

## EFFECTIVENESS OF THE ONE NURSING STUDENT ONE CLIENT ASSISTANCE IN REDUCING HIGH-RISK PREGNANCY

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### Abstract

**Background:** This research aimed to identify the effectiveness of One Nursing Student One Client (OSOC) Assistance in decreasing high-risk pregnancy as an effort to accelerate the decline in maternal and infant mortality rates.

**Methods:** The research design employed the post test-only control group design method, where the high-risk pregnant women are accompanied by one student one client. After supervision has been completed, the results were then compared with the control group that has been given high-risk leaflet prevention for pregnant women. Mann Whitney Test is used to test the difference statistically.

**Results:** The results of high-risk statistical analysis of hypertension obtained results  $p = 0.000$  ( $P < 0.05$ ), anemia  $p = 0.001$  ( $P < 0.05$ ), swollen extremity  $p = 0.040$  ( $P < 0.05$ ) which means there is a very significant different average value of high-risk pregnancy between the control group and the experimental group. This indicates that OSOC counseling is effective in reducing high-risk pregnancies of positive urine protein to negative urine protein in Blora City Community Health Center compared with leaflets to control groups. Further, counseling at high risk of swollen extremity was obtained  $p = 0.114$  ( $P > 0.05$ ) which mean there was no difference of the mean value of high pregnancy risk of swollen extremity between the control and experiment group.

**Conclusion:** One nursing student one client assistance is effective in reducing high-risk of the third trimester pregnancy women suffering from hypertension, anemia and positive urine proteins.

**Keywords:** mentoring one nursing student one client, high-risk pregnancy

### Preliminary

Based on data from the Indonesian Ministry of Health, the cause of laboring women death is due to bleeding, infection, and high blood pressure/preeclampsia as well as lateness in recognizing danger signs during pregnancy<sup>1</sup>. These problems can be prevented if the symptoms of the disease are known earlier and the danger sign is known by the public such as swelling, excessive weight gain, hypertension, spotting of bleeding in the last trimester. To accelerate the reduction in maternal and infant mortality rates, the Ministry of Health launched a campaign to care for maternal health, through measures to assist pregnant women. This step is one of the strategies to reduce maternal and infant mortality rates, as agreed in the Millennium Development Goals (MDGs) 2025 that assistance to pregnant women is directed to form awareness, will, the community for a healthy life independently, through education programs related to pregnancy<sup>2</sup>.

The program, which is focused on pregnant women at risk, is a field activity to improve maternal safety. Assistance is prioritized for pregnant women who are too

young, pregnant too old, pregnant too tightly and pregnant women with dangerous diseases during labor and after delivery. In order for this program to run well, the community is expected to participate in assisting pregnant women in their respective regions by collaborating with social organizations in their respective regions to build community trust<sup>3</sup>. In addition, the Indonesian Ministry of Health also plans to involve educated people such as colleges and schools with a health background, in addition to the ranks of health workers in each region.

### Research method

This research is quasi-experimental quantitative research (quasi-experimental) research design with the post test-only control group, where the researcher intends to investigate the possibility of a causal relationship by giving treatment to research subjects. The treatment in this study is the provision of assistance by counselling, health education, physical examination and laboratory monitoring to pregnant women with high-risk in the 3<sup>rd</sup> trimester. The levels of haemoglobin, protein urine are checked after one week and two weeks of treatment. This bivariate analysis was conducted to test the

hypothesis of the effect between the independent variable and the dependent variable. The statistical test used by using the Mann Whitney Test.

## Results

The result shows that the highest number of respondents who experienced high-risk pregnancies was hypertension, which was 15 (50.0%) while the lowest number of high-risk pregnancies was swollen extremities, namely 3 (10.0%). The number of respondents experimenting with pregnancy at high risk of hypertension after OSOC assistance was one person (6.7%) while the rest were no longer hypertensive status (the pregnancy was no longer at high risk) of 14 people (93.3%). Besides, the results of the study of pregnant high-risk hypertensive control respondents after being given a leaflet can be seen in Table 1 as follows:

**Table 1:** Distribution of control respondents based on pregnancy at high risk of hypertension before and after being given a leaflet.

Classification of hypertension	Before		After	
	Frequency (n)	Percentage (%)	Frequency (n)	Percentage (%)
No hypertension (no high risk)	14	93.3	4	26.7
Hypertension (high risk)	1	6.7	11	73.3
Total	15	100	15	100

Table 1 shows that the number of control respondents who became pregnant at high risk of hypertension after being given a leaflet of 4 people (6.7%) who were not hypertensive or not at high risk. The rest 11 people (67.3%) still suffer from hypertension status (the pregnancy is still at high risk).

Table 2 shows that the number of control respondents who were pregnant at high risk of anemia after leaflets were given as many as seven people (87.5%) status was still anemic or at high risk of pregnancy, as many as one person (12.5%) had no anemia or no high risk of pregnancy. Based on the results of the study, showed that the number of experimental respondents with pregnancy at high risk of anemia after mentoring had not experienced anemia as much as 8 (100%).

**Table 2:** Distribution of Control Respondents Based On Pregnancy at High Risk of Anemia after Being Given a Leaflet.

Anemia Classification	BEFORE		AFTER	
	Frequency (n)	Percentage (%)	Frequency (n)	Percentage (%)
No Anemia (not at high risk)	8	100	1	12.5
Anemia (high risk)	0	0	7	87.5
Total	8	100	15	100

Based on the results of the study, it showed that the number of respondents experimenting with pregnancy had a high risk of swelling of the extremities after mentoring as much as 1 (33.3%) who had no longer swollen extremities.

Further the results of the study of pregnant high-risk swollen extremities of control respondents after being given a leaflet can be seen in Table 3 below.

**Table 3:** Distribution of control respondents based on pregnancy at high risk of swelling of extremities after being given a leaflet.

Types of swelling of extremities	BEFORE		AFTER	
	Frequency (n)	Percentage (%)	Frequency (n)	Percentage (%)
Swelling of extremities	2	67.7	3	100
No Swelling of extremities	1	33.3	3	100
Total	3	100	15	100

From the results of the Mann Whitney test using SPSS version 22.0 for pregnant high risk of hypertension in the control group (given a leaflet) and the experimental group (OSOC assistance). Statistical analysis results obtained  $p = 0.000$  ( $P < 0.05$ ), which means there is a very significant difference in the average value of high-risk pregnancy with hypertension between the control group and the experimental group. So that it can be concluded that with a value of  $p = 0.000$ ,  $H_0$  is rejected and  $H_a$  was accepted, which means that OSOC assistance was effective in reducing high-risk pregnancy with hypertension at the Blora District Health Center.

**Table 4:** Statistical Test Tables Before and After OSOC Assistance

	Risk of Pregnancy		
	Anemia	Urine Protein	Swollen
Z	-3.416	-2.049	-5.181
Asymp. Sig. (2-tailed)	0.001	0.04	0.114

Based on statistical analysis, the results obtained  $p = 0.001$  ( $P < 0.05$ ), which means that there is a very significant difference in the average value of high-risk pregnancy pregnancies between the control group and the experimental group. So that it can be concluded that with a value of  $p = 0.000$ ,  $H_0$  is rejected and  $H_a$  was accepted, which means that OSOC assistance was effective in reducing high-risk pregnancies with anemia at Blora District Health Center.

Based on Table 4, the results of statistical analysis obtained  $p = 0.040$  ( $P < 0.05$ ) which means that there is a very significant difference in the average value of pregnancy in high risk of positive urine protein between

the control group and the experimental group. So it can be concluded that with a value of  $p = 0,000$ , then  $H_0$  is rejected and  $H_a$  is accepted, which means that OSOC assistance is effective in reducing high-risk pregnancies from positive urine protein to negative urine protein in Blora City Health Center compared to giving leaflets to the control group.

Based on table 4, the results of statistical analysis obtained the results of  $p = 0,114$  ( $P < 0.05$ ) which means there is no difference in the average value of high-risk pregnancy for swelling of extremities between the control group and the experimental group. So that it can be concluded that the value of  $p = 0,114$ , then  $H_0$  was accepted and  $H_a$  was rejected, which meant that OSOC assistance was not effective in reducing high-risk pregnancies with swollen extremities at the Blora District Health Center.

### Discussion

The highest distribution of high-risk pregnancies prior to OSOC assistance was hypertension of 15 respondents (50%), then anemia of 8 respondents (26.0%), four positive urine proteins of 4 respondents (13%) and swollen extremities of 3 respondents, (10.0%). OSOC assistance was effective in reducing high-risk pregnancies (hypertension, anemia, positive urine protein), where 97 control groups changed their status to be not at high risk.<sup>1</sup> This means that pregnant women will be in a safe position during pregnancy, childbirth and after childbirth, the occurrence of high-risk pregnancy will require special treatment, because it can reduce blood flow to the placenta that will affect the supply of oxygen and nutrients from the fetus in the womb. This will slow the growth of the fetus and increase the risk of childbirth.<sup>2</sup>

Hypertension in pregnancy is one of the main causes of increased mortality, both for the mother and fetus.<sup>4</sup> Pregnant women with hypertension have a high risk for severe complications such as heart disease, cerebral vascular disease, organ failure to death.

High blood pressure is an early sign of pre-eclampsia, a disease that arises with signs of hypertension, oedema and positive proteinuria. Preeclampsia is a disease that needs to be watched out for pregnant women because it can cause the risk of infant death to double. Sometimes preeclampsia can develop into a life-threatening condition called preeclampsia.<sup>3</sup>

High-risk pregnancies (swollen extremities) after OSOC mentoring as many as one respondents in the control group (25%) still experienced swelling in the extremities, and 3 (100%) respondents in the control group were still experiencing swelling, meaning the respondent was still

having a high-risk pregnancy.<sup>5</sup> Limb oedema needs to be watched as a sign of pre-eclampsia. Oedema is common in normal pregnancy, so oedema is not a reliable sign of pre-eclampsia unless the oedema is seen on the hands and or face. Sometimes oedema manifests in sudden weight gain, a sudden increase in weight of 1 kg or more in a week (3 kg/month) is an indication of pre-eclampsia.<sup>6,7</sup> There were two respondents who experienced limb oedema after OSOC mentoring; the conditions were the same, namely still having extremity. The condition is exacerbated because the respondent is experiencing gemelli (twin) pregnancy.

From the results of the study showed that there were significant differences in the value of high-risk pregnancies before and after treatment with  $p$  values of 0.000, 0.001, 0.040 ( $p < 0.05$ ). This means that OSOC assistance in high-risk pregnancy patients is effective in reducing high-risk pregnancies. This is consistent with the theory that mentoring can overcome problems and achieve life change for the better.<sup>8</sup>

### Conclusion

OSOC mentoring by students is effective in reducing high-risk pregnancies (hypertension, anemia, positive urine protein) in high-risk trimester III pregnant women in the Blora City Health Center. This is a great contribution to community to reduce the mortality during pregnancy and laboring.

### Declaration

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