

# Five-Finger Hypnosis and Murottal Therapy to Prevent Preeclampsia in Pregnant Women

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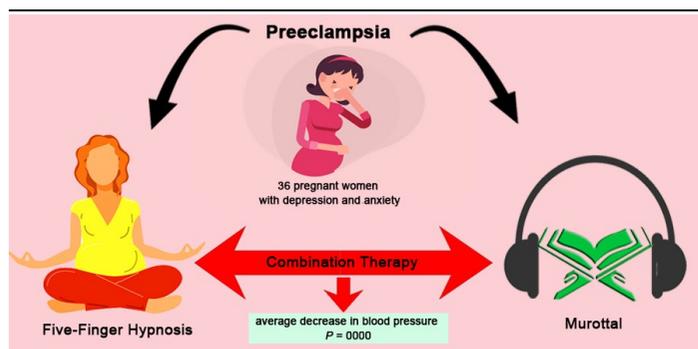
## ABSTRACT

The incidence of preeclampsia in Indonesia for the Southeast Asian continent is relatively high, with roughly 190 per 100,000 live births. According to the World Health Organization (WHO), the condition accounts for 12% of maternal deaths. Therefore, this study aimed to investigate the effectiveness of Five-Finger hypnosis and murottal therapy in stabilizing blood pressure, pulse, respiration, and activating endorphins. The study employed a quantitative method, specifically a quasi-experimental one-group pre and post-test design. Univariate data analysis was conducted to examine the characteristics of the sample, including age, education, and parity, and the Wilcoxon test was employed as the statistical test. The results showed that pregnant women were at risk of developing preeclampsia, as indicated by the age, education level, and parity of 9, 14, and 24 pregnant women. Furthermore, a significant difference was observed between the pretest and posttest, with an average decrease in blood pressure ranging from 2 to 6 mmHg ( $p=0.000$ ). This result study provided that five-Finger hypnosis intervention and murottal therapy were effective in preventing preeclampsia. Consequently, the study strongly recommended the dissemination of the Five-Finger and murottal hypnotic intervention modules to a wider population as a preventive measure against preeclampsia.

## ABSTRAK

Angka kejadian preeklampsia di Indonesia untuk benua Asia Tenggara relatif tinggi, yaitu sekitar 190 per 100,000 kelahiran hidup. Menurut World Health Organization (WHO), 12% kematian ibu disebabkan oleh preeklampsia. Hipnosis lima jari dan terapi murottal dengan manfaat menstabilkan tekanan darah, denyut nadi, pernapasan dan mengaktifkan endorfin. Metode penelitian kuantitatif yang digunakan dengan jenis eksperimen semu satu kelompok pre dan post test. Analisis data dilakukan secara univariat untuk melihat karakteristik sampel yaitu umur, pendidikan dan paritas. Uji yang digunakan adalah uji Wilcoxon. Hasil penelitian ini menunjukkan bahwa ibu hamil berisiko mengalami preeklampsia dengan karakteristik usia 9 ibu hamil, pendidikan 14 ibu hamil dan paritas 24 ibu hamil. Penelitian ini juga menemukan perbedaan yang signifikan antara pretest dan posttest, dengan rata-rata penurunan tekanan darah 2-6 mmHg ( $p=0.000$ ). Hasil studi ini membuktikan bahwa intervensi hipnosis lima jari dan murottal memberikan hasil yang signifikan dalam pencegahan preeklampsia. Peneliti berharap adanya sosialisasi kepada masyarakat yang lebih luas tentang modul intervensi hipnosis lima jari dan murottal untuk mencegah preeklampsia.

## GRAPHICAL ABSTRACT



## Keyword

hypnosis  
parity  
pre-eclampsia  
pregnancy  
pregnant women

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## INTRODUCTION

The incidence of preeclampsia is between 6% and 7% in developed countries, and about 12% of mothers die due to this disease. As estimated by WHO, the incidence is seven times higher in developing nations than in developed countries with prevalence ranging between 1.8% and 16.7% (Mou et al., 2021). In Southeast Asia, Indonesia has the highest maternal mortality rate (MMR), around 190 per 100,000 births. Trends in MMR have fluctuated from 2000 to the present. Based on Population Census (SP), there was a decrease from 360 per 100,000 births to 259 live births. However, this statistic falls significantly short of the objective to attain SDG by 2030 to achieve a rate of 70 maternal deaths per 100,000 live births. It fails to meet the target set by the National Medium Term Development Plan (RPJMN) for a decrease to 306 in 2019, as outlined by BAPPENAS (2015). The elevated maternal mortality rate (MMR) can be attributed to different factors, including postpartum hemorrhage, preeclampsia, and infection.

Preeclampsia is a condition of increased blood pressure, protein in the urine, and edema during pregnancy (Nirupama et al., 2021; Tanner et al., 2022). Data from the World Health Organization (WHO, 2019b) showed that the MMR of preeclampsia is very high globally, with around 211 maternal deaths per 100,000 live births in 2017. It is estimated that in 2017 around 295,000 mothers died after giving birth. In developed countries, the incidence of preeclampsia ranges from 6%-7%, and about 12% of maternal deaths are caused by the condition (Mou et al., 2021).

The incidence of preeclampsia in Indonesia was around 1.8%-18%. In 2015, MMR was due to preeclampsia, which was around 305 per 100,000 births (WHO, 2019a). The causes of maternal death were 39% bleeding, 24% preeclampsia/eclampsia, and 7% infection

(Kementerian Kesehatan Republik Indonesia, 2019). Preeclampsia stands as the second leading cause of maternal mortality in South Sulawesi Province. The incidence of preeclampsia among pregnant women witnessed an increase over the years. In 2015, the reported cases numbered 68 individuals, which escalated to 78, 96, and 103 cases in 2016, 2017, and 2018, respectively. Among these cases, 28 (17.6%) suffered from acute kidney injury (AKI) during pregnancy, 47 (48.3%) were maternity mothers, and 40 (35.1%) were postpartum mothers. According to the Department of Health in South Sulawesi Province (Dinas Kesehatan Provinsi Sulawesi Selatan, 2017), the primary causes of maternal mortality in the region are attributed to preeclampsia (68%), bleeding (30%), and infection (4%).

Efforts to prevent and treat preeclampsia in the pharmacological field have been carried out. According to (Andriana et al., 2018), the pharmacological treatment is with antihypertensive drugs given in combination or monotherapy in preeclampsia. The antihypertensive drugs recommended in patients are dihydropyridine (nifedipine) and methyl dopa. Prevention of preeclampsia can also use non-pharmacological techniques. According to Domínguez-Solís et al. (2021), non-pharmacological interventions are devoid of any long-term side effects and are considered a safer alternative. Non-pharmacological therapy offers several advantages, including the flexibility of being utilized at any time and in any location.

Referring to the description above, non-pharmacological study can be an alternative as well as complement study in the pharmacological field. Five-Finger and *murottal* hypnosis is part of the non-pharmacological techniques used as an intervention for the prevention of preeclampsia. It provides a relaxing effect, relieves anxiety and stress, muscles are not tense, improves sleep patterns, stabilizes blood pres-

sure, pulse, and heart, and improves breathing patterns. Mulianda & Umah (2021) explained that audio or sound reduces stress levels, provides a relaxing effect, shifts focus, reduces anxiety, fears, and muscles not tense. In addition, *murottal* therapy is beneficial for the body's system, stabilizing blood pressure, pulse, heart, and brain waves.

Several studies have suggested the benefits of hypnosis in the prevention of preeclampsia. Beevi et al. (2019) conducted a hypnosis intervention in alleviating postpartum psychological symptoms. In addition, Catsaros & Wendland (2020) found that hypnosis-based interventions improved the experience of childbirth. The use of Five Finger Hypnosis Therapy was carried out by Legrand et al. (2017) for reducing maternal stress. However, there has been no study measuring the benefits for preventing preeclampsia. This study determines the effect of nursing interventions based on the five-finger and *murottal* hypnosis module on the prevention of preeclampsia in pregnant women. Referring to the preliminary study, there were 255, 41, 50, and 70 pregnant women at the Samata, Pallangga, Bontomarannu, and Pattalassang Health Centers. Furthermore, maternal and infant health checks were only conducted once a month in the four puskesmas. The Pattalassang Health Center empowers cadres to prevent preeclampsia.

## METHODS

This study used a quantitative method with a quasi-experimental type using a pre and post-test one-group preeclampsia design. This study employed Five-Finger hypnosis and *murottal* intervention to prevent preeclampsia in pregnant women. The population was 445 pregnant women and the technique used a purposive sampling technique. In taking the sample, the study has determined certain characteristics in advance of the object

to be sampled, under the stated objectives. The study employed a purposive sampling technique, resulting in a total sample size of 36 participants, distributed across various health centers as follows, namely 18, 5, 7, and 6 samples from Samata, Pallangga, Bontomarannu, and Pattalassang Health Centers. The selection of respondents was based on specific criteria, including a gestational age exceeding 20 weeks, no history of gestational diabetes or preeclampsia, and experiencing mild to moderate levels of depression and anxiety. The study was conducted over a period from March 4 to May 14, 2022, and the study location was selected due to the high maternal mortality rate in the Gowa district. This was also conveyed by the Chairperson of the TP PKK of Gowa Regency, where the maternal and infant mortality rates were at the red line and the highest in South Sulawesi. Data collection uses an observation sheet to control the intervention's effect and the tool used phigmomanometer. Other instruments were the DASS 42 (Depression Anxiety Stress Scale) and HRSA (Hamilton Rating Scale for Anxiety) questionnaires. In addition, this study used the Five-Finger and *murottal* hypnosis nursing intervention modules (Hasnah, 2020). This module encompasses pertinent information that is anticipated to significantly aid in the prevention of preeclampsia among expectant mothers and mitigate the occurrence of maternal mortality during the process of childbirth.

The data analysis encompassed univariate and bivariate analyses. Univariate analysis was conducted to examine the characteristics of the sample, specifically age, education, and parity, employing a descriptive analysis test. Bivariate analysis was carried out to assess the impact and disparities in blood pressure measurements before and after the intervention, using the Wilcoxon test. Subsequently, the data were presented descriptively, and to ensure

**Table 1**  
*The Characteristics Sampel Pregnant*

Variables	SMT		PLG		BTM		PTL	
	n	%	n	%	n	%	n	%
Age								
≤ 20 Year	4	22.22	0	0.00	1	14.29	0	0.00
21-35 Year	12	66.67	4	80.00	6	85.71	5	83.33
≥35 year	2	11.11	1	20.00	0	0.00	1	16.67
Education								
Low	7	38.89	2	40.00	1	14.29	4	66.67
Medium	9	50.00	3	60.00	6	85.71	1	16.67
High	2	11.11	0	0.00	0	0.00	1	16.67
Parity								
0	2	11.11	1	20.00	2	28.57	2	33.33
1	7	38.89	2	40.00	2	28.57	1	16.67
2-3	5	27.78	2	40.00	3	42.86	2	33.33
≥4	4	22.22	0	0	0	0	1	16.7

Note: n = number of respondents; %= percentage; SMT= Samata; PLG= Pallangga; BTM= Bontomarannu; PTL= Pattalassang

validity, Pearson's product-moment was employed, which encompassed all stress, anxiety, and depression items. Additionally, the reliability test was conducted using Cronbach's alpha, and the statistical software SPSS version 26 was employed for the analysis. This study has received ethical approval from the ethics committee of the Faculty of Medicine and Health Sciences, under letter number No.C.73/KEPK/FKIK/II/2022. It must adhere to several ethical considerations, including obtaining informed consent from participants, ensuring anonymity, and maintaining confidentiality.

## RESULTS

Respondents were pregnant women with criteria for gestational age > 20 weeks, no history of gestational diabetes, not currently experiencing preeclampsia, and mild-moderate levels of depression and anxiety. The total respondents were 36 pregnant women consisting of four Puskesmas, namely Samata, Pallangga, Bontomarannu, and Pattalassang Health Centers with 18, 5, 7, and 6 people.

Table 1 presents the distribution of pregnant women who are not at risk for preeclampsia based on age, education, and parity characteristics. Among the age group of 21-35 years, a

total of 27 were identified as not being at risk. Furthermore, within the educational category of medium-high level, 22 were found to be free from the risk of preeclampsia. Lastly, among the parity categories of 2-3, a total of 12 were determined to be not at risk for the condition.

Table 2 presented the results of the study, illustrating the significant changes observed before and after administering the five-finger and murottal hypnotic intervention on the blood pressure of pregnant women. The median values for the blood pressure in the Samata Public Health Center area were 108 mmHg and 75 mmHg for pretest systolic and diastolic. In contrast, the post-test measurements indicated systolic and diastolic blood pressure of 105 mmHg and 77 mmHg. At the Pallangga Public Health Center, the systolic and diastolic pretests were 109 mmHg and 86 mmHg, while the post-test was 105 mmHg and 78 mmHg. In the Bontomarannu Health Center area, the pretest systolic and diastolic were 107 mmHg and 87 mmHg, while the post-test was 101 mmHg and 76 mmHg. The pretest systolic and diastolic at the Pattalassang Public Health Center was 109 mmHg and 90 mmHg, while the post-test was 104 mmHg and 81 mmHg. The results of the Wilcoxon test showed that systolic and diastolic

**Table 2***The Characteristics Blood Pressure Pregnant*

Health Centers	Blood Pressure	Median*		Min-Max*		Wilcoxon text
		Pre	Post	Pre	Post	
Samata	Systolic	108	105	80-123	83-123	0.000**
	Diastolic	75	77	58-96	60-95	
Pallangga	Systolic	109	105	88-121	82-118	
	Diastolic	86	78	61-92	65-96	
Bontomarannu	Systolic	107	101	94-128	82-123	
	Diastolic	87	76	60-92	52-95	
Pattalassang	Systolic	109	104	89-135	87-133	
	Diastolic	90	81	58-100	61-95	

Note: \* = in mmHg; \*\* = significant with p-value <0.05

blood pressure had a p-value of 0.000, indicating a significant effect between the pretest and post-test measurements in pregnant women given the Five-Finger and murottal hypnosis intervention in the Gowa District Work Area. The findings indicated that pregnant women were at risk of experiencing preeclampsia, with 9, 14, and 24 pregnant women being of advanced age, having a low level of education, and having multiple previous pregnancies. Additionally, the study identified a significant difference between the pretest and post-test, with an average decrease in blood pressure ranging from 2 to 6 mmHg.

## DISCUSSION

The data showed that the majority of respondents, consisting of 27 individuals, were not at risk of reaching the age of majority within the range of 21-35 years. However, the study conducted found that there were 9 respondents with a risk of experiencing preeclampsia at the age of  $\leq 20$  years and  $\geq 35$  years. The study identified education as a risk factor for preeclampsia, with 19 and 3 respondents having a medium (high school) and the highest level of education (college). The analysis of parity characteristics showed that primipara and multipara parity were dominant, with 12 respondents each. Additionally, it was observed that more parities were not at risk of preeclampsia, totaling 24 respondents. The

study also identified 12 respondents who met the criteria for being at risk.

The findings indicate that a majority of the respondents, amounting to 27 individuals (53.3%), were not at risk of preeclampsia. However, there were also nine respondents (0.8%) who were identified as being at risk. Several factors, including primigravida, parity, multiple pregnancies, hydramnios, hydatidiform mole, multigravida, severe malnutrition, maternal age less than 18 years or over 35 years, anaemia, and education, have been identified as potential influencers of preeclampsia onset. The precise cause in pregnant women remains unknown, even though it is generally attributed to arteriolar vasospasm (Ertiana & Wulan, 2019).

The relationship between age and the incidence of preeclampsia was explained by the inflammatory stimulus theory. It was established that age had an impact on the occurrence of preeclampsia. Age was identified as one of the causes of preeclampsia, particularly when individuals were younger than 20 years old, as their development of reproductive organs and physiological functions was not optimal. Insufficient emotional and psychological maturity had not been achieved, potentially leading to preeclampsia. Furthermore, individuals over 35 years old were found to be more susceptible to hypertension. Exposure to hypertension resulted in increased oxidative stress, leading to an

elevation in apoptotic debris and necrotic trophoblasts. As a consequence, the burden of inflammatory reactions in the mother's blood was more significant compared to a normal pregnancy. The presence of an inflammatory response activated endothelial cells and larger macrophage/granulocyte cells, triggering a systemic inflammatory reaction and leading to the emergence of symptoms of preeclampsia in the mother (Ertiana & Wulan, 2019).

The effect of age on the incidence is also described by Khuzaiyah et al., (2017), where age influenced the incidence of the condition. The data analysis showed the percentage of pregnant women affected by preeclampsia concerning their age, particularly focusing on the high-risk maternal age categories of under 20 and over 35 years. Age was identified as a crucial determinant of pregnant women's health status. The occurrence was found to be less prevalent within the healthy age range since the majority of pregnancies occurred between the productive ages of 20 and 35. These findings support previous study by Bere et al. (2017), which emphasized the optimal reproductive age for women between 20 and 35 years. The analysis demonstrated a significant association between age as a risk factor and the incidence of preeclampsia, with a higher proportion falling within the average reproductive range of 20 to 35 years. Furthermore, 35 years of age was determined to be among the reproductive ages associated with increased risk.

Education, which was identified as one of several risk factors for preeclampsia, had a moderate (high school) and high (college) levels among 19 (8.9%) and 3 (0.3%) respondents. It can be defined as the deliberate pursuit of personal development, aimed at fostering behavioral transformation leading to maturity and the enhancement of human life. In addition, it indirectly influenced the determination and decision-making processes. Women with a higher level

of education would exhibit increased knowledge in effectively anticipating the challenges associated with pregnancy and childbirth to engage in regular prenatal monitoring (Hill et al., 2017). Theoretically, mothers with limited or no education held significant sway in their response to the occurrence of preeclampsia. Individuals with higher educational attainment were inclined to possess a more comprehensive understanding of preeclampsia incidence and preventive measures compared to those with lower levels of education. Mothers with limited educational backgrounds tended to allocate less attention to overall health, impacting their susceptibility to preeclampsia (Bilano et al., 2014).

According to Veftisia and Khayati (2018), mothers with elementary-junior high school education had an increased risk of experiencing preeclampsia. The level of education among pregnant women has a significant impact on their knowledge regarding pregnancy, particularly in terms of dietary practices. Furthermore, the diet followed by pregnant women has a direct influence on the occurrence of preeclampsia during pregnancy. This correlation between diet and the development of hypertension in pregnant women was supported by Endeshaw et al. (2015) and Renault et al. (2014). The studies highlighted a substantial relationship between diet and the prevalence of hypertension in pregnant women.

Parity was dominated by primipara and multipara, with 24 respondents (6.3%) not at risk of preeclampsia. However, the study also found 12 respondents (2.6%) with criteria for preeclampsia risk. Furthermore, the incidence of the complication in pregnant women can also be influenced by parity. As in the HLA-G (Human Leukocyte Antigen G) immunologic theory, nulliparous women were five to ten times more likely to develop preeclampsia than multiparous women. The number of high maternal deliveries (>3) was the number of maternal deliveries at

risk of preeclampsia. This was because mothers with high deliveries experience a decrease in reproductive system function (Hipni, 2019). Theoretically, primigravidas were more at risk for developing preeclampsia than multigravidas because the complication usually developed in women who were first exposed to chorionic villi. This phenomenon occurred due to the incomplete development of the immunologic mechanism in these women, specifically the formation of blocking antibodies mediated by HLA-G (Human Leukocyte Antigen G) against placental antigens. As a result, the process of trophoblast implantation into the maternal decidual tissue was disrupted (Hipni, 2019).

Under study conducted by Novianti (2016) and Veftisia & Khayati (2018), parity influenced the incidence of preeclampsia in pregnant women. The percentage of maternal parity data associated with the incidence of preeclampsia in parity mothers at risk included primigravida and grandemulti. Primiparity was related to the mother's lack of experience and knowledge in prenatal care and parity 2-3 was considered the safest category. Parity one and high parity posed risks for preeclampsia. Mothers with high parity had experienced a decline in the functioning of their reproductive system. Moreover, they were typically occupied with household responsibilities, resulting in frequent fatigue and insufficient attention to nutritional fulfillment. Another study conducted by Asmana et al. (2016) demonstrated that the highest frequency was found in multiparas, with 97 cases out of 162. Therefore, a relationship between parity status and the incidence of preeclampsia was established. Bere et al. (2017) stated that a significant relationship existed between parity risk factors and the incidence of preeclampsia. Based on parity, primipara was a risk factor for preeclampsia because there tended to be a failure to form blocking antibodies against placental antigens,

resulting in an unfavorable immune response.

Based on the description, the study assumed that pregnant women who tended to experience preeclampsia had several risk factors, such as being less than 20 years old and more than 35, having low education, having no prior childbirth experience, and having given birth more than three times. Despite the majority of respondents not being at risk based on age, education, and parity characteristics, the researchers still found respondents who were at risk of developing preeclampsia. Therefore, it was deemed necessary to conduct routine pregnancy check-ups at healthcare centers and implement preventive measures, such as providing pregnant women with Five-Finger and murottal hypnosis therapy.

Based on the results, the pretest and post-test of the Five-Finger and *murottal* hypnosis intervention on the blood pressure of pregnant women have a significant effect. This can be seen from the median value for the average blood pressure of pregnant women from four health centers, namely systolic 84/78 mmHg and diastolic 108/103 mmHg. A significant difference was also reported between the pretest and post-test, with an average decrease in blood pressure of 2-6 mmHg.

A study was conducted to examine the efficacy of five-finger and murottal hypnosis interventions in the prevention of preeclampsia among pregnant women. Preeclampsia was a collection of symptoms that exclusively manifested during pregnancy after the 20th week. Pregnant women who exhibited at least two out of three symptoms, including high blood pressure, edema, and the presence of protein in the urine, were at a heightened risk of developing the complication. This finding aligned with the study conducted by Part et al. (2022), where pregnant women with high blood pressure faced an elevated likelihood of developing the disease. Furthermore, preeclampsia not only

affected the mother but also impacted the baby. The mother experienced premature birth, oliguria, and perinatal death as a result of preeclampsia, while the fetus suffered from stunted growth and oligohydramnios, leading to increased morbidity and mortality (Rabinovich et al., 2019).

Preventive measures for preeclampsia were implemented through both pharmacological and non-pharmacological approaches. Pharmacological interventions involved the administration of antihypertensive drugs. According to Andriana et al. (2018), antihypertensive drugs in combination or as monotherapy, were recommended for the treatment of preeclampsia. Dihydropyridine (nifedipine) and methyl dopa were the recommended antihypertensive drugs for patients. However, studies conducted by Tan et al. (2018) and Odigboegwu et al. (2018) showed instances of medication and dosage inaccuracies. The selection of drugs during pregnancy had to consider the ratio of benefits to maternal risks. Improper administration of antihypertensive therapy posed a risk of hypotension or potential side effects on the fetus, resulting in fatal consequences. Additionally, this study highlighted an 11.29% rate of drug selection inaccuracies.

Five-Finger and *murottal* hypnosis was part of the non-pharmacological techniques used as an intervention for the prevention of preeclampsia. It is a form of self-hypnosis therapy aimed at directing the mind towards alpha waves, inducing a state of relaxation for the individual (Hasnah, 2020). It can be perceived as a method to harness the potential of a calm mind by engaging the senses of smell, sight, and hearing in internal communication. Furthermore, *murottal* is a distraction technique employing auditory stimuli, typically involving the recitation of the Quran by a skilled reciter.

The benefits of Five-Finger hypnosis based on study (Azizah et al., 2023) can provide

a relaxing effect, relieve anxiety, and stress, muscles are not tense, improve sleep patterns, stabilize blood pressure, pulse, and heart, and improve breathing patterns. Mulianda & Umah (2021) explained that audio or sound reduces stress levels, provides a relaxing effect, shifts focus, and reduces anxiety, fear, and muscle not tense.

*Murottal*, as a non-pharmacological treatment, offers advantages in alleviating anxiety. It serves as an auditory stimulus that enters the ear, leading to vibrations transmitted through the ossicles and the VI nerve (vestibule) to the brain and nerves. Furthermore, the auditory signals reach the temporal lobe for transmission. The temporal lobe is connected to the limbic system and plays a crucial role in facilitating the release of a neurotransmitter known as benzodiazepine. This neurotransmitter promotes a sense of tranquility and relaxation (Fujianti et al., 2023).

The Five-Finger hypnosis therapy involved a method where respondents were guided to attentively follow instructions through finger movements while simultaneously visualizing the suggested scenarios. As a preliminary measure, the respondent begins with a relaxation exercise involving deep breathing for approximately one minute. Furthermore, the respondent was encouraged to imagine themselves in a state of optimal health, symbolized by the action of touching the thumb and index finger. They were prompted to envision the presence of their loved ones by gently touching the tip of the middle finger with the thumb. The step involved imagining receiving a heartfelt compliment, conveyed by touching the tip of the ring finger to the thumb. Lastly, participants were instructed to conjure an image of the most serene and enchanting place imaginable, represented by the act of touching the tip of the little finger with the thumb. The respondents were advised to gradually open their eyes after the

completion of the steps. The Five-Finger hypnosis intervention was continued with *murottal* therapy. Meanwhile, *murottal* is sounded by listening to the respondent, one of the suras in the Qur'an. The surah played was Ar-Rahman verses 1-78, which Muzammil Hasballah read through the speaker. Respondents were advised to stay relaxed while the holy verses of the Qur'an were heard.

The respondents were screened and assessed based on the inclusion and exclusion criteria. In the course of this study, they were initially provided with the DASS and HRSA questionnaire sheets. Pregnant women proceeded with blood pressure evaluations after fulfilling the inclusion and exclusion criteria. Before the intervention, the respondents received instructions on performing deep breathing relaxation exercises on three separate occasions. The intervention lasted approximately 15 minutes and was administered to individuals who expressed their willingness to participate as respondents. After the intervention, they were advised to engage in deep breathing relaxation exercises three times, followed by blood pressure measurements to ascertain the pre- and post-intervention blood pressure levels of pregnant women.

The study aligned with Hapsari and Puspitasari (2021), which demonstrated the impact of Five-Finger hypnosis therapy on blood pressure. The systolic and diastolic blood pressure exhibited a significant decrease from 176.1 mmHg to 153.8 mmHg and 98.8 mmHg to 90.2 mmHg. Moreover, Amelia et al. (2022) explored the influence of *murottal* therapy on blood pressure. This therapeutic approach, involving the recitation of the Quran, resulted in various physiological changes, such as alterations in electric current within the muscles, blood circulation, heart rate, and skin blood levels. These changes signified relaxation and a reduction in tension within the reflective

nerves, leading to arterial dilation, increased blood levels in the skin, and a decrease in heart rate. The *murottal* therapy operated on the brain, stimulating the production of neuropeptides, chemical substances interacting with receptors in the body and providing pleasurable or comforting feedback. The intervention involving Five-Finger and *murottal* hypnosis, administered over nine sessions, showed fluctuating blood pressure levels. This observation was consistent with Hanafusa et al. (2022) and Mahmood et al. (2019), who reported similar fluctuations in blood pressure among respondents. Additionally, lifestyle factors such as carbohydrate consumption, table salt usage, caffeine intake, lack of exercise, stress, and the use of antihypertensive medications contributed to variations in blood pressure.

## CONCLUSIONS

The result found a significant difference between the pretest and posttest with an average decrease in blood pressure of 2-6 mmHg. This study provided evidence that combining hypnosis and *murrotal* interventions had beneficial implications for pregnant women and the development of fetuses. Limitations of this study included the small number of participants and the absence of control criteria for the distance between the time of hypnosis and the period of pregnancy. A substantial time gap was observed between the hypnosis session and the delivery, allowing for an extended delay in certain participants. The study comprised 18 pregnant women, with a participant withdrawal resulting in the final number. Furthermore, the relatively small sample size did not fully reflect the actual findings. To strengthen the effectiveness of hypnosis in treatment, additional study should be conducted to guide women and health policymakers. This study also explored the inclusion of hypnosis, as a relatively safe procedure in the treatment plan to improve

women's health during pregnancy, labor, and after delivery.

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#### AUTHORS' CONTRIBUTIONS

Hasnah designed the study, formulated the concept, wrote the manuscript, and revised the manuscript. Ilhamsyah designed the study, formulated the concept. Darti acquired the data and revised the manuscript. Wahdaniah formulated the concept. Nurul F. Gani acquired and analyzed the data. Nurhidayah formulated the concept. All authors reviewed the manuscript, enrolled participants performed the field work, and approved the final manuscript.

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#### COMPETING INTERESTS

The authors confirm that all of the text, figures, and tables in the submitted manuscript work are original work created by the authors and that there are no competing professional, financial, or personal interests from other parties.

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