Effect of consumption red guava juice to increase hemoglobin levels in pregnant women

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ABSTRACT

One of the indicators based on the sustainable development goals (Sustainable Development Goals / SDGs 2030), is to support welfare and ensure a healthy life for all at all ages with the most important points being to reduce the maternal mortality rate to less than 70 per 100,000 live births and prevent maternal mortality. The death rate for newborns and toddlers is at least 12 per 1000 live births and 25 per 1000 live births for children under five. A study was conducted to determine the effect of giving red guava juice on changes in hemoglobin levels in pregnant women at Praktik Bidan Boloni Tanaka Medan Johor in 2022. This study the sample used was all pregnant women from March to May as many as 2022 as many as 12 people. The research showed that in the intervention group before giving red guava juice the majority of moderate anemia with a frequency of 8 respondents (66.7%) and a normal minority with a frequency of 1 respondent (8.3%). Meanwhile, after giving red guava juice the majority were normal with a frequency of 7 respondents (53.8%) and a minority of moderate anemia was 1 respondent (8.3%). The results of the analysis test in this study using Mann Whitney showed a P-Value of 0.022 (P <0.05), namely the effect of giving red guava juice to increase hemoglobin in pregnant women. Pregnant women, especially pregnant women who experience anemia, are expected to regularly consume red guava juice because if consumed properly, red guava juice has many benefits, especially for pregnant women so that it can meet the nutritional needs needed by the body and can maximize absorption of substances iron.

Kata kunci:
Jus Jambu Biji Merah
Haemoglobin
Ibu Hamil

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INTRODUCTION

One of the indicators based on the sustainable development goals (Sustainable Development Goals / SDGs 2030), is to support welfare and ensure a healthy life for all at all ages with the most important points being to reduce the maternal mortality rate to less than 70 per 100,000 live births and prevent maternal mortality. The death rate for newborns and toddlers is at least 12 per 1000 live births and 25 per 1000 live births for children under five. (WHO, 2016)

In 2015, the Maternal Mortality Rate (MMR) decreased to 305 per 100,000 live births. Compared to 2012 the maternal mortality rate reached 359 per 100,000 live births. This shows that the Maternal Mortality Rate in 2012 was higher than in 2012. Meanwhile, in 2018 the Neonatal Mortality Rate was 15 per 1000 live births. Approximately 75% of the causes of maternal death are caused by postpartum hemorrhage or bleeding, infection, preeclampsia / eclampsia, prolonged / obstructed labor, and abortion. The causes of neonatal death are premature, birth defects, infections, and complications during delivery. (Kuswanti, 2014)

The way that can be done to prevent death and detect early complications in pregnant women is to increase antenatal care. This is one way to reduce maternal mortality. Antenatal Care (ANC) is an effort made for prevention in obstetric health care programs that aim to maximize maternal and neonatal outcomes by conducting regular monitoring during pregnancy. ANC provides a platform that aims to screen and diagnose and prevent disease. In addition, ANC also provides opportunities to communicate and support women, families and communities in the journey of women's lives; utilization of health and quality of care, improving lives, and saving lives are functions of ANC communication and support.

Midwives are one of the health workers in reducing maternal mortality and infant mortality by providing sustainable midwifery services, promotion with partnerships and empowering the community with other health workers.

METHOD

This research plan uses an experimental research type. The research design used to find causal relationships with the involvement of research in manipulating independent variables is called experimental research.

This study used a pre-experimental one group pretest-posttest design. By revealing causal relationships by involving a group of subjects is a characteristic of this type of research. Before the intervention was carried out, the subject group was observed first and then after the intervention was given, it was observed later. (Nursalam, 2016). So knowing the effect of giving red guava juice to increase hemoglobin levels in pregnant women at Praktik Bidan Boloni Tanaka Medan Johor in 2022.

In this study, the population used were all pregnant women in Praktik Bidan Boloni Tanaka Medan Johor from March to May as many as 12 people in 2022.

Data testing in this bivariate analysis was carried out using the Man-Whitney statistical test, with a significant level of 95% (α = 0.05). The purpose of the bivariate analysis in this study was to prove whether there was an effect of giving red guava juice on increasing hemoglobin levels in pregnant women at Praktik Bidan Boloni Tanaka Medan Johor in 2022.

RESULTS AND DISCUSSION

Table of Frequency Distribution of Increased Hemoglobin Levels in the Control Group

<table>
<thead>
<tr>
<th>Kelompok Kontrol</th>
<th>Normal</th>
<th>Anemia Ringan</th>
<th>Anemia Sedang</th>
<th>Anemia Berat</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>F</td>
<td>%</td>
<td>F</td>
</tr>
<tr>
<td>Sebelum</td>
<td>1</td>
<td>8,3</td>
<td>7</td>
<td>58,3</td>
</tr>
<tr>
<td>Setelah</td>
<td>1</td>
<td>8,3</td>
<td>9</td>
<td>75</td>
</tr>
</tbody>
</table>

The table above shows that in the control group before giving Fe tablets, the majority were mild anemia with a frequency of 7 respondents (58.3%) and the minority was normal anemia (not anemic) with a frequency of 1 respondent (8.3%). Meanwhile, after administration of Fe tablets, the majority were mild anemia with a frequency of 9 respondents (75%) and a normal minority (not anemic) was 1 respondent (8.3%).

Table of Frequency Distribution of Increased Hemoglobin Levels in the Intervention Group

<table>
<thead>
<tr>
<th>Kelompok Intervensi</th>
<th>Normal</th>
<th>Anemia Ringan</th>
<th>Anemia Sedang</th>
<th>Anemia Berat</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>F</td>
<td>%</td>
<td>F</td>
</tr>
<tr>
<td>Sebelum</td>
<td>1</td>
<td>8,3</td>
<td>8</td>
<td>66,7</td>
</tr>
<tr>
<td>Setelah</td>
<td>7</td>
<td>58,3</td>
<td>4</td>
<td>33,3</td>
</tr>
</tbody>
</table>

The table above shows that in the intervention group before giving red guava juice the majority of moderate anemia with a frequency of 8 respondents (66.7%) and a normal minority with a frequency of 1 respondent (8.3%). Meanwhile,
after giving red guava juice the majority were normal with a frequency of 7 respondents (53.8%) and a minority of moderate anemia was 1 respondent (8.3%). This analysis aims to see the effect of giving red guava juice to increase hemoglobin levels in pregnant women using statistical methods. The results of the data processing are as follows:

<table>
<thead>
<tr>
<th>Kelompok</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kontrol</td>
<td>1.08</td>
<td>0.55</td>
<td>0.022</td>
</tr>
<tr>
<td>Intervensi</td>
<td>0.50</td>
<td>0.67</td>
<td></td>
</tr>
</tbody>
</table>

Based on the table above, it can be seen that the results of the analysis test in this study using Mann Whitney showed a P-Value of 0.022 ($P < 0.05$), namely the effect of giving red guava juice to increase hemoglobin in pregnant women with TM II.

**CONCLUSIONS AND SUGGESTIONS**

1. Frequency distribution of the control group before administration of Fe tablets, the majority of which were mild anemia with a frequency of 7 respondents (58.3%) and a minority of normal anemia (not anemic) with a frequency of 1 respondent (8.3%). Meanwhile, after administration of Fe tablets, the majority were mild anemia with a frequency of 9 respondents (75%) and a normal minority (not anemic) was 1 respondent (8.3%).
2. Frequency distribution in the intervention group before administration of Fe tablets and guava juice, the majority of moderate anemia with a frequency of 8 respondents (66.7%) and normal minority with a frequency of 1 respondent (8.3%). Meanwhile, after administration of Fe tablets and guava juice the majority were normal with a frequency of 7 respondents (53.8%) and a minority of moderate anemia was 1 respondent (8.3%).
3. The results of the bivariate analysis using Mann Whitney showed a P-Value of 0.022 ($P < 0.05$) then Ho was rejected, which means that there was a significant effect of giving red guava juice to increase hemoglobin in pregnant women with TM II.

Pregnant women, especially pregnant women who experience anemia, are expected to regularly consume red guava juice because if consumed properly, red guava juice has many benefits, especially for pregnant women and red guava juice has no side effects on the fetus and mother so it can meet the nutritional needs needed by the body and can maximize iron absorption.

**ETHICAL CONSIDERATIONS**

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**Conflict of Interest Statement**

No potential conflicts of interest have been reported regarding the submitted articles.
