

**THE EFFECT OF ISOMETRIC HANDGRIP AND DEEP BREATH
RELAXATION ON MEAN ARTERIAL PRESSURE
IN PATIENTS WITH HYPERTENSION AT
JUWIRING KLATEN HEALTH CENTER**

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ABSTRACT

Background: Hypertension is one of the non-communicable diseases that is a leading cause of death worldwide, with a prevalence of 341,727 hypertensive patients in Klaten District. In Juwiring Subdistrict, there were 15,951 residents in 2023. Hypertension treatment can be conducted using non-pharmacological methods such as isometric handgrip and deep breathing relaxation. **Objective:** To determine the effect of isometric handgrip exercise and deep breathing relaxation therapy on Mean Arterial Pressure in hypertensive patients at the Juwiring Health Center, Klaten. **Method:** A quasi-experimental design with a two-group pretest-posttest approach was used. The study population consisted of 126 individuals, with a sample of 62 respondents divided into an intervention group and a control group, each comprising 31 respondents, selected using purposive sampling. The intervention was conducted over five days, with each session lasting approximately four minutes. **Results:** The Mann-Whitney MAP test yielded a p-value of $0.000 < 0.05$, indicating a significant difference in MAP reduction after the intervention. **Conclusion:** This study found that isometric handgrip and deep breathing relaxation therapy are effective in lowering MAP in hypertensive patients. The intervention can serve as an alternative in hypertension management and improve quality of life.

Keywords: Hypertension, Isometric handgrip, Deep breathing relaxation, Mean Arterial Pressure.