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Auriculotherapy Massage Using Ear Seeds on Blood Pressure in Uncontrolled Hypertension Patients (Study Conducted in the Working Area of UPTD Tabanan III Health Center in 2024)

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ABSTRACT

The high number of uncontrolled hypertension requires the role of health workers to make efforts to prevent complications that can arise due to hypertension such as stroke, heart attack, kidney failure and visual impairment. Non-pharmacological treatment of hypertension through the provision of Auriculotherapy massage is also interesting to study. The purpose of this study was to determine the effect of auriculotherapy massage using ear seeds on blood pressure in uncontrolled hypertension patients in the working area of UPTD Puskesmas Tabanan III. The research method used was Pre Experimental One-Group Pretest-Posttest Design. The research sample consisted of 23 people with hypertension who were selected using the simple random sampling technique. random sampling. Data were collected by measuring blood pressure and administering Auriculotherapy massage intervention . Data were analyzed using statistical tests. Wilcoxon Signed Rank Test . The results of the study showed that the average value of pre- systolic blood pressure was 161.91 mmHg and diastolic blood pressure was 161.91 mmHg. pre is 95.91 mmHg , while the average value of post systolic blood pressure is 157.52 mmHg and post diastolic blood pressure is 92.87 mmHg . Statistically, there is an effect of giving auriculotherapy massage using ear seeds on blood pressure ($p = 0.000 < \alpha 0.05$). Giving auriculotherapy massage using ear Seeds are effective in controlling blood pressure in hypertension sufferers, so they can be used as an alternative therapy that can be applied in public health services.

Keywords: Hypertension, Blood Pressure, Auriculotherapy Massage.

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Introduction

The development of the health sector in Indonesia is faced with challenges related to changes in disease transmission patterns from infections to degenerative diseases, which are influenced by changes in lifestyle and community habits. One indication is the increasing number of hypertension cases (Puspitasari, 2020). Hypertension is a medical condition characterized by systolic or diastolic blood pressure that exceeds normal limits (Masriadi, 2016). This disease is often referred to as *silent killer* because it can develop without showing clear symptoms. Most, namely 95%, of all cases of hypertension are primary hypertension (Kumanan et al., 2018).

As age increases, the prevalence of hypertension increases. According to WHO (2023b), as many as 1.28 billion adults aged 30-79 years or around 22% of the global population suffer from hypertension. Data from the 2018 Basic Health Research noted that the prevalence of hypertension in Indonesia reached 34.1%, a significant increase from 25.8% in 2013. This prevalence varies by age group, namely 31.6% at the age of 31-44 years, 45.3% at the age of 45-54 years, and 55.2% at the age of 55-64 years (KemKes RI, 2018).

Hypertension cases in individuals aged 18 years and over in Bali have shown an increase, with a prevalence of 19.9% in 2013 which rose to 29.97% in 2018. (KemKes RI, 2018) Based on data from the Bali Provincial Health Office in 2022, the prevalence of hypertension was higher in women (50.38%) than in men (49.62%). Denpasar City recorded the highest number of hypertension cases at 100,569 people, followed by Jembrana Regency with 67,048 cases, and Gianyar Regency with 42,677 cases. Tabanan Regency is known to have inadequate health services

for hypertension sufferers (Dinas Kesehatan Bali, 2022).

The identified problem is the inability to control blood pressure in hypertensive patients. This is evident from previous studies involving 3,236 hypertensive subjects, where 753 subjects (23.3%) had uncontrolled systolic blood pressure, and 291 subjects (9.0%) had uncontrolled diastolic blood pressure (Kwon et al., 2020). Other studies also support this finding, with 28 out of 37 respondents (75.7%) having uncontrolled blood pressure (Mandala et al., 2020). In line with that, a study at Puskesmas 1 Denpasar showed that out of 57 respondents, 42 respondents (73.7%) suffered from uncontrolled hypertension (Rasdini dkk., 2023).

Inability to control blood pressure is caused by a number of factors, including unhealthy lifestyles and non-compliance with medication (Kemenkes RI, 2018). Unmanaged blood pressure can cause various complications in sufferers. These complications include stroke, kidney failure, and heart disease (Masriadi, 2016). Previous studies have shown that out of 46 respondents, there were 21 elderly people with hypertension (45.7%) who had a stroke (Suntara et al., 2021). Research conducted by Puspitasari (2020) shows that hypertension is the highest risk factor in all stroke patients, with a percentage reaching 82.6%. Then, according to a study conducted by Agussalim et al. (2022), of the 57 respondents who suffered from kidney failure, 47 of them (82.4%) also had hypertension. In addition, research by Johanis et al. (2020) found that of 172 respondents with heart disease, 98 respondents (57.0%) suffered from hypertension. This finding is consistent with previous studies.

Avoiding complications in hypertensive patients can be done by maintaining blood pressure within the normal range. Hypertension treatment steps include

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the use of pharmacological drugs, the implementation of a healthy lifestyle, and non-pharmacological therapy (Masriadi, 2016). One form of non-pharmacological therapy is auriculotherapy, which is stimulation of the earlobe used for the diagnosis and treatment of various health conditions. Auriculotherapy can help reduce nausea, hypertension, weight, anxiety, stress, and support the process of quitting smoking (Rivas-Vilchis and Castañeda-Ramírez, 2019).

According to previous studies, the application of auricular acupressure for eight weeks provides benefits in lowering blood pressure and pulse rate, reducing stress, and improving sleep quality in patients with hypertension. Before acupressure, the difference in average systolic blood pressure between the experimental and control groups was 146.74 mmHg and 150.83 mmHg , respectively , while the average diastolic blood pressure was 83.17 mmHg and 82.96 mmHg . After acupressure intervention, the average systolic blood pressure in the experimental and control groups was recorded at 141.43 mmHg and 149.87 mmHg , respectively , while the average diastolic blood pressure was 79.26 mmHg and 85.83 mmHg (Kim & Park, 2023) . This is also in line with 18 studies that have been conducted, which state that auricular acupressure can significantly reduce systolic blood pressure and diastolic blood pressure with a p value <0.0001 (Zhao et al., 2020) . Another study also stated that of the 118 respondents who were given auricular acupressure , there was a decrease in systolic blood pressure and diastolic pressure (Gao et al., 2020).

Based on the problem explanation in the background above, from previous research, this auricular massage was given by acupressure experts. So the author is interested in conducting research to find out whether there is an effect on blood pressure if

auriculotherapy massage is done using *ear seeds* .

Research Method

The type of research used in this study is *Pre Experimental One-Group Pretest-Posttest Design* . In this design, the research sample was observed before receiving treatment, and after the treatment was given the sample was observed again. The study was conducted at the UPTD Tabanan III Health Center on March 18-April 26, 2024. The population of this study were all hypertensive who were recorded as visiting the Tabanan III Health Center in January 2024, especially uncontrolled hypertension patients , taking into account the specified inclusion and exclusion criteria .The sample in the study was calculated using G- Power using the results of *the effect size of previous research*. *The determination of inclusion and exclusion criteria* is carried out on the basis of research ethics, namely giving the sample the freedom to decide not to participate in the implementation of the research without any coercion from any party. The inclusion and exclusion requirements are as follows:

a. Criteria inclusion

Criteria inclusion is characteristics general subject study from a target population to be researched which includes:

- 1) Patient hypertension with age 19-60 years .
- 2) Patients who have already Once control to health center and diagnosed with hypertension
- 3) Patient hypertension that is willing become respondents .
- 4) Criteria exclusion

b. Criteria exclusion is emit or remove the subject that is not fulfil criteria inclusion from studies Because various because that is:

- 1) Patient hypertension with condition defective (no own leaf ear) .



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- 2) Patient hypertension with disease accompanying such as DM, Kidney and Stroke.

In the research This technique taking sample used is *simple random sampling* , where each member of the population has an equal chance of being selected as a research subject. The way to implement this technique is that the sample selection is done randomly , *using* a lottery system. The results that come b are numbers from the population taken as a p n (Nursalam, 2020).

visited Tabanan III Health Center during January 2024 were 110 people. Researchers will characterize the population according to the target criteria. Then researchers will collect the names of all p which is 46 people. Researchers will create serial numbers 1-46, then a lottery will be held for 23 numbers, after the lottery the numbers that appear will be used as respondents.

The data collected in this study are primary data, namely data obtained directly from respondents, especially regarding systolic and diastolic blood pressure in hypertensive patients before and after undergoing *auriculotherapy massage* . Secondary data, namely data sourced from written reports,

books or other documents, namely reports on the number of p patients . Bivariate analysis was carried out on two variables that were suspected of being related or influential (Swarjana, 2016). Bivariate analysis in this study aims to determine the effect of *auriculotherapy massage using ear seeds on blood pressure in b* hypertension patients using *nonparametric statistical tests* The test is *Wilcoxon Signed Rank Test* . The results of the statistical test show a p value = 0.0 00 which means that the p value < α 0.05 , then in a way statistics There is influence *auriculotherapy massage using ear seeds* on blood pressure in patients with uncontrolled hypertension.

Results and Discussions

The sample used in this study were patients with uncontrolled hypertension in the Tabanan III Health Center working area who met the sample criteria of 23 respondents. The characteristics of the research subjects that have been studied and distributed into the distribution table are as follows:

a. Characteristics of research respondents based on age

The characteristics of research subjects based on age can be seen in table 1 below:

**Table 1 Frequency Distribution
Respondents Based on Age in the Working Area of UPTD Puskesmas Tabanan III in 2024**

No.	Age (Year)	Frequency (n)	Percentage (%)
1	36-39	2	8.7
2	40-43	4	17.4
3	44-47	4	17.4
4	48-51	3	13.0
5	52-55	4	17.4
6	56-59	6	26.1
Total		23	100



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Based on table 1, it shows the characteristics of respondents based on age. Of the 23 respondents, the majority were aged 56-59 years (26.1%).

b. Characteristics of research respondents based on gender

The characteristics of research subjects based on gender can be seen in table 2 below:

Table 2

Frequency Distribution of Respondents Based on Gender in the Working Area of UPTD Tabanan III Health Center in 2024

No.	Type Sex	Frequency (n)	Percentage (%)
1	Man	8	34.8
2	Woman	15	65.2
	Total	23	100

Based on table 2, it shows the characteristics of respondents based on gender. Of the 23 respondents, the majority of respondents were female, 15 people (65.3%).

c. Characteristics of research respondents based on education

The characteristics of research subjects based on education can be seen in table 3 below:

Table 3

Frequency Distribution of Respondents Based on Education in the Working Area of UPTD Tabanan III Health Center in 2024

No.	Education	Frequency (n)	Percentage (%)
1	SD	9	39.1
2	JUNIOR HIGH SCHOOL	7	30.4
3	SENIOR HIGH SCHOOL	7	30.4
	Total	23	100

Based on table 3, it shows that of the 23 respondents, the majority of respondents had elementary school education (39.1%).

d. Characteristics of research respondents based on occupation

The characteristics of research subjects based on occupation can be seen in table 4 below:

Table 4

Frequency Distribution of Respondents Based on Occupation in the Working Area of UPTD Tabanan III Health Center in 2024

No.	Work	Frequency (n)	Percentage (%)
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1	Trader	3	13.0
2	Seamstress	1	4.3
3	Employee Private	2	8.7
4	Private	6	26.1
5	Mother House Ladder	8	34.8
6	No Work	3	13.0
Total		23	100

Based on table 4, it shows that of the 23 respondents, the majority of respondents work as housewives (34.8%).

e. Hypertensive patients' blood pressure was not controlled before being given *auriculotherapy massage*.

auriculotherapy massage can be seen in table 5 below:

Table 5

Blood Pressure in Uncontrolled Hypertension Patients Before Being Given *Auriculotherapy Massage* Using *Ear Seeds* in the Working Area of UPTD Tabanan III Health Center in 2024

Pressure Blood	N	Minimum	Maximum	Mean	Std . Deviation
Systole	23	147	180	161.91	9.26
Diastole	23	90	106	95.91	4.73

Based on table 5, it can be seen from 23 respondents before treatment (*pretest*) obtained systolic blood pressure with a minimum value of 147 mmHg , maximum 180 mmHg , with an average value of 161.91 mmHg . Diastolic blood pressure obtained a minimum value of 90 mmHg , maximum 106 mmHg with an average value of 95.91 mmHg .

f. *auriculotherapy* massage

auriculotherapy massage using *ear seeds* for 3 days can be seen in table 6 below:

Table 6

Blood Pressure in Uncontrolled Hypertension Patients After Being Given *Auriculotherapy Massage* Using *Ear Seeds* in the Working Area of UPTD Tabanan III Health Center in 2024

Pressure Blood	N	Minimum	Maximum	Mean	Std . Deviation
Systole	23	142	178	157.52	9.61
Diastole	23	87	100	92.87	3.93

Based on table 6 it can be seen from 23 respondents after treatment (*posttest*) obtained systolic blood pressure with a minimum value of 142 mmHg , maximum 178 mmHg , with an average value of 157.52

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mmHg . Diastolic blood pressure obtained a minimum value of 87 mmHg , maximum 100 mmHg with an average value of 92.87 mmHg .

g. *auriculotherapy* massage using ear seeds on blood pressure in uncontrolled hypertension patients in the Tabanan III Health Center UPTD work area in 2024

auriculotherapy massage using *ear seeds* on blood pressure in uncontrolled hypertension patients in the Tabanan III Health Center UPTD working area using the *Wilcoxon statistical test Signed Rank Test* with α of 0.05, because the results of the u ltest Data normality using the Skewness test obtained normally distributed data . Calculations using computer assistance (calculations attached) can be described as follows:

Table 7 Effect of

Auriculotherapy Massage Using *Ear Seeds* on Blood Pressure in Uncontrolled Hypertension Patients in the Working Area of UPTD Tabanan III Health Center in 2024

Variables	Mean (Pretest-Posttest)	p Value
Pressure blood Systole (n= 23)	161.91 - 157.52	0.00 0
Wilcoxon test , 0 respondents increased, 3 respondents remained the same and 20 respondents decreased		
Pressure blood diastole (n=23)	95.91 - 92.87	0,000
Wilcoxon test , 0 respondents increased, 7 respondents remained the same and 16 respondents decreased.		

Data source: Primary Data (20 23)

Based on the table 7 shows the average pressure blood systolic pressure before treatment was 161.91 while after treatment it was 157.52. The average blood pressure diastolic blood pressure before treatment was 95.91 while after treatment it was 92.87. The results of this study indicate that the average value of systolic and diastolic blood pressure after treatment was smaller when compared to before treatment, meaning that the blood pressure systole and diastole blood after treatment were lower when compared to before treatment.

1. Characteristics Respondent hypertension patients No controlled in region Work Health Center Tabanan III

Characteristics hypertension patients No controlled in region Work Health Center Tabanan III based on age from 23 Respondent obtained that the majority of respondents are in the 56-59 age group (26.1%). In line with previous research which showed that the majority of hypertension sufferers are in the 56-65 age group as many as 46 people (92%) (Akbar dkk., 2020) . Statistically there is a

relationship between age and increased blood pressure (Yulnus dkk., 2021) . Another study at the Kedungmundu Health Center also showed that the majority of hypertension sufferers are in the age group >55 years as many as 68 people (76.5%) (Bachtiar dkk., 2018).

The risk of hypertension increases with age, the older a person is, the higher the incidence of hypertension. Blood pressure increases gradually with age and will continue to increase after the age of 60 years. (Sari, 2017). This is analyzed to occur due to changes in cardiovascular structure and function. As age

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increases, the left ventricular wall and heart valves will thicken along with reduced blood vessel elasticity. This condition has an impact on increasing systolic blood pressure and diastolic blood pressure. (Gunawan, 2015). Age is one of the main factors that affect hypertension, this is due to natural changes in the body in the heart, blood vessels, and hormones. Age is associated with endothelial dysfunction and increased arterial stiffness in hypertension, especially systolic hypertension in older adults (Hastuti, 2022) . Age is an influence on the onset of hypertension with increasing age. This is because the walls of the arteries will experience thickening due to the accumulation of collagen in the muscle layer , so that vessels blood will gradually narrow And become rigid (Manurung, 2018).

The majority of hypertensive patients No controlled in region Work Health Center Tabanan III is female as much as 15 Respondent (65.2%) whereas on man- man as many as 8 respondents (34.8%). The results of this study are in line with the research that done by Tindagen year 2020 Which involving 80 Respondent it was found that as much as 38 Respondent (86.4%) Which experience hypertension various female and 6 respondents (13.6%) were male . In line with previous studies showing that the majority of elderly people with hypertension were female, as many as 39 people (78%) (Akbar et al., 2020) . Other studies show a significant relationship between gender and the incidence of hypertension in the elderly (Nurhayati dkk., 2023).

The majority of women suffer from hypertension, this is related to women who have gone through menopause. Women who have not gone through menopause are protected by hormones. estrogen which plays a role in increasing *Levels Density Lipoprotein* (HDL). High HDL cholesterol levels are a protective factor in preventing the occurrence of atherosclerosis which causes hypertension (Manurung, 2018) . Postmenopausal women

experience decreased estrogen levels which cause low HDL and high LDL which will affect the occurrence of so that blood pressure will be high. Atherosclerosis is a process that causes stiffness in blood vessels so that blood vessels have difficulty enlarging their diameter so that blood pressure increases (Nurhayati dkk., 2023).

Hypertensive patients No controlled in region Work Health Center Tabanan III seen from the characteristics of education and work of 23 Respondent obtained part big have an elementary school education , 9 people (39.1%) and work as housewives, 8 people (34.8%). The level education related to respondents' knowledge in efforts to control hypertension. Matter This in accordance with theory Which put forward by John Dewey that through A person's education will have the skills, mental and emotional help someone to develop to reach maturity (Bachtiar dkk., 2018).

Work is related to the respondent's experience in treating hypertension, patients who do not work and rarely do activities have a high risk of suffering from hypertension, but other studies state that Hypertension can occur due to workload and demands of life's needs Which can influence burden thought Which Finally can spark the occurrence of increased blood pressure (Septiawan dkk., 2018).

2. Blood pressure in hypertensive patients is not controlled before being given massage auriculotherapy use ear seeds in the Tabanan III Health Center work area

Blood pressure in hypertensive patients is not controlled before being given massage *auriculotherapy use ear seeds* From 23 respondents before treatment (*pretest*), the average systolic blood pressure was 161.91 mmHg with value minimum 147 mmHg and a maximum of 180 mmHg , while the average diastolic blood pressure was 95.91 mmHg with a minimum value of 90 mmHg , maximum 106 mmHg . When viewed from the category, it can be concluded that most experience grade II

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systolic hypertension while $\frac{1}{2}$ diastolic (JNC VIII, 2014)hypertension.

The results of this study are in line with several previous studies, such as research by the UPT Kesmas. Tegallalang I, Gianyar Regency shows that of the 25 respondents before being given yoga asana treatment, the majority of them had systolic blood pressure of 160 mmHg, namely 1.3 people (5.2.0 %) and diastolic blood pressure was 100 mmHg as many as 1 5 people (60.0 %). The average systolic blood pressure was 162.40 mmHg with a maximum value of 180 mmHg and a minimum value of 150 mmHg , while the average diastolic blood pressure is 98.12 mmHg with a maximum value of 110 mmHg and a minimum value of 90 mmHg (Santika, 2020).

The results of this study indicate that most patients experience systolic hypertension . Hypertension in the elderly is mostly Isolated Systolic Hypertension (HSH) and is generally primary hypertension. The presence of hypertension, both HSH and a combination of systolic and diastolic, is a risk factor for morbidity and mortality for the elderly. Hypertension is still a major risk factor for stroke, heart failure and coronary disease, where role is estimated to be $\frac{1}{2}$ than in younger people (Kulwardhani , 2015).

Increased blood pressure is sometimes the only symptom of essential hypertension and does not depend on the high or low blood pressure, so the symptoms that arise are different. Sometimes hypertension runs without symptoms and only appears after complications occur in target organs such as the kidneys, eyes, brain and heart (Hastuti, 2022). Symptoms such as headaches, epistaxis, dizziness or migraines are often found as clinical symptoms of essential hypertension. Other symptoms due to complications of hypertension such as visual disturbances, neurological disorders, symptoms of heart failure, and other symptoms due to impaired kidney function are often found. Cerebral disorders due to hypertension can be

in the form of seizures, or symptoms due to bleeding of cerebral blood vessels in the form of paralysis, impaired consciousness and even coma (Kowalak et al., 2017).

Based on the results of the study and discussion, researchers argue that hypertension in the elderly occurs due to a decrease in various organ functions in the body. However, the incidence of hypertension is also $\frac{1}{2}$ by risk factors such as unhealthy lifestyles that can be modified or prevented to avoid increased blood pressure. Providing education about risk factors for hypertension and its treatment efforts still needs to be encouraged in the community. Elderly posyandu activities still need to be improved.

3. Pressure blood on patient hypertension No controlled after given *auriculotherapy* massage use *ear seeds* in the Tabanan III Health Center work area

Blood pressure in hypertensive patients is not controlled after being given massage *auriculotherapy* use *ear seeds* From 23 respondents after treatment (*posttest*), the average systolic blood pressure was 157.52 mmHg with value minimum 142 mmHg and maximum 178 mmHg . The average value of diastolic blood pressure was 92.87 mmHg with a minimum value of 87 mmHg , maximum 100 mmHg . When viewed from the category, it can be concluded that most patients experience grade I systolic and diastolic hypertension (JNC VIII, 2014).

The results of the content research are in line with previous studies which state that giving therapy on leaf ear can lowering blood pressure with *p value* <0.001, average blood pressure result *pre* systole that is 143.21 mmHg And pressure blood diastole *before* that is 88.10 mmHg .Flat- flat pressure blood systole *post* that is 130.81 mmHg And pressure blood diastolic *post* which is 79.67 mmHg (To bhtkar e t et al . , 2024).

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Hypertension is a condition that increase the risk of disease coronary heart disease and infarction myocardium. The main goal of hypertension management is to achieve controlled blood pressure. The goal of hypertension management or management is to prevent morbidity and mortality by maintaining blood pressure below 140/90 mmHg . Hypertension management is made in the form of hypertension management which can be classified into two, namely drug management and non-drug management (Sumariyah dkk., 2018) . Pharmacological treatment has often been carried out in health services so that non-pharmacological treatment is very interesting in the world of health, one of which is massage. *auriculotherapy*. *Auriculotherapy* is a stimulation of the earlobe that can lower blood pressure (Rivas-Vilchis and Castañeda-Ramírez, 2019).

Auriculotherapy work by stimulating system central nervous system for releases beneficial neurotransmitters and hormones to the body's cells humans. The neurotransmitters involved are molecules that are used to initiate the healing process of the hormones involved. One of the molecules that used is endorphins. If the amount of endorphin hormones in the body increases And produce euphoria so will can reduce stress And can lower pressure peripheral Which Finally can lower pressure blood. Sufferer hypertension can use method This For lower pressure blood, After the therapy seeds are installed, the patient can perform massage independently . on point which has been given seed therapy.

Based the results of the study and discussion, researchers argue that hypertension treatment efforts using non-pharmacological therapy provide quite significant results. However, the results of this study also showed that 3 respondents did not experience changes in systolic values and 7 respondents did not experience changes in diastolic values after treatment. Blood pressure is influenced by

many factors where in this study researchers have not been able to control such as sports activities or activities, low-salt diets, smoking, drinking coffee which of course affect the results of the study. Education about maintaining a healthy lifestyle or pattern is still very much needed to be conveyed to all levels of society to reduce the incidence of hypertension.

4. *auriculotherapy* massage using *ear seeds* against pressure blood pressure in uncontrolled hypertension patients in the UPTD Puskesmas work area Tabanan III

Wilcoxon test results *signed rank test* shows that out of 23 respondents, systolic blood pressure was found to be as many as 20 respondents experienced a decrease in pressure blood systole After the intervention , no respondents experienced an increase in blood pressure. blood systole after intervention and as many as 3 respondents did not experience change pressure blood systole after intervention i . In diastolic blood pressure, it was found that 16 respondents experienced a decrease in pressure diastolic blood pressure after the intervention , no respondents experienced an increase in blood pressure. diastolic blood pressure after the intervention and as many as 7 respondents did not experience change pressure diastolic blood after intervention i . The results of the statistical test showed a p value = 0.0 00 which means that the p value < α 0.05 , then in a way statistics There is influence *auriculotherapy* massage using *ear seeds* on blood pressure in uncontrolled hypertension patients in the working area of UPTD Puskesmas Tabanan III. Provision of *auriculotherapy* treatment using *ear seeds* which is done for two to repeated three times a day and done for three days can effectively reduce systolic and diastolic blood pressure in hypertensive patients who have uncontrolled blood pressure.

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The results of the study are in line with several previous studies, which stated that acupressure auricular can significantly reduce systolic blood pressure and diastolic blood pressure with p value <0.0001 (Zhao et al., 2020). Other research also showed that of the 118 respondents who were given acupressure auricular, experiencing a decrease in systolic blood pressure and diastolic pressure (Gao et al., 2020).

The theory of ear massage therapy is to massage or stimulate certain points in the ear, vital energy in the ear can flow well. Ear massage therapy aims to increase energy flow, tension, reduce pain and the natural healing (Saras, 2023) process. Acupressure auricular can lighten up hypertension, lower pulse rate and reduce stress levels. By giving massage to the points point on leaf ear will activate parasympathetic nerves (Kim & Park, 2023). Physiologically, a relaxed state is characterized by a decrease in epinephrine and norepinephrine levels in the blood, a decrease in muscle tension, decreased metabolism, vasodilation of blood vessels and an increase in temperature of the extremities (Putra, 2019).

The calm state is obtained due to the sensation of releasing the hormone endorphin. The hormone endorphin will increase the elasticity of blood vessels so that blood vessels dilate. Dilation of blood vessels will increase blood flow throughout the body more so that heart performance will decrease and cause a decrease in systolic and diastolic blood pressure (Pasek, 2016).

Based on the researcher is of the opinion that *auriculotherapy* can lower pressure blood, Because can produces euphoria and reduces stress, but there are still respondents who do not experience changes in blood pressure after treatment, this is related to the ability to do massage independently by different respondents. So it will affect the amount of benefits felt. In addition, the influence of environmental factors where the activity is

carried out can certainly also affect what researchers have not been able to control.

Conclusion

Auriculotherapy massage using ear seeds on blood pressure in uncontrolled hypertension patients in the Tabanan III Health Center work area in 2024 with 23 respondents can be concluded as follows:

1. The results of the frequency distribution of respondent characteristics showed that the majority of respondents were female, namely 15 people (65.2%), the majority of respondents were aged 56-59 years, amounting to 6 people (26.1%), the majority of respondents had elementary school education (39.1%) and the majority of respondents worked as housewives, namely 8 people (34.8%). From the results of previous studies and relevant theories, it can affect blood pressure.
2. The average result of systolic blood pressure before treatment (pre-test) was 161.91 mmHg, while the average result of diastolic blood pressure before treatment (pre-test) was 95.91 mmHg.
3. The average result of systolic blood pressure after treatment (post-test) was 157.52 mmHg, while the average result of diastolic blood pressure before treatment (post-test) was 92.87 mmHg.
4. The effect of auriculotherapy massage using ear seeds on blood pressure in uncontrolled hypertension patients in the Tabanan III Health Center UPTD work area ($p = 0.001$; $\alpha = 0.05$).

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Conflic of Interest

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