INTRODUCTION

Pregnant women can pass STIs including hepatitis B, syphilis, and the human immunodeficiency virus (HIV) to their unborn children. The human immunodeficiency virus (HIV), syphilis, and hepatitis B are transferred to newborns by their mothers in more than 90% of cases. According to Ministry of Health RI’s 2017 report, there is a 20%–45% chance of HIV/AIDS transmission from mother to child, a 69–80% risk of syphilis, and a 90%+ risk of hepatitis B. All three may be spread by sexual contact and blood, and most often, during pregnancy, this transmission happens vertically from mother to fetus. Morbidity, disability, and mortality are affected when children of infected mothers are exposed to HIV, Syphilis, and Hepatitis B.1

In Indonesia the prevalence rates for HIV, syphilis and hepatitis are 0.39% for HIV, 1.7% for syphilis and 2.5% for hepatitis B.1 more attention is needed to address them. Data from the East Java Health Service, the death rate in East Java decreased from 2010-2018 from 598 to 370 maternal deaths. The causes of maternal death in East Java in 2018 were preeclampsia/eclampsia 31%, bleeding 22%, heart 10%, infection 4% and others 33% and 68.65% occurring at reproductive age 20-34 years. Based on these data, it is clear that the number of emergency cases in pregnancy is still high.2

In compliance with WHO recommendations, the Ministry of Health of the Republic of Indonesia has implemented prevention measures through the Triple Elimination program.3 According to WHO, preventative measures can lower transmission rates from 15% to under 5%. During antenatal care (ANC), tests for HIV, Hepatitis B, and Syphilis are conducted on pregnant women. Given the complications that could result from the three diseases being passed from mother to child, especially

ABSTRACT

Introduction: Screening in pregnant women by performing a triple elimination test to prevent transmission of HIV/AIDS, syphilis and hepatitis B, as well as a Roll Over Test (ROT) and Mean Arterial Pressure (MAP) to detect pre-eclampsia became really hard during the COVID-19 pandemic due to many restrictions on almost all routine health services. Adaptation is needed in responding to changes that can overcome physical and mental health problems in the community, one way to overcome this is through self-hypnosis. For this reason, there is a need for research on the effectiveness of triple elimination, ROT and MAP examinations as well as self-hypnosis in high-risk pregnant women in an effort to manage emergency pregnancy.

Method: A cross sectional design was used. All samples were selected by simple random sampling at PMB Ika Mardiyanti. Data were collected for completion of triple elimination, ROT, MAP, as well as the outcome of the emergency treatment in the high-risk pregnant women.

Results: There were 30 pregnant women involved, in which 17 of them were at low risk and 13 of them at high risk. Most respondents with complete data of triple elimination, ROT and MAP had good emergency management (73.3%). Those who received self hypnosis seemed to have better emergency management compared to controls (p=0.001).

Conclusion: Doing the triple elimination examination, ROT, MAP and self hypnosis could be the strategies for handling emergencies and lead to better outcome in high-risk pregnant women.

Keywords: Triple elimination, Self-hypnosis, Emergency.

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in high-risk pregnancies, this needs to be done right away. Additionally required during pregnancy is self-hypnosis. Self hypnosis is a simple process so that we are relaxed, calm, and focused in order to achieve a certain result or goal, such as reducing nausea, reducing stress, panic, reducing weight. Self hypnosis can be done while planning a pregnancy and during pregnancy. This method can be used by pregnant women to give positive affirmations to high-risk pregnancies, including when there is an emergency.

The phenomenon of this problem shows that HIV, Syphilis, Hepatitis B are still the main problems for pregnant women. It would be better if the public, especially pregnant women, were able to understand and realize the importance of implementing triple elimination (HIV/AIDS, syphilis, hepatitis) to prevent the transmission of HIV/AIDS, Syphilis and Hepatitis B, as well as Roll Over Test (ROT) and Mean Arterial Pressure examinations. (MAP) to detect pre-eclampsia. As well as self-hypnosis which can help the health of high-risk pregnant women to be able to handle in the event of an emergency. Therefore, researchers are interested in conducting research to find out “The Effectiveness of the Implementation of Triple Elimination (HIV, Syphilis, Hepatitis), ROT, MAP and Self Hypnosis on Emergency Management of High Risk Pregnant Women during the Pandemic”

**METHODS**

**Study design**

We adopted cross-sectional design in this study to determine the effectiveness of triple elimination examination and self-hypnosis on emergency management of high risk pregnant women during pandemic. This research has received ethical approval from Faculty of Nursing and Midwifery, Universitas Nahdlatul Ulama Surabaya, Indonesia (521/EC/KEPK/UNUSA/2022).

**Data collection**

The population and sample of the study were pregnant women. Sampling was done by simple random sampling at PMB Ika Mardiyanti. The inclusion criteria was those pregnant women who lived with their husbands or families. All data were collected primarily. The independent variables were triple elimination and self hypnosis, while the dependent variable was the health or outcome of the emergency treatment in the pregnant women.

**Data analysis**

We used univariate analysis to present the distribution of the participants’ characteristics. All data were then tabulated to see the distribution and correlation between the triple elimination, ROT, MAP and the outcome of the emergency management in high-risk pregnant women during pandemic.

**RESULTS**

**Characteristics of respondents**

Based on table 1 above, the results show that most of the respondents (56.7%) were in the low risk age group.

Based on table 2 above, it is found that almost all (83.3%) respondents had a secondary education level.

**Effectiveness of Triple Elimination, ROT, MAP**

Based on table 3 above, the results show that most (73.3%) respondents have complete data on triple elimination, ROT and MAP had good emergency management of high-risk pregnant women during pandemic.

**Table 1. Frequency Distribution by age in Pregnant Women at PMB Ika Mardiyanti Sidoarjo, Year 2022**

<table>
<thead>
<tr>
<th>Age</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low risk (20-35 years)</td>
<td>17</td>
<td>56,7</td>
</tr>
<tr>
<td>High risk (&lt; 20 / &gt; 35 years)</td>
<td>13</td>
<td>43,3</td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Primary data, 2022

**Table 2. Frequency distribution based on education of pregnant women at PMB Ika Mardiyanti Sidoarjo, 2022**

<table>
<thead>
<tr>
<th>Education</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic</td>
<td>2</td>
<td>6,7</td>
</tr>
<tr>
<td>Intermediate</td>
<td>25</td>
<td>83,3</td>
</tr>
<tr>
<td>Upper</td>
<td>3</td>
<td>10,0</td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Primary data, 2022

**Table 3. Frequency distribution based on triple elimination, ROT, MAP at PMB Ika Mardiyanti Sidoarjo, 2022**

<table>
<thead>
<tr>
<th>Less</th>
<th>Good</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Complete</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>Complete</td>
<td>4</td>
<td>11</td>
</tr>
<tr>
<td>Total</td>
<td>12</td>
<td>18</td>
</tr>
</tbody>
</table>

Source: Primary data, 2022

**Table 4. Distribution of frequency based on emergencies of high-risk pregnant women at PMB Ika Mardiyanti Sidoarjo, 2022**

<table>
<thead>
<tr>
<th>Self Hypnosis</th>
<th>Less</th>
<th>Good</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intervention group</td>
<td>3</td>
<td>12</td>
<td>15</td>
</tr>
<tr>
<td>Control</td>
<td>8</td>
<td>7</td>
<td>15</td>
</tr>
<tr>
<td>Total</td>
<td>11</td>
<td>19</td>
<td>30</td>
</tr>
</tbody>
</table>

Source: Primary data, 2022
According to the findings in table 4 above, the majority of respondents (66.7%) had less effective emergency management. Based on the findings of the influence test performed using Mc Nemar, it was discovered that the p value was 0.001, indicating that self-hypnosis, ROT, and triple elimination had an impact on high-risk pregnant women’s emergency management. There was a difference in the outcomes of the emergency management of high-risk pregnant women between the intervention group and the control group, with those who received self-hypnosis appearing to have more effective emergency management (80%) compared to controls (46.7%), according to the results of the different test using Mann-Whitney, which yielded a p value of 0.001.

**DISCUSSION**

The Republic of Indonesia’s Ministry of Health runs the Triple Elimination program to prevent the spread of syphilis, hepatitis B, and HIV (human immunodeficiency virus) from pregnant mothers to their unborn children. This exercise was taken directly from the triple elimination program of the WHO. Predicting if a pregnant woman is experiencing pre-eclampsia can be done using the ROT (Roll Over Test). ROT is performed by measuring a pregnant woman's diastolic blood pressure and comparing it to that reading 15 minutes later while she is supine with the target reading of 15 mmHg. Pregnant women are classified as having a positive ROT (+) if the findings of the comparison of pressure are greater than 15 mmHg.

Mean Arterial Pressure (MAP) is calculated by multiplying the systolic and diastolic blood pressures by two and dividing the result by three. A value of greater than 90 mmHg is considered abnormal. The average arterial blood pressure needed for proper blood flow to the brain produces MAP. The needed MAP is between 70 and 100 mmHg so that blood vessels are elastic and do not rupture and the brain does not experience an oxygen deficiency. If the value is between 70 and 100, the mean arterial blood pressure must be adjusted, maybe by raising or lowering the pregnant woman's blood pressure. Mean Arterial Pressure (MAP) can be a predictor of hypertension in pregnancy, this is according to a study which assessed that MAP values were higher in preeclamptic women than those without. This occurs when pregnant women are not able to adapt to changes in the cardiovascular system physiologically, which will cause an imbalance between blood volume and cardiac output to peripheral vasodilation that occurs, so that it will cause disruption of the force of blood against the walls of blood vessels. The results of their study, which used the Mean Arterial Pressure (MAP) measurement to try and find a suitable way to predict the incidence of hypertension in pregnant women, showed that the MAP value was higher in pregnant women with preeclampsia than in pregnant women with normal blood pressure.

Self-hypnosis relaxation is a technique that comes from oneself in the form of words or short sentences that can make the mind peaceful. Self-hypnosis relaxation is done by imagining yourself in a peaceful and calm state, focusing on regulating your breath and heart rate so as to reduce physiological tension in pregnant women. Primigravida mothers who experience anxiety will have a physiological response in the form of an increase in heart rate, so that it can increase cardiac output which can cause preeclampsia. This response can be reduced by pregnant women doing self-hypnosis relaxation techniques that will create a relaxation response from deep breathing exercises and concentration exercises. The relaxation response will stimulate an increase in the work of the parasympathetic nerves which will inhibit the work of the sympathetic nerves, so that the hormone that causes anxiety can be reduced.

**CONCLUSION**

Through the completeness of the triple elimination examination, ROT, MAP and self hypnosis is one of the efforts and strategies used for handling emergencies that occur in high-risk pregnant women.

**ACKNOWLEDGMENT**

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**CONFLICT OF INTEREST**

This manuscript does not include any conflicts of interest.

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