

# Mother's Behavior in Pregnancy-Puerperal Treatments and Reproductive Health Disorders

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## Abstract

Maternal mortality rate in Sigi Regency in Central Sulawesi is quite high at 309 per 100.000 live births. The study aimed to determine the effect of knowledge on Antenatal Care (ANC), early detection of high risk and pregnant women postpartum behavioral care, reproductive health disorders, and to determine which factors are the most salient of these variables. The study was an analytical observational research with a population of 180 pregnant women and a sample of 180 pregnant women. Data was collected from February 2018 to June 2018 by interview using questionnaire, observation and FGD. Data analysis used was *Chi Square* at significance level of  $p < 0.05$ .

The research results showed that the mother's level of knowledge on *Antenatal Care* was low at 58.88%; the level of knowledge on early detection of high risk pregnancy was low at 56.66%, mother's behavior in pregnancy treatment was also poor at 55.55%, and prevalence of respondents with reproductive health disorders was 57.7%. Knowledge on ANC, early detection of high risk pregnancy, and mother's behavior in prenatal care had significant relations with reproductive health disorders ( $p < 0.05$ ). Maternal knowledge becomes the most influential variable to maternal reproductive health disorder with P value = 0,001. It was found out that lack of mother's knowledge on antenatal care and late detection of high risk pregnancy, as well as behavior during pregnancy-*puerperal* period contributed to adverse reproductive health of women. and led to an increase in maternal and infant mortality rates in Sigi district of Central Sulawesi. As an intervention, the study recommends increased women's literacy in pregnant-*nifas* treatment as a preventive effort in improving women's reproductive health.

**Keywords:** *Pregnancy-Puerperal Period, Antenatal Care (ANC), Early Detection of High Risk, Healthy Behavior, Reproductive Health*

## Introduction

To reduce maternal mortality significantly, early detection and treatment of pregnant women at risk should be improved, especially in primary service facilities. Therefore, early detection by health workers on risk factors and complications, as well as adequate treatment as early as possible, are necessary<sup>1</sup>.

Factors causing high mortality rate can be direct and indirect. Direct causes are bleeding, preeclampsia, infection, and pregnancy complication<sup>2</sup>. Indirect causes of MMR and IMR include completeness and accuracy in implementing Antenatal care, poor administration

of iron tablet and examination of hemoglobin which causes anemia in pregnant women<sup>3</sup>, poor knowledge of symptoms of high risk<sup>4,5</sup>.

The purpose of the present study was to determine the relation between mother's knowledge on Antenatal Care (ANC), high risk early detection, as well as healthy behavior in pregnancy-*puerperal* treatment, and reproductive health disorders, and which factors are most influential on the three variables.

## Materials and Method

This was an analytical observational study. The

research was performed in the working area of Tinggede Public Health Center, which covers 3 villages, i.e. Sunju, Tinggede and South Tinggede Villages from February 2018 to June 2018.

The following information were culled from the participants' medical records available at the Public Health Centers: personal identity, frequency and regularity of prenatal care (antenatal care ANC), immunizations, detection of high risk, number of abortions in the past activities during antenatal care, diet.

Additionally, a questionnaire consisting of 75 questions about knowledge of prenatal care (ANC), high risk pregnancy detection and mother's behavior during pregnancy that impacts reproductive health. Interviews were conducted during the prenatal care of mothers at the Tinggede Public Health Center of the three villages usually at 8:00 am to 12:00 pm. The researcher also observed the pregnant woman's home environment by going to the subjects homes in the afternoon until evening, and during Saturdays and Mondays every week.

Statistical analysis using chi square were performed on the relationship of the variables.

### Population and Sample

The population was all pregnant women (second pregnancy) who have a child under two years old totaling 180 subjects. The sampling technique was total sampling.

The data collection was conducted through a series of measurements:

Measurement of knowledge on ANC using questionnaire with the indicators of Pregnancy

examination, Checkup frequency, Height measurement and weight, Blood pressure measurement, Measuring Upper Mid Arm, Measuring Height of Fundus Uteri, and TT Immunization

Measurement of knowledge on **early detection of high risk pregnancy using questionnaire** with the indicators of Too young to be pregnant ( $\leq 16$  years old), Too slow to get pregnant, Too fast to get pregnant again ( $\leq 2$  years), Too old to be pregnant ( $\geq 35$  years old), Too long to be pregnant again ( $\geq 10$  years old), Too many children (4 or more), Too old ( $\geq 35$  years old), Too short ( $< 145$  cm), Previous miscarriage, Previous birth involving (Being pulled by forceps/vacuum, Reaching into placenta, Administration of infusion/transfusion, and breech pregnancy).

Measurement of **healthy behavior in pregnancy treatment** using questionnaire with the indicators of Balanced daily menu, Favorite dishes and fruits, Hand washing habit, Bathing habit, Habit of wearing footwear, length of working hour and rest.

Measurement of **Reproductive health disorders using questionnaire with the indicators of** Bleeding, Infection, Miscarriage, Pregnancy complication, Fever/seizure, Premature birth, Low birth weight, Infant mortality.

### Data Analysis

Univariate data analysis were performed for all study variables. Chi-square test was used to examine the correlation between independent variables and dependent variables (bivariate and multivariate). The level of significance was  $p < 0.05$ .

## Results

**Table 1. The relation between knowledge on ANC, early detection and high risk pregnancy, Healthy behavior in pregnancy treatment and reproductive health disorders**

Variable	Reproductive health disorders				Total		P value
	Experienced		Not Experienced		N (180)	% (100)	
	n (104)	% (57.7)	n (76)	% (42.3)			
Knowledge on ANC							
Low	72	67.9	34	32,1	106	58.88	0.001
High	32	43.2	42	56.8	74	42.12	

Knowledge on early detection and high risk pregnancy							
Low	68	66.6	34	33.4	102	56.66	0.015
High	36	46.1	42	53.9	78	43.34	
Healthy behavior in pregnancy treatment							
Not healthy	68	68.0	32	32.0	100	55.55	0.015
Healthy	36	45.0	44	55.0	80	44.45	

Pregnant women who had unhealthy/poor behavior in pregnancy and puerperal treatment and reproductive health disorders were 68% and those who had healthy behavior in pregnancy and puerperal treatment and reproductive health disorders were 45%. Meanwhile, those who had no reproductive disease and had unhealthy/poor behavior were 32% and those who had healthy behavior were 55%.

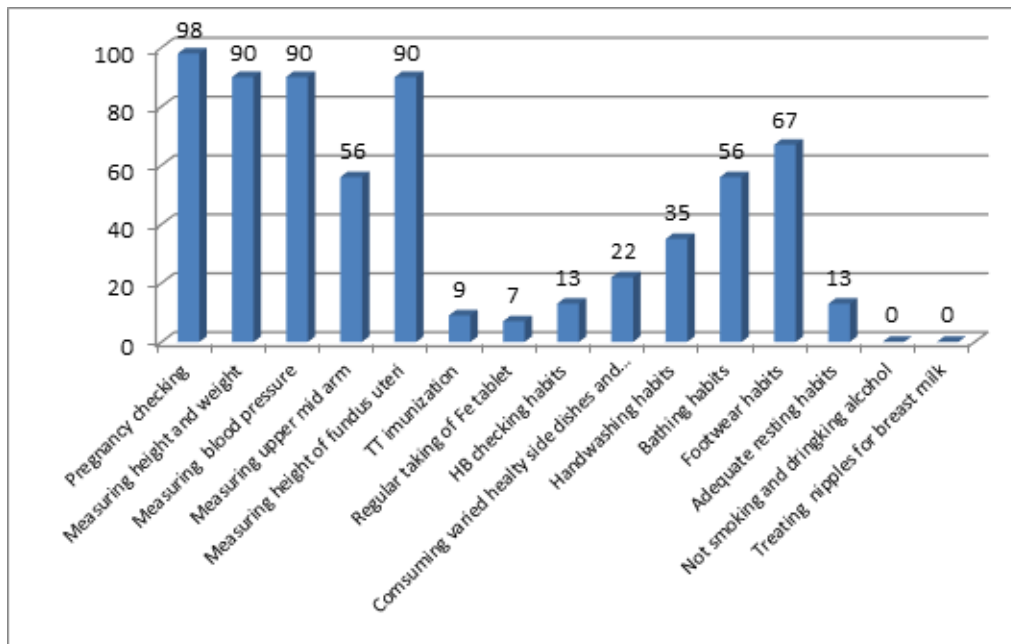


Figure 1.. Distribution of Mother's Behavior In Pregnancy-Postnatal Care Percentage

Table 2 shows maternal behaviors in prenatal care of pregnant women. Checking for pregnancy is highest (measuring height and weight, and measuring the height of the uterine fundus, which is a component of the examination performed at the first visit) with a value

of more than 90%. The lowest was treating nipples for breast milk (0%), resting habits (0%), regular taking of iron tablets (7%), tetanus toxoid immunization (9%) and Hb checking habit (13%).

**Multivariate Data****Table 2. ANC Multivariate Test Results, Early Detection of High Risk, Mother Behavior, and Reproductive Health Disorders**

No	Variables	Model 1			
		P	B	OR	95% CI
1	ANC Knowledge	0.002	1.024	2.785	1.478 – 5.249
2	Early Detection Knowledge	0.535	0.574	0.563	0.092 – 3.458
3	Healthy Behaviour	0.111	1.474	4.369	0.714 – 26.731

The results of multivariate analysis showed that the most influencing variables of reproductive disorder were knowledge of ANC. Mothers who had knowledge of ANC had 2 times less higher risk for having reproductive disorder compared to mothers who had no good ANC knowledge.

**Discussion**

Table 1 shows that pregnant women with poor knowledge generally had reproductive health disorders (bleeding, infection, seizure, hypertension, low birth weight (LBW) and miscarriage) at 67.7%. Their low knowledge affected their health behavior, especially in the utilization of antenatal care, i.e. pregnancy examination, compliance in drinking Fe tablet, HB examination, counseling, etc.. This research indicated the importance of iron supplement during pregnancy, knowledge about anemia and iron-rich food during pregnancy. Educating antenatal women on the importance of consuming Fe tablet and regular taking of the iron supplement will help prevent bleeding<sup>6</sup>.

Moreover, there are many factors causing low knowledge on the importance of ANC services, including low level of education<sup>7,8</sup>. Mother's level of knowledge affects information acceptance and attitude change, thus enhancing or lacking knowledge on nutrition for both women and fetus. Knowledge and access to antenatal care can lead to healthy condition of the mothers and healthy fetal growth. Educational attainment factor had significant relation with reproductive health of pregnant women and ability to look for knowledge on pregnancy-periperal treatments.

Further, the research results also showed that knowledge on early detection of high risk pregnancy

had significant relation with reproductive disorders with  $p = 0.015$  ( $p < 0.05$ ). Low knowledge level on early detection of high risk pregnancy made pregnant women and their families unaware of the symptoms of high risk pregnancy. This finding is consistent with Risk,<sup>9</sup> study found that knowledge on preeclampsia affects maternal and infant mortalities. Women with high risk pregnancy require closer attention from their families and health care providers because they may not be able to distinguish these symptoms.

Table 1 shows that low knowledge of pregnant women led to risk of reproductive health disorders (bleeding, infection, seizure, hypertension, low birth weight (LBW) and miscarriage) at 66.6%. One's level of education is related to knowledge on many things, e.g. rationality in thinking, attitude and consideration of different factors, including early detection of high risk and their own high risk Rosmala-Nur<sup>10</sup>, and Abdullah<sup>11</sup> found that one's knowledge impacts the economic, social cultural, and political activities, as well as asserting women's rights to reproductive health in a patriarchal society.

Education level also determined how readily a pregnant woman absorbs and understands knowledge on early detection of high risk. Low education leads to limited knowledge on early detection, e.g. too young, too old for birth, too many children, short body height, etc., leading to pregnancy complication, bleeding, anemia, premature birth and even infant death. These findings were similar with the study of<sup>12</sup> which shows significant relation between low knowledge and reproductive health (e.g., bleeding) in pregnant women.

Anemia prevention affects incidence of postpartum bleeding according to Sulastri, Arina Maliya and Maliya study<sup>13</sup>. Education and socialization on health by health workers to get optimal level of health are still very necessary, especially in developing countries such as Indonesia as found by Mubasyiroh R, Tejayanti T<sup>14</sup>, and Rosmala-Nur and Mallongi<sup>15</sup>.

Another factor which affected low healthy behavior among pregnant women was husband's lack of support to the wife during pregnancy and puerperal periods. Rosmala-Nur<sup>10</sup> found that low husband's participation among pregnant women whose reproductive rights weren't met were due to husband's domination in decision making in the family.

Furthermore, in Table 2 vividly shows that healthy behaviors during pregnancy such as pregnancy checking, measuring height and weight, measuring blood pressure, Measuring Upper Mid Arm, measuring height of fundus uteri, TT immunization, regular taking of Fe tablets, HB checking habits, consuming varied healthy side dishes and fruits, hand washing habits, bathing habits, footwear habits, adequate resting habits, not smoking and drinking alcohol, and treating nipples for breast milk impacted healthy outcome for both mother and child. Among the different healthy practices, the lowest behaviors were treating nipples for breast milk (0%), resting habits (0%), regular taking of Fe tablets (7%), TT immunization (9%), and HB checking habits (13%). All of these factors impacted maternal reproductive health. Pregnant women who do not have time to rest, work hard during pregnancy accompanied by not regularly taking Fe tablets were at risk for bleeding which affects the incidence of maternal deaths.

Routinely performed ANC are also useful for facilitating the passage of mutual trust between pregnant women and health workers, thereby cultivating a shared sense of responsibility for keeping pregnancy healthy until the birth process<sup>16</sup>. Thus if the expectant mother has no knowledge of ANC, it will affect her behavior during pregnancy and utilizing the pregnancy related services. The results of this study were in accordance with study revealed that one of the risk factors of maternal mortality is incomplete implementation of ANC among pregnant women because of lack of knowledge in the utilization of ANC services.

Pregnant women should have knowledge that high-risk pregnancies can be detected if they routinely submit

to prenatal care and check-ups. Included in this service is early detection of danger signs, as well as providing information about efforts to maintain pregnancy and prepare for the birthing process. High risk pregnant women are among those who suffer maternal deaths if not detected at the outset<sup>17-19</sup>. Thus it can be concluded that lack of knowledge of Antenatal Care (ANC) is a variable that greatly impacts the occurrence of reproductive health disorders in the regency of Sigi Biromaru, Central Sulawesi.

## Conclusion

Pregnant women's level of knowledge on ANC and early detection of high risk and pregnant women's behavior in pregnancy-puerperal treatment affected reproductive health disorders such as bleeding, infection, seizure, hypertension, low birth weight (LBW)) and led to increased mortality and infant mortality rates in the research areas of Tinggede Public Health Center, Sigi Regency, Central Sulawesi.

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