of the midwives is important to improve the awareness of the mother about their pregnancy [1].

In 2011, WHO reported that 81% of global maternal deaths were caused by complications, childbirth, puerperium, bleeding, infection and pre-eclampsia. In 2013, according to WHO, Indonesian had the highest maternal mortality rate (MMR) (190 per 100,000 live births) in ASEAN compared to Malaysia (29 per 100,000 live Birth), Singapore (6 per 100,000 live birth), Thailand (26 per live birth) and Vietnam (49 per 100,000 live birth) [2]. In 2014, WHO has reported that 289,000 women died during pregnancy and delivery, which all of these deaths were largely preventable. The ratio of maternal deaths in developing countries in 2013 per 100,000 live births is greater than live births in developed countries which are 16 per 100,000 live births. There was a big difference between developing and developed countries. Approximately 75% of these deaths were due to complications, including bleeding,

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infection, hypertension in pregnancy (pre-eclampsia and eclampsia) and unsafe abortion [2,3].

The Indonesian Demographic Health Survey (IDHS) report in 2012 showed that the maternal mortality rate (MMR) reached 359 per 100,000 live births and the infant mortality rate (IMR) reached 32 per 1,000 live births. In the following year, a report from the Indonesian Ministry of Health showed that the number of mothers who died due to pregnancy and childbirth was 5,019, while the number of babies who died reached 160,681 babies [4].

The World Health Organization (WHO) developed a counselling handbook for maternal and newborn health care in 2013 to help women and her family improving their health. However, the evidence of counselling in improving the health of the mother is lacking and few studies indicated otherwise. For example, a study in Indonesia demonstrated that there were no effects of counselling on knowledge improvement among pregnant women [5]. Another study also showed the ineffectiveness of the counselling in improving knowledge of pregnant women [6]. On the other hand, knowledge and attitude were significantly related to the danger signs in pregnancy [7]. Improving knowledge, is still beneficial especially to increase the awareness of the mother about danger signs in pregnancy, thus lowering the risk of maternal mortality.

In Community Health Center (Puskesmas) of Sanrobone, located in Takalar Indonesia, the number of obstetric complications case increased from year 2015 to 2017. In 2015, among 311 of pregnant women who did complete 4-visit antenatal care, 296 (95.2%) were in high-risk, and 59.7% had complications [7]. The data indicated that there is the possibility of having complication if a mother does not come to get their pregnancy checked, at least four times during their pregnancy. Through ANC visit, pregnant women could get counselling from midwives or other health workers at Community Health Center or Puskesmas, which is potentially contribute to the knowledge improvement of pregnant women. Thus, the mother can be more aware of their pregnancy. This study was aimed to investigate whether counselling delivered by midwives can increase the knowledge, attitudes, and practices of pregnant women in Takalar Regency regarding danger signs in pregnancy.

## MATERIAL AND METHODS

The study design was pre-experimental with one group pre- and post-test design. Pregnant women were received a counseling about the danger signs in

pregnancy. This study was conducted in the working area of the Sanrobone Takalar Community Health Center in August 2018.

We calculated the sample size using *Federer's* formula [8] and obtained 16 respondents for the study participants. We used the purposive sampling technique to select participant, a technique that is done by making certain logical reasons with considerations for representativeness [9].

Instrument for collecting primary data in this study using counseling and questionnaires as an instrument of research to identify the knowledge and attitude of pregnant women about the danger signs of pregnancy in the working area of Community Health Center of Sanrobone. Univariate analysis was performed on each variable. Bivariate analysis was carried out to see the effect of the dependent variables on the independent variables using the Wilcoxon signed Rank test.

## RESULTS

Characteristics of respondents are shown in Table 1. Majority of respondents were age 17-25 years (50.0%), housewife (62.5%), parity with low risk (87.5%), secondary and primary school (62.4%), and from Makassar ethnic (75.0%).

**Table 1: Characteristic of Respondents**

Characteristic	n (%)
<b>Age (years)</b>	
17-25	8 (50)
26-35	6 (37.5)
36-45	2 (12.5)
<b>Occupation</b>	
Housewife	10 (62.5)
Private sector	5 (31.2)
Public sector	1 (6.2)
<b>Parity</b>	
High risk	2 (12.5)
Low risk	14 (87.5)
<b>Education</b>	
Primary school	5 (31.2)
Secondary school	5 (31.2)
Tertiary school	4 (25.0)
Academy	1 (12.5)
<b>Ethnicity</b>	
Makassar	12 (75.0)
Buginese	4 (25.0)

**Table 2: Changes of Knowledge and Attitude Level**

Stage	Knowledge		Attitude	
	Good	Poor	Positive	Negative
Pre	7 (43.8)	9 (56.2)	10 (62.5)	6 (37.5)
Post	15 (93.8)	1 (6.2)	15 (93.8)	1 (6.2)

Table 2 illustrates the change of knowledge and attitude level. There is an increase in good knowledge from 43.8% to 93.8%, while attitude from 62.5% to 93.8%.

The effect of intervention on the score of knowledge and attitude towards danger sign in pregnancy is shown in Table 3. There are significant changes from 1.06 to 1.56 ( $p=0.011$ ) in knowledge and from 1.06 to 1.38 ( $p=0.025$ ) in attitude.

**Table 3: Effect of Intervention on Knowledge and Attitude Scores**

Variables	Mean (SD)	p
<b>Knowledge (n=16)</b>		
Pre	1.06 (0.25)	0.011
Post	1.56 (0.51)	
<b>Attitude (n=16)</b>		
Pre	1.06 (0.25)	0.025
Post	1.38 (0.50)	

## DISCUSSION

### The Knowledge Changes

The finding of the study demonstrated showed that the number of those having poor knowledge was decreased by 50% after the intervention given. The knowledge score was significantly increased from 1.06 to 1.56 ( $p=0.011$ ). This study result showed that there was an effect of counselling on knowledge of pregnant women. From the results of the study, researchers assume that in giving counselling danger signs of pregnancy to pregnant women will change the knowledge of pregnant women into good categories and it shows that there is an effect of counselling on the knowledge of pregnant women after counselling. Knowledge is the result of "knowing" and this happens after people perceive a certain object. Sensing occurs through the five human senses namely the sense of sight, hearing, smell, taste and touch [10].

The external factors of the mother may determine the successfulness of counselling delivered to the mother in increasing their knowledge. A study in India

demonstrated that the education of women and their husbands, low parity, and exposure in each class to an increase in formal health counselling awareness found as a predictor of awareness about danger signs during pregnancy [11]. Another study also reported that the husband's education affects women's knowledge level. In addition, higher women's education and exposure to health counselling classes increase formal awareness are factors that predict knowledge about the danger signs of labor and risk symptoms after giving birth in our study [12].

A study in Tanzania rural area, district Refuji this stated that the discussion of the problems of pregnancy and previous pregnancy history can improve the knowledge of danger signs of pregnancy may be due to the increased contact health institutions and information gained from previous experience. The high frequency of contact and discussion of health institutions provides excellent opportunities for information, education and communication. Increased awareness among older women and multigravida and multiparas may be related to their own experience of pregnancy [13]. A study by Acharya *et al.* (2015) conducted in New Delhi, India showed that the common danger signs were heavy bleeding (20.1%), abdominal pain (8.6%), facial swelling and hands (6.7%), and reduced fetal movements (5.8%). Various sources from which the knowledge about danger signs obtained was parents/mother-in-law at 45.8 %, doctors at 26.6%, friends at 10.0%, and other sources at 16.6% [14].

The majority of knowledge of the human is obtained from the eyes and ears. Knowledge or cognitive domain is a very important domain for the formation of one's actions. Based on the results of the study after being given counselling showed that out of 16 respondents there were 15 (93.8 %) people who had good Knowledge Post. And there is 1 person (6.2 %) of respondents who had less Knowledge Post [15]. The counselling can increase mothers' health by supporting the recognition of danger signs of pregnancy, thus they can be more aware of their pregnancy [16]. In a survey conducted in Pakistan focusing to assess the knowledge of women of reproductive age about

smoking. From the survey, there was about 77% and 88% of respondents already knew that smoking and passive smoking, respectively, could adversely affect fetal health, indicating that they will minimize the exposure of smoking during their pregnancy [17].

Women and their husband, as well as the community, need to be educated about the signs of obstetric danger so that they can seek appropriate care from skilled providers in time. Lack of knowledge about the importance of symptoms of obstetric complications is one of the reasons for the failure of women to identify and seek appropriate emergency care. Therefore, the assessment of women's knowledge about obstetric danger signs and related factors contributes to their knowledge [18].

### **The Attitude Changes**

Similar to the knowledge changes, the positive attitude of the pregnant women increased by 31.3% after the intervention given. The score of the attitudes, in overall, increased from 1.06 to 1.38 ( $p=0.025$ ). The possibility why the counselling can affect attitudes is through the increase of knowledge. People who have knowledge about something may have attitude as well. In this study, with increasing knowledge there will be a potential that the attitudes of pregnant women increased [19]. A theory by Notoatmodjo indicated that attitude is a reaction or response of someone who is still closed to stimulation or objects and attitude itself is based on knowledge [10].

Attitude, both positive and negative, is an individual's willingness to carry out a certain action. Positive nature is not harmful in people's lives, negative attitudes inhibit, and creating dividing lines between individuals is a barrier in holding interactions. Attitude is based on knowledge [19]. Based on the results of the study showed that of the 16 respondents there were 10 (62.5%) people who had a positive pre attitude. And there are 6 people (37.5%) who had a Negative Post Attitude. This is due to the lack of knowledge of pregnant women about the danger signs of pregnancy that have not affected the attitude of pregnant women in recognizing the danger signs of pregnancy. After the treatment or counseling there was a change from 16 the number of respondents there were 15 (93,8%) people who had a Pre-Positive Attitude. And there is 1 person (6,2 %) who had a negative post attitude. This shows that after counseling pregnant women it will increase knowledge and with increasing knowledge there will be a very big change in the attitudes of pregnant women.

From the results of the present study, giving counseling about danger signs in pregnancy to pregnant women will improve the knowledge of pregnant women and therefore, can potentially improve the attitude of pregnant women in recognizing and detecting early signs of pregnancy danger. It can be concluded that there is an effect of counseling on the attitude of pregnant women after counseling.

During pregnancy, mothers may have a complex physiological, functional and anatomical changes, which needs to be identified by midwives, thus the midwives can properly deliver the pregnant woman in relation to improve the health of the mothers. The state of homeostasis in pregnancy may be altered, and together with environmental and genetic conditions, it can lead to premature birth and consequently many with low birth weight. Preterm birth is defined as occurring between the 22<sup>nd</sup> and 37<sup>th</sup> week of pregnancy and low birth weight, indicating a baby born weighing less than 2.500g [20]. About 94% of babies born with disabilities are reported to be from low-middle income countries and 95% of children are also born from birth defects. A study reported a high percentage of women over the age of 35 gave birth without the availability of public education, family planning services, medical genetic screening, prenatal diagnosis and other related services in most developing countries [21]. We acknowledge some limitations in this study, including a small sample size and standardization of counselling delivery. However, the method of selecting participants based on the representativeness of the area could make generalization of the result of this study. Moreover, similar characteristics of the midwives might reduce biases of counselling delivery.

### **CONCLUSIONS**

This study concluded that counselling intervention successfully improved the knowledge and attitude of pregnant women about danger signs in pregnancy. Considering the number of pregnant women with low education, this study recommends that the District Health Office should improve the skill of Midwives of communication in order to optimize the effectiveness of the counselling program for all pregnant women through antenatal care visits.

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