

## Behavior Of Pregnant Women In Increasing Body Immunity Through Determinants Of Thoughts And Feelings, Availability Of Resources, And Culture

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### Abstract

**Objective.** The aim of this research is to test whether there was a relationship between thoughts and feelings, available resources, and culture with the behavior of pregnant women in improving body immunity in the working area of the Bajeng Community Health Center.

**Method.** The research methodology used in this research was quantitative research using a cross-sectional study design. The sample size in this study was 50 pregnant women. Sampling in this study used total sampling.

**Findings :** The findings of this research reveal that based on the results of the analysis using the Chi Square test, a  $p$  value of 0.570 ( $>0.05$ ) was obtained for the thought and feeling variable and a  $p$  value of 1,000 ( $>0.05$ ) for the available resources variable so that the result was that there was no significant relationship between thoughts and feelings as well as available resources and the behavior of pregnant women in increasing body culture with behavior of pregnant women in increasing body immunity in the working area of the Bajeng Community Health Center.

**Conclusion :** In conclusion, there was no relationship between thoughts and feelings, available resources with the behavior of pregnant women in improving body immunity, and there was significant relationship between culture with the behavior of pregnant women in improving health immunity. It was our sincere hope that pregnant women will continuously empower themselves to find the motivation needed to modify their caregiving behavior in improving body immunity.

**Keywords:** Behavior, Pregnant Women, Improving Body Immunity

### Introduction

According to WHO, pregnancy is a process to continue the survival of an organism, and is an important factor in preventing the extinction of that organism. The role of the immune system at the beginning of the pregnancy process is to increase the human immune system.<sup>1,2</sup>

The pregnancy period is part of the first 1,000 days of life (HPK), which is a very important period for actions to fulfill children's nutritional needs and development, apart from that, exclusive breastfeeding, parenting patterns, and a good environment are also the basis for growth and development.<sup>2,3</sup>

Data from the World Health Organization (WHO) states that the maternal mortality rate in the world is 385,000

cases and 99% are in developing countries, and 67% come from several countries, including Indonesia. In 2013, as many as 34% of pregnant women in Indonesia were in high-risk pregnancies. Based on 2018 Riskesdas data, 17.3% of pregnant women in Indonesia experience malnutrition, which is dominated by iron deficiency anemia and chronic energy deficiency. The prevalence of anemia in pregnant women in Indonesia in 2018 was 48.9% and the prevalence of pregnant women experiencing chronic energy deficiency in Indonesia in 2018 was 17.3%.<sup>3-6</sup>

South Sulawesi is one of five provinces with the highest maternal mortality rate and infant mortality rate in Indonesia, alongside DKI Jakarta, Banten, East Java and North Sumatra. Data from the South Sulawesi Provincial Health Service, in 2021 the total maternal mortality rate in South Sulawesi was 195 cases, while the infant mortality rate reached 844 cases. Of all the districts in South Sulawesi, Gowa is one of the districts that has pregnant women who are at high risk.<sup>4,7</sup>

Based on data from local monitoring reports on maternal and child health Gowa District Health Service in 2023 Bajeng Community Health Center total cases of pregnant women experiencing high risk as many as 185 people amounting to 99.46%. Data from the working area of the Bajeng Community Health Center, Gowa Regency in October 2023, the number of pregnant women was 783 people, 178 pregnant women who experienced high risk. 71 pregnant women experienced anemia amounting to 9.11%, 134 people experiencing chronic energy deficiency amounting to 17.20%, 20 people underwent Tetanus 1 immunization, 14 people received tetanus II, 11 people received tetanus III, 20 tetanus IV people, tetanus V as many as 2 people. There were 649 pregnant women who underwent Antenatal Care I and 754 Antenatal Care IV.

A person's thoughts and feelings or what can also be called personal considerations regarding health are a person's first step in behaving. Thoughts and feelings can be influenced by several things such as knowledge, beliefs and attitudes. The existence of resources such as facilities, money, time, labor will influence the behavior of a person or society. This influence can be positive or negative.<sup>5,8</sup>

Based on this background, this research aims to determine the relationship between thoughts and feelings, available resources, and culture with the behavior of pregnant women in improving body immunity in the working area of the Bajeng Community Health Center.

## Methods

In this research, a quantitative approach was used with a cross-sectional design. The research took place in the working area of the Bajeng Community Health Center. This location was chosen because there were still pregnant women who were at high risk. Data was collected from various sources, primary data was obtained through questionnaires given to respondents. Meanwhile, secondary data was obtained from Bajeng Community Health Center data reports. The population in this study was 783 pregnant women in the working area of the Bajeng Community Health Center in 2024. In determining the sample size, researchers used purposive sampling. Purposive sampling is a sampling technique based on certain considerations made by the researcher. The sample size in this study was 50 pregnant women using a probability sampling method with a simple random sampling technique in sampling. Data collection was carried out using a combination of interviews, observations and questionnaires. Data was collected using a combination of interviews, observations and questionnaires. Interviews were conducted with pregnant women to obtain information regarding data and other necessary information related to the problem being studied and the object of research. Observations are carried out for direct observation of pregnant women and studying things related to research directly at the research location. Questionnaire sheets were given to pregnant women to find out and analyze the determinants of pregnant women's behavior in improving their health. Data collection uses a questionnaire containing questions that have been prepared in writing by distributing questionnaires and accompanied by alternative answers that will be given to respondents. The analysis process uses two techniques, namely univariate analysis to describe the characteristics of all variables and bivariate analysis to determine the relationship between independent and dependent variables using Chi-Square. Analysis consists of three lines of activities that occur simultaneously,

namely data reduction, data presentation, and conclusion. This study has been ethical approved by the Health Research Ethics Committee of College of Health Science “Maluku Husada”, No. RK. 171/KEPK/STIK/VI/2024 at Kairatu, 12 Juni 2024.

## Findings

After analyzing the processed data, the findings from the research that has been carried out are as follows :

**Table 1**

**Pregnant Women Based on Age, Education, Occupation, and Age of First Marriage at the Bajeng Community Health Center, Gowa Regency in 2024**

| Age                   | N         | %            |
|-----------------------|-----------|--------------|
| < 20 Years            | 13        | 26.0         |
| 20-35 Years           | 15        | 30.0         |
| > 35 Years            | 22        | 44.0         |
| <b>Total</b>          | <b>50</b> | <b>100.0</b> |
| Education             | N         | %            |
| Elementary School     | 9         | 18.0         |
| Junior High School    | 14        | 28.0         |
| Senior High School    | 18        | 36.0         |
| Diploma               | 1         | 2.0          |
| Bachelor              | 8         | 16.0         |
| <b>Total</b>          | <b>50</b> | <b>100.0</b> |
| Work                  | N         | %            |
| Civil Servants        | 1         | 2.0          |
| Self-employed         | 2         | 4.0          |
| Housewife             | 44        | 88.0         |
| Honour                | 2         | 4.0          |
| Contract Personnel    | 1         | 2.0          |
| <b>Total</b>          | <b>50</b> | <b>100.0</b> |
| First Age of Marriage | N         | %            |
| <20 Years             | 29        | 58.0         |
| 20-35 Years           | 21        | 42.0         |
| <b>Total</b>          | <b>50</b> | <b>100.0</b> |

Source: Primary Data 2024

Based on Table 1, in the age category the number of respondents aged >35 years was greater with 22 (44.0%),

and the least was aged <20 years with 13 respondents (26.0%). Based on the education category, there were more respondents, namely SMA with 18 respondents (36.0%) and the least was Diploma with 1 respondent (2.0%). Based on job category, the majority of respondents were housewives with 44 respondents (88.0%), while the fewest were contract workers and civil servants with 1 respondent (2.0%). Based on the age at first marriage, <20 years old was more common with 29 respondents (58.0%) and at least 20-35 years old with 21 respondents (42.0%).

**Table 2**

**Distribution of Respondents Based on Thoughts and Feelings with the Behavior of Pregnant Women in Increasing Body Immunity in the Bajeng Community Health Center Work Area in 2024**

| Thoughts and Feelings | Behavior of Pregnant Women |      |        |      |       |       | <i>P value</i> |
|-----------------------|----------------------------|------|--------|------|-------|-------|----------------|
|                       | Not enough                 |      | Enough |      | Total |       |                |
|                       | N                          | %    | N      | %    | N     | %     |                |
| Not enough            | 13                         | 56.5 | 10     | 43.0 | 23    | 100.0 | 0.570          |
| Enough                | 12                         | 44.4 | 15     | 55.6 | 27    | 100.0 |                |
| Amount                | 25                         | 50.0 | 25     | 50.0 | 50    | 100.0 |                |

Source: Primary Data 2024

The data presented in Table 2 shows that of the 50 respondents there were thoughts and feelings in the poor category regarding the behavior of pregnant women in the poor category, namely 13 respondents with a percentage of 56.5%, thoughts and feelings in the poor category regarding the behavior of pregnant women in the sufficient category, namely 10 respondents with a percentage of 43.0%, while there are sufficient thoughts and feelings regarding the behavior of pregnant women in the poor category, namely 12 respondents with a percentage of 44.4%, and sufficient thoughts and feelings regarding the behavior of pregnant women in the moderate category, amounting to 15 respondents with a percentage of 55.6%. Based on the results of the analysis using the *Chi Square test*, it can be seen that the p value = 0.570, which means the p value is >0.05, so it can be concluded that there is no significant relationship between thoughts and feelings and the behavior of pregnant women in improving health in the Bajeng Community Health Center working area.

**Table 3**

**Distribution of Respondents Based on Available Resources and Behavior of Pregnant Women in Increasing Body Immunity in the Bajeng Community Health Center Work Area in 2024**

| Available Resources | Behavior of Pregnant Women |      |        |      |       |       | <i>P value</i> |
|---------------------|----------------------------|------|--------|------|-------|-------|----------------|
|                     | Not enough                 |      | Enough |      | Total |       |                |
|                     | N                          | %    | N      | %    | N     | %     |                |
| Not enough          | 14                         | 50.0 | 14     | 50.0 | 28    | 100.0 | 1,000          |
| Enough              | 11                         | 50.0 | 11     | 50.0 | 22    | 100.0 |                |
| Amount              | 25                         | 50.0 | 25     | 50.0 | 50    | 100.0 |                |

Source: Primary Data 2024

The data presented in Table 3 shows that of the 50 respondents there are insufficient resources available in the poor category for the behavior of pregnant women, namely 14 respondents with a percentage of 50.0%, the available resources in the insufficient category for the behavior of pregnant women in the sufficient category are 11 respondents with a percentage of 50.0%, while there are sufficient resources available for the behavior of pregnant women in the less category, namely 11 respondents with a percentage of 50.0%, and the available

resources in the sufficient category for the behavior of pregnant women in the sufficient category are 11 respondents with a percentage of 50.0%. Based on the results of the analysis using the *Chi Square test*, it can be seen that the  $p$  value = 1,000, which means the  $p$  value is  $>0.05$ , so it can be concluded that there is no significant relationship between available resources and the behavior of pregnant women in improving health in the working area of the Bajeng Community Health Center.

**Table 4**

**Distribution of Respondents Based on Culture and Behavior of Pregnant Women in Increasing Body Immunity in the Bajeng Community Health Center Work Area in 2024**

| Culture    | Behavior of Pregnant Women |      |        |      | Total |       | <i>P value</i> |
|------------|----------------------------|------|--------|------|-------|-------|----------------|
|            | Not enough                 |      | Enough |      |       |       |                |
|            | N                          | %    | N      | %    | N     | %     |                |
| Not enough | 18                         | 81.8 | 4      | 18.2 | 28    | 100.0 | 0,000          |
| Enough     | 7                          | 25.0 | 21     | 75.0 | 22    | 100.0 |                |
| Amount     | 25                         | 50.0 | 25     | 50.0 | 50    | 100.0 |                |

Source: Primary Data 2024

The data presented in Table 3 shows that Of the 50 respondents, there were habits and culture that were lacking in the behavior of pregnant women, namely 18 respondents (81.8%), habits and culture that were lacking in the behavior of pregnant women, namely 4 respondents (18.2%). Meanwhile, there are sufficient habits and culture for poor behavior of pregnant women, namely 7 respondents (25.0%), as well as sufficient available resources for adequate maternal behavior, namely 21 respondents (75.0%). Based on the results of the analysis using the Chi Square test, it can be seen that the  $p$  value = 0.000, which means the  $p$  value  $<0.05$  where  $H_0$  is rejected and  $H_a$  is accepted, so it can be concluded that there was a relationship between habits and culture and the behavior of pregnant women in improving health in the work area Bajeng Health Center.

## Discussion

Most of the respondents in this study were in the age group  $>35$  years, which is a vulnerable age group. Most of the respondents married more in the 15-20 year age group. It can be said that the majority of respondents married young, and the majority of pregnant women's last education was high school.

Thoughts and feelings can be influenced by several things such as knowledge, beliefs and attitudes. The level of knowledge influences health attitudes, namely things related to a person's actions and activities in choosing and improving health. The results of a person's thoughts and feelings can be the first step in behavior. Mother's knowledge is also influenced by educational factors, in this case someone with less education can hinder the development of their reactions regarding the absorption of information and the introduction of new values.<sup>5, 6,9</sup>

From the results of respondents' answers for adequate thoughts and feelings the percentage was 54% and in the inadequate category the percentage was 46.0%. Based on the results of the analysis using the Chi Square test, it can be seen that the  $p$  value = 0.570, which means the  $p$  value is  $>0.05$ , so it can be concluded that there is no significant relationship between thoughts and feelings and the behavior of pregnant women in improving health in the Bajeng Community Health Center working area. This research shows that pregnant women have sufficient thoughts and feelings. In line with research conducted regarding the relationship between the characteristics of pregnant women and knowledge and behavior in using MCH books during Antenatal Care which obtained a  $p$ -value of 0.4 ( $p$ -value  $>0.05$ ) as a result of bivariate analysis Between age and behavior of pregnant women shows there is no relationship between the two.<sup>7,10,14</sup>

The existence of resources such as facilities, money, time and labor will influence a person's behavior. This influence can be positive or negative.<sup>5</sup>

In the results of this study, the relationship between available resources and the behavior of pregnant women in improving health shows that the resources available from respondents were in the sufficient category, 22 with a percentage of 44.0%, while in the insufficient category there were 28 respondents with a percentage of 56.0%. Based on the results of the analysis using the Chi Square test, it can be seen that the  $p$  value = 1,000, which means the  $p$  value is  $>0.05$ , so it can be concluded that there is no significant relationship between available resources and the behavior of pregnant women in improving health in the working area of the Bajeng Community Health Center.

This research is in line with that carried out and regarding the influence of compliance with the consumption of blood supplement tablets and diet on the incidence of anemia in pregnant women in the second trimester in the Long Ikis Community Health Center working area which obtained a  $p$  value of  $0.017 < \alpha : 0.05$ , meaning There is an influence of compliance with the consumption of blood supplement tablets on the incidence of anemia in pregnant women in the second trimester in the working area of the Long Ikis Community Health Center and the result of  $p$  value is  $0.001 < \alpha : 0.05$ , meaning that there is an influence of diet on the incidence of anemia in pregnant women in the second trimester in the working area of the Long Ikis Community Health Center.<sup>8,15,16</sup>

In the results of this study, the relationship between habits and culture with the behavior of pregnant women in improving health can be seen that the habits and culture of respondents are in the sufficient category as many as 25 with a percentage of 50.0%, while in the less category, namely 25 respondents with a percentage of 50.0%.

The initial step of this research process is filling out a questionnaire by pregnant women with a total of 66 questions, where 13 questions are related to thoughts and feelings, 15 questions are related to references from someone, 12 questions are related to available resources, 12 questions are related to habits and culture and 14 questions are related to the behavior of pregnant women in improving health. Obtaining a  $p$  value = 0.000 which means  $p$  value  $<0.05$  where  $H_0$  is rejected and  $H_a$  is accepted, so it can be concluded that there is a relationship between habits and culture with the behavior of pregnant women in improving health in the Bajeng Health Center work area.

This study shows that pregnant women have less culture and habits. The results of this study are in line with research on beliefs and cultural practices during pregnancy, which obtained the results that the Karangsari village community still follows the customs that must be carried out by mothers during pregnancy and also taboos/prohibitions that must be avoided by pregnant women. They believe that if the taboos are violated it will have bad consequences for the mother and the baby she is carrying. the husband is involved in his wife's pregnancy as shown by the husband's obedience to the requirements and taboos and the belief in the consequences if these habits are not followed. the traditional monthly opat and nujuh bulan ceremonies are still maintained by the people of this village, although in their implementation they are adjusted to the abilities of pregnant women and their families.

This study showed that pregnant women have insufficient available resources. From the respondents' answers in Table 5.26, it shows that the habits and culture of the respondents are in the sufficient category as many as 22 with a percentage of 44.0%, while in the lacking category there are 28 respondents with a percentage of 56.0%. The results of this study conducted in the Bajeng Health Center work area show that the habits and culture given to pregnant women are included in the category of less, but it turns out that there are still sufficient habits and cultures. This can be seen in table 5.25 that many choose always on the statement "Mothers are used to waking up early during pregnancy with a total of 33 respondents (66.0%), mothers are used to consuming foods containing vitamin C to increase immunity", for example: spinach, oranges with a total of 30 respondents (60.0%), mothers are used to eating healthy foods during pregnancy with a total of 31 respondents (62.0%), mothers are used to eating healthy foods during pregnancy with a total of 31 respondents (62.0%), Do mothers get used to cleaning themselves and the environment with a total of 28 respondents (56.0%)", choosing often on the statement "Mothers believe in the passili custom to purify mothers and babies at 7 months of pregnancy with a total of 21 respondents (42.0%). Pregnant women who believe in the passili tradition to purify the mother and baby, if associated with the results of observations and research, this occurs because pregnant women still

have customs and cultures that are inherent in their lives.

## Conclusion

The results of the research show that there was no relationship between thoughts and feelings and the behavior of pregnant women in improving body immunity in the working area of the Bajeng Community Health Center with a  $p$  value = 0.570, which means  $p$  value  $<0.05$  and there was no relationship between available resources and the behavior of pregnant women in improving health in the working area of the Bajeng Community Health Center with a  $p$  value = 1,000, which means a  $p$  value  $<0.05$ , and there was significant relationship between culture with the behavior of pregnant women in improving health immunity. It was our sincere hope that pregnant women will continuously empower themselves to find the motivation needed to modify their caregiving behavior in improving health immunity.

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## Ethical permissions

The ethical permissions issued by Health Research Ethics Committee of College of Health Science “Maluku Husada”, in order to protect human rights of health research subjects, has reviewed the following research protocol and can be identified by the reference number register No: RK. 177/KEPK/STIK/VIII/2024.

## Conflicts of Interest

The Authors have stated that there are no conflicts of interests to disclose.

## Authors Contribution

The conceptualization, design, data collection, analysis, and interpretation of the results were carried out by YY. The manuscript submission was approved by YY, and MKA and RS contributed to the analysis, interpretation of the findings, and provided critical feedback for the final draft of the manuscript.

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