



THE EFFECT OF EARLY BREASTFEEDING INITIATION (IMD) ON CHANGES IN BLOOD PRESSURE OF MOTHERS IN HYPERTENSION

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ABSTRACT

Hypertension in pregnancy is one of the reason main maternal morbidity and mortality. Suboptimal treatment can increase risk postpartum complications. Initiation Early Breastfeeding (IMD) is suspected own effect physiological in lower pressure blood through release oxytocin triggers relaxation and vasodilation. However, evidence empirical about the influence of IMD on change pressure blood in the mother giving birth with hypertension Still limited. Analyze influence action Initiation Early Breastfeeding (IMD) against change pressure blood in the mother giving birth with hypertension. Study quasi-experiment with design pretest–posttest control group design conducted on 60 mothers giving birth with hypertension, consisting of from the right IMD group time (n=30) and slow IMD (n=30). The sampling technique used was purposive sampling. Pressure blood systole and diastole are measured before and after IMD action. Normality test use Kolmogorov–Smirnov, and the differences before after analyzed use paired t-test. The right IMD group time show decline significant pressure blood systolic (mean 2.5 mmHg; p=0.000) and diastolic (mean 2.63 mmHg; p=0.001). In the slow IMD group, the decrease pressure blood systolic (0.3 mmHg; p=0.510) and diastolic (1.1 mmHg; p=0.068) were not significant. Correlation test obtained p=0.000 both at pressure blood systole and pressure diastolic blood pressure in the IMD group was correct time. IMD is right time effective lower pressure blood systole and diastole significant in mothers giving birth with hypertension compared to slow IMD. IMD has the potential become safe and beneficial non - pharmacological interventions for stabilization postpartum hemodynamics.

Keywords: blood pressure; early breastfeeding initiation; hypertension; maternal delivery

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INTRODUCTION

Hypertension in pregnancy Still be one of reason main maternal morbidity and mortality globally. WHO (2019) reported that hypertension contribute to more of 14% of deaths mothers around the world. In Indonesia, the number incident hypertension in pregnancy Still high and impactful significant to risk complications during labor and postpartum period (Sharma & Shastri 2022). Conditions This need handling effective and safe For prevent development complications Serious like preeclampsia , eclampsia , multiple organ failure , and disorders perfusion placenta. Handling hypertension in pregnancy generally focused on therapy pharmacological use drugs antihypertensive such as labetalol, nifedipine, or methyldopa . Although effective , a number of study show existence effect necessary side considered , including hypotension sudden , decline perfusion uteroplacental , and risk disturbance growth fetus (Brown & Jordan 2020; Sharma & Shastri 2022). This confirm the need more non - pharmacological interventions safe For help stabilize pressure blood, especially in the perinatal period.

Initiation Early Breastfeeding (IMD) is one of the intervention WHO (2019) recommended physiological done in the first hour after birth . In addition to providing benefit important for babies , IMD is proven own effect physiological significant to health mother , especially through release hormone oxytocin . Skin-to-skin contact and stimulation breastfeeding stimulate secretion oxytocin plays a role in uterine contractions , increased vagal tone , decreased activity sympathetic and

vasodilation peripheral (Uvnäs -Moberg, Ekström-Bergström & Buckley 2020). Response This impact straight to the bottom pressure blood Mother. A number of study previously report that oxytocin is released as long as IMD has effect anti-stress through decline level cortisol and increased stability hemodynamics in postpartum mothers (Silva et al. 2021; Carter & Porges 2021). Research others also show that IMD practices carried out appropriate time give effect more strong on regulation autonomy and balance physiological Mother compared to with IMD being carried out in a way slow or delayed (Bystrova 2020). In other words, the time implementation become factor important in optimization hormonal and hemodynamic responses .

Although proof about benefits of IMD for pressure blood Mother has reported , research that specifically special study the influence of IMD on change pressure blood in the mother giving birth with hypertension still very limited , especially in context population of Indonesia. In fact , the group Mother with hypertension is group risk high in need stabilization pressure blood quick after labor For prevent postpartum complications. Based on background behind said , research This important done For analyze the influence of IMD is right time to change pressure blood Mother giving birth with hypertension . A better understanding Good about benefit physiological IMD is expected can push implementation of IMD as effective, safe, and health based non pharmacological interventions proof in effort increase safety postpartum mothers.

METHOD

Study This use design quasi-experiment with design pretest–posttest with control group design. Subject study consists of from two groups , namely group Mother giving birth with hypertension that does proper IMD action time as group interventions and groups control that is group Mother giving birth with hypertension that is not IMD is carried out properly time / slow . At this stage beginning research, subjects study measured pressure blood before done IMD action . After measured pressure blood, mother done IMD action for 1 hour. At stage end done return measurement pressure blood. Study held in the month September to with December 202 4 took place at the Sentani Community Health Center, Jayapura Regency.

Population in study This is all over Mother giving birth with a diagnosis of hypertension who gave birth in the delivery room giving birth Sentani Community Health Center , Jayapura Regency . Research sample taken with use purposive sampling technique based on criteria inclusion and exclusion following. In this study, participants were selected based on predetermined criteria. Eligible mothers were those in labor with blood pressure equal to or greater than 130/90 mmHg, indicating mild to moderate hypertension. Additionally, these mothers had to deliver spontaneously via vaginal birth, their babies had to be born alive and able to undergo Early Breastfeeding Initiation (EBI) quickly. Finally, the mothers had to be willing to participate in the study and had signed informed consent, demonstrating their agreement after receiving a complete explanation of the research.

However, certain conditions disqualified mothers from participating in this study. Mothers in labor experiencing bleeding, those receiving antihypertensive medication shortly before or during the active phase of labor, and babies born with asphyxia were excluded from participation. To determine the required number of participants, a specific formula was used to test the difference between two groups, with a 95% confidence level and 80% test power. The calculation results indicated that a minimum of 30 respondents were needed for each group in this study. Data collection involved measuring the mothers' systolic and diastolic blood pressure before and after the implementation of Early Breastfeeding Initiation (EBI). These measurements were taken by researchers using standardized equipment to ensure data accuracy and reliability. The collected data were then analyzed using several statistical methods. The Kolmogorov-Smirnov test was used to ensure that the data were normally distributed. In addition, the Paired-t Test was used to examine the differences in blood pressure before and after the intervention within each group.

RESULT

Table 1.
Distribution Frequency Characteristics Respondents Based on Age and Parity (n=60)

Variables	Group on Time		Slow IMD Group	
	F	%	F	%
Age				
Risky	6	20	4	13
No Risk	24	80	26	87
Parity				
Primipara	14	47	14	47
Multipara	14	47	14	47
Grandemultipara	2	6	2	6

Table 1. Shows that characteristics respondents based on age in the On-Time IMD group partly big own age that is not risky , namely in the range age 20-35 years as many as 24 respondents (80%). Likewise in the Slow IMD group part big age respondents also in category No risky that is as many as 26 respondents (87%). From this data seen that second group own same character based on age that is You're welcome part big respondents aged in category No risky . Characteristics respondents based on parity in the On-Time IMD group partially big 14 respondents (47%) were primiparas, and 14 respondents (47 %) were multiparas. There were only 2 respondents with the status grandemultipara. Likewise in the Late IMD group part large also has primipara and multipara status with the same magnitude on both group .

Data Normality Test Results

Table 2.
The Normality Test for the On-Time IMD Group and the Late IMD Group to Systolic Blood Pressure (SBP) and Diastolic Blood Pressure (DBP)

Variables	P Value
TDS	0.200
TDD	0.200

Table 2. Shows that The results of the normality test for Systolic Blood Pressure (SBP) and Diastolic Blood Pressure (DBP) data show results that are not significant with *P value* 0.200, so can concluded that the data on the variables pressure blood systolic and blood pressure diastolic blood pressure in both group normally distributed .

Difference Test Results

Table 3.
Paired Data Difference Test Results Systolic Blood Pressure (SBP) and Diastolic Blood Pressure (DBP) Before and After IMD in the Timely IMD Group

Variables	Mean ±SD	P Value
SBP (mmHg)	2,500± 3,235	0,000
BP (mmHg)	2,633± 3,792	0.001

Based on table 3. known difference pressure blood systole before IMD is carried out in a appropriate time with after IMD is carried out in a appropriate time own mark *P Value* of 0.000. This figure not enough from 0.05 to can concluded that the average pressure blood systole before done IMD secara appropriate time different significant with average pressure blood systole already IMD is carried out in a appropriate time with average decline pressure blood systole of 2.5 mmHg. Meanwhile For pressure diastolic blood pressure is known difference before and after IMD is carried out in a appropriate time obtained mark *P value* of 0.001. This value is also below $P < 0.05$, which means that average pressure value different diastolic blood significant between before and after IMD is carried out in a appropriate time with an average decrease pressure diastolic blood pressure of 2.63 mmHg.

Table 4.
Average Difference Difference Systolic Blood Pressure (SBP) and Diastolic Blood Pressure (DBP) Before and After IMD in the Slow IMD Group

Variables	Mean \pm SD	P Value
SBP (mmHg)	0.300 \pm 2,466	0.510
BP (mmHg)	1,133 \pm 3,148	0.068

Table 4. obtained mark difference pressure blood systole before IMD is carried out in a slow with after IMD is carried out in a slow with *P Value* of 0.510. This figure show mark more from 0.05 to can concluded that the average pressure blood systole before IMD is carried out in a slow No different significant with average pressure blood systole already IMD is carried out in a slow with an average decrease pressure blood systole by 0.3 mmHg. Meanwhile For pressure diastolic blood pressure is known difference before and after IMD is carried out in a slow obtained mark *The P value* is 0.068. This value is also above $P < 0.05$, which means that average pressure value diastolic blood pressure different significant between before and after IMD is carried out in a slow with an average decline pressure diastolic blood pressure of 1.1 mmHg.

Correlation Test Results

Table 5.
Correlation Test on Time Against Decline Systolic and Diastolic Blood Pressure in Maternity Women with Hypertension

	N	Correlation	Sig.
TDS Before Intervention & TDS After Intervention	30	.856	.000
TDD Before Intervention & TDD After Intervention	30	.790	.000

Table 5. Shows that IMD relationship in general appropriate time with decline pressure blood systole own mark significance 0.000 and at pressure diastolic blood has mark significance of 0.000. This value in a way statistics show existence influence between Initiation Early Breastfeeding (IMD) is correct time with decline pressure blood Good systole and diastole.

DISCUSSION

Research result This show that action Initiation Early Breastfeeding (IMD) is carried out appropriate time proven lower pressure blood in the mother giving birth with hypertension in a way significant, good systole and diastole. Findings This in line with theory physiological that IMD is capable stimulate release hormone oxytocin plays a role in lower activity nerve sympathetic, increasing activity parasympathetic, and triggers vasodilation peripheral so that influence decline pressure blood. Decrease pressure blood in the IMD group is correct time (2.5 mmHg for systole and 2.63 mmHg for diastole) indicates response clear hemodynamics, whereas slow IMD group No show change significant. This is show that accuracy time implementation of IMD becomes determinant important For achievement effect optimal physiological findings. This in line with study Uvnäs -Moberg et al. (2020) which states that contact skin-to-skin and stimulation breast-feed quick after born increase release oxytocin in a way fast and stable. Oxytocin lower resistance vascular peripheral and pressing response stress through decline cortisol, so that pressure blood Mother more fast stable. Carter and Porges (2021) also mentioned that oxytocin own effect modulation in the system nerve autonomous, increasing *vagal tone* and decrease activity sympathetic, both of which contribute direct to decline pressure blood.

In addition, Silva et al. (2021) reported that contact skin-to-skin in IMD context lowers level maternal stress in general significant, as indicated by a decrease cortisol and stability more hemodynamics good. Effect this is very relevant for Mother giving birth with hypertension, because response increased stress during labor can trigger vasoconstriction and increase pressure blood . Research by Kearney et al. (2020) also found that intervention breast-feed early can give effect relaxation through release oxytocin and endorphins, which help stabilize pressure postpartum blood. Brown & Jordan's (2020) research emphasizes that breast-feed in the first hour postpartum influential to decline pressure blood through mechanism neuroendocrine. They take notes that

oxytocin repair function endothelium and increase flow blood peripheral, which plays a role important especially for mothers with hypertension. This is consistent with results study Where is this decline pressure blood more big found in the IMD group precisely time compared to slow IMD.

The low slow effectiveness of IMD in study This can explained from corner physiological. Bystrova (2020) reported that release oxytocin reach peak in the first hour after birth. After period this, response oxytocin decrease drastic so that benefit physiological become more small . Therefore that, the implementation of IMD was late through the “window” gold " reduces opportunity achievement supportive hormonal effects decline pressure blood. Findings study this also strengthens WHO recommendation that IMD be carried out in the first hour after born No only For success breast-feed but also for stability physiological mother. In the context Mother giving birth with hypertension, proper IMD time potential become safe, easy non - pharmacological interventions applied, and not own effect side like case in point therapy antihypertensive pharmacological which is often risky lower perfusion placenta or cause hypotension suddenly (Sharma & Shastri, 2022).

When compared with other non- pharmacological methods that have been researched, such as hydrotherapy or technique relaxation, IMD has superiority Because involving interaction physiological experience between mothers and babies who are not need tool or procedure special. Singh et al. (2023) in review systematically find that non- pharmacological interventions own potential big in lower pressure postpartum blood, but IMD is included the safest, most effective and easiest intervention carried out at the facility service giving birth. With thus, the results study This support proof previously that IMD is not only promoter of success breastfeeding , but also plays a role as an important strategy for stabilization hemodynamics in the mother giving birth . Findings This important for practice midwifery, in particular in management Mother giving birth with hypertension, as form intervention complementary For reduce risk postpartum complications such as preeclampsia continue or hypertension persistent.

CONCLUSION

Initiation Early Breastfeeding (IMD) is correct time proven effective lower pressure blood systole and diastole significant in mothers giving birth with hypertension. Slow IMD No give change significant. IMD can made into safe, simple, and beneficial non - pharmacological interventions in effort stabilization postpartum hemodynamics as well as prevention complications hypertension after childbirth.

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