

# The Increasing Obedience and Changes in Blood Pressure Through Family Empowerment Model in Elderly People with Hypertension

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**Submission date:** 27-Jun-2020 01:51PM (UTC+0700)

**Submission ID:** 1350354255

**File name:** 26-risna-2.pdf (592.6K)

**Word count:** 2103

**Character count:** 11786

# The Increasing Obedience and Changes in Blood Pressure Through Family Empowerment Model in Elderly People with Hypertension

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## Abstract

**Background:** The implementation of program to handle hypertension requires support from all sides, especially family. Optimization of family empowerment depends on the model that serves as a reference for nursing services, assisting families and patients.

**Purpose:** This research aims to analyze the effect of family empowerment model on obedience and changes in blood pressure in elderly people with hypertension.

**Method:** This research used a pre-experimental design with a one group pretest-posttest design approach with 21 elderly people diagnosed with hypertension, selected by purposive sampling. The research instrument for the obedience used a diet obedience questionnaire of 19 questions using a Likert scale of as always = 4, often = 3, sometimes = 2, never = 1. The blood pressure used observation sheets and tensimeter.

**Results:** The results of the Paired T Test showed an increasing diet obedience after the intervention with P value = 0.07 ( $p < 0.05$ ), while a decreasing in systolic blood pressure with P value = 0.005 ( $p < 0.05$ ), and diastolic blood pressure with P value = 0.023 ( $p < 0.05$ ). can be improved by family empowerment.

**Keywords:** Elderly, Hypertension, Obedience, Blood Pressure, Family Empowerment.

## Introduction

The prevalence of hypertension globally, according to the World Health Organization (WHO) is around 22% for the population aged  $\geq 18$  in 2014, estimated to increase to 29.2% by 2025. The prevalence of national hypertension in 2013 is 28.1%, increases by 3.58% in 2018 (from 28.1% to 31.68%). In South Sulawesi the

number of hypertension sufferers in 2013 was 25.8% and increased by 8.3% in 2018 (from 25.8% to 34.15%)<sup>1</sup>.

In general the treatment of hypertension can be divided to two approaches, namely pharmacological and non-pharmacological approaches. The efforts developed in the non-pharmacological approach to hypertension include lifestyle modification, weight loss, regular physical/exercise exercises, smoking cessation, increasing the fruit and vegetable intake, alcohol reduction, sodium intake control and potassium supplements<sup>2</sup>.

The implementation of program to deal with hypertension requires support from all sides, especially the family role. The Ministry of Health has a program that sets the operational strategy for health development through Healthy Indonesia Program with the Family

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Approach (PIS-PK) to increase health promotion and community empowerment, in this case family empowerment<sup>3</sup>. Families are the smallest part of society which plays a role in improving the health of their families<sup>4</sup>.

Family empowerment is an effort to increase knowledge, awareness and desires of the family to improve health status. Optimization of family empowerment depends on a model that will serve as a reference for nursing services. A model will produce a positive impact if the model can be developed according to the needs of providers and users of health services, such as nurses, communities and families. The family empowerment model which is often used is health education, counseling, and assistance to families and patients<sup>5</sup>.

Health education is the provision of information to improve knowledge and abilities through learning techniques or instructions to influence human behavior<sup>5</sup> and providing health education can help families in controlling blood pressure<sup>6</sup>. Assistance is giving help to raise awareness about the importance of health and problem solving, and assistance provided to families to prepare menus or foods for hypertensive diet.

For this reason, this research will analyze the effect of family empowerment model in increasing obedience and blood pressure improvement in hypertensive elderly patients.

### Method

**3** This research used a pre-experimental design with one group of pretest-posttest design. The research was conducted in March to May, 2019 in Parangbanoa Village, involving 21 respondents using purposive sampling with inclusion criteria: 1. families who have elderly people with hypertension with systolic blood pressure between 140-179 mmHg, diastolic 90-119

mmHg, 2. The age of elderly people were  $\geq 60$  years, 3. no taking antihypertensive medicine, and 4. willing to be a respondent.

This research used diet obedience questionnaires of 19 questions in Likert scale with answers 1 = never, 2 = sometimes, 3 = often, 4 = always and observation sheets for blood pressure measurements. The activities were conducted in the first week (pretest) and the eighth week (posttest). The intervention was conducted for 4 weeks. Data analysis to determine the effect of family empowerment model on obedience and changes in blood pressure were using paired T test with  $P < 0.05$ .

### Results

**Table 1: Distribution of Frequency Characteristics of Elderly People with Hypertension**

Variable	Frequency	Percentage (%)
<b>Age</b>		
60-62	11	52,4
63-65	3	14,3
66-68	1	4,8
69-71	3	14,3
72-74	3	14,3
<b>Gender</b>		
Male	3	14,3
Female	18	85,7
<b>Duration</b>		
$\leq 1$ tahun	12	57,1
$> 1$ tahun	9	42,9
<b>Family History</b>		
No	8	38,1
Yes	13	61,9

Based on table 1, most of the respondents were 60-62 years old (52.4%) and most of them were women (85.7%). Based on the duration of suffering, most of them had hypertension  $\leq 1$  year (57.1%) and had a family history of hypertension (61.9%).

**Table 2: Effects of the Family Empowerment Model on Obedience and Changes in Blood Pressure**

Variable of Obedience	Pre Intervention		Post Intervention		P Value
	Mean	SD	Mean	SD	
Obedience	48,86	4,163	50,90	4,369	0,007
<b>Variable of Blood Pressure</b>					
Systolic Blood Pressure	151,43	9,500	144,29	12,479	0,005
Diastolic Blood Pressure	93,10	4,323	89,76	5,585	0,023

The results of the Paired T Test on obedience were obtained such as P value = 0.007 ( $p < 0.05$ ), systolic blood pressure was obtained as P value = 0.005 ( $p < 0.05$ ) and diastolic blood pressure was P = 0.023 ( $p < 0.05$ ). The results showed that there was an influence of family empowerment models on obedience and changes in blood pressure in elderly people with hypertension.

## Discussion

Research has shown an increasing diet obedience and changes in blood pressure after intervention in family empowerment models implementation due to the role and support of the family of the elderly people, including education and assistance for the implementation of a healthy lifestyle by improving diet, doing physical activity diligently, adequate rest and being able to manage stress.

Theoretically the food eaten affects the stability of blood pressure. Nutrient content such as fat and sodium have a close relationship with hypertension. The implementation of a regular diet can normalize hypertension, such as by reducing foods with high salt, fatty foods, eating high fiber foods and doing sports activities<sup>7</sup>.

Gusmira's research (2012) stated that treatment and diet are needed to control blood pressure, and patients need to understand that as much as hypertension cannot be cured, it can be controlled by changing lifestyle and obedience to diet (low diets salt, caffeine, saturated fat)<sup>8</sup>.

Family support is important to determine the beliefs, health values, treatment and care programs. Support from health personnel is also needed to increase the level of obedience<sup>9</sup>.

This is in line with the research conducted by Arista Novian (2013) which shows a relationship between hypertension diet obedience and family roles where the P value was (0.008) < of the alpha value (0.05) the family can be a support system for assistance<sup>10</sup>.

The results of Fitri's research, Dachriyanus (2016) stated that the family support has a very strong relationship with obedience and there is a unidirectional relationship; the higher the family support is the higher obedience will be<sup>11</sup>.

Educational empowerment is provided to clients with a client-focused empowerment approach or collaborative care where health care providers and

patients make joint decisions<sup>12</sup>. Family knowledge, both cognitive and behavioral in improving health status, overcoming health problems, and helping the recovery process, form family empowerment. The outcome expected is for the family to be independent and skilled in caring for the hypertensive family members.

The mechanism causing changes in the family, which has a positive effect on every family-focused treatment as well as suitable promotive actions with cultural status of the community, influences nursing actions and treatments developed in the family<sup>13</sup>.

The results of the research of Sri, Herman, and Mudatsir (2016) prove the influence of health education on family health tasks on hypertension diet obedience in the working area of Blang Mangat Health Center in Lhokseumawe City<sup>11</sup>.

Meanwhile, Mery, Oktaviani and Patriani (2017) shows the influence of education with the theoretical approach of the Dorothy E. Johnson's behavioral system model towards changes in blood pressure in hypertensive patients with P value of systolic blood pressure: 0.001 and P value of diastolic = 0.007 (Solon, Putri, & Naing, 2018).

Heni and Supriyah (2019) proves the influence of family assistance in self-care for the blood pressure stability in hypertensive patients<sup>14</sup>. Based on the research of M. Isra et al (2017), respondents who have high family support tend to have a low degree of hypertension<sup>15</sup>.

Meanwhile the research of Novita, Asti and Mamat stated that there is an effectiveness in providing salt diet to the stability of elderly people's blood pressure with hypertension in Purwoyoso village in Semarang with P value of systolic blood pressure: 0.008 and P value of diastolic: 0,0001<sup>16</sup>.

## Conclusion

Family empowerment is one of the interventions that empowers families in controlling hypertension. In this research there were significant differences before and after intervention of the family empowerment model implementation.

**Recommendation:** The family empowerment can be used as an intervention to control hypertension.

Relevance of Research: This research has highlighted

the problem of family empowerment where the families have not understood hypertension and its treatment well, and lack of attention, support and motivation to the elderly people regarding their condition, causing no improvement in blood pressure.

**Acknowledgements:** We gratefully acknowledge the support of the University Muhammadiyah of Jakarta

**Ethical Clearance:** Taken from Institutional Ethical committee.

**Conflict of Interest:** Nil

**Source of Findings:** Self

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