

The Relationship Between Knowledge Level on Drug Use and Drug Compliance in Hypertension Patients at Community Health Centers

(Hubungan Tingkat Pengetahuan Penggunaan Obat dengan Kepatuhan Minum Obat pada Pasien Hipertensi di Puskesmas)

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Abstract: Hypertension is a silent killer disease because the symptoms are often without complaints and the treatment requires a long period of time, so the outcomes are greatly affected by patient compliance. Hypertension is one of the main factors causing heart problems, kidney failure and cerebrovascular disease. Compliance with taking medication in patients with hypertension is very important because it can control blood pressure to prevent complications. This study was conducted to determine the relationship between knowledge and drug compliance in hypertensive patients. The measurement of knowledge was done using the Hypertension Knowledge-Level Scale (HK-LS) questionnaire and the measurement of compliance using the Morisky Medication Adherence Scale (MMAS-8) questionnaire. The samples used were patients at Pasir Panjang community health center and Buntok community health center with a total sample of 95 people. The results obtained, the level of good knowledge was 39%, 33% sufficient knowledge and 28% less knowledge. Meanwhile, the high level of compliance is 41% and the level of compliance is 31% and the level of knowledge is at 28%. Data analysis using the chi-square test showed p-values of <0.05 which means that there was a relationship between the level of knowledge and drug compliance in hypertensive patients.

Keywords: HK-LS, measurement, MMAS-8

Abstrak: Hipertensi merupakan suatu penyakit *silent killer* karena gejalanya sering tanpa keluhan dan pengobatannya membutuhkan jangka waktu yang lama sehingga sangat mempengaruhi kepatuhan konsumsi obat. Hipertensi merupakan salah satu faktor utama penyebab gangguan jantung, gagal ginjal maupun penyakit serebrovaskular. Kepatuhan minum obat pada penderita hipertensi sangatlah penting karena dapat mengontrol tekanan darah pada penderita hipertensi sehingga dapat mencegah terjadinya komplikasi. Penelitian ini dilakukan untuk mengetahui hubungan pengetahuan dengan kepatuhan minum obat pada pasien hipertensi. Pengukuran pengetahuan menggunakan kuesioner *Hypertension Knowledge-Level Scale* (HK-LS) dan pengukuran kepatuhan dengan kuesioner *Morisky Medication Adherence Scale* (MMAS-8). Sampel yang digunakan adalah pasien di Puskesmas Pasir Panjang dan Puskesmas Buntok dengan jumlah sampel 95 orang. Didapatkan hasil untuk tingkat pengetahuan baik 39%, pengetahuan cukup 33% dan pengetahuan kurang 28%. Sedangkan untuk tingkat kepatuhan tinggi 41% dan tingkat kepatuhan sedang 31% dan tingkat pengetahuan rendah 28%. Dan dari uji *chi-square* di dapat p value <0,05 yang berarti ada hubungan antara tingkat pengetahuan dan kepatuhan minum obat pada pasien hipertensi.

Kata kunci: HK-LS, MMAS-8, pengukuran

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INTRODUCTION

HYPERTENSION is a condition of a person who has a systolic blood pressure of ≥ 140 mmHg and a diastolic blood pressure of ≥ 90 mmHg on repeated examinations. The results of Riskesdas 2018 showed that hypertension is one of the most non-communicable diseases causing death⁽¹⁾. In Indonesia, the prevalence of hypertension according to Riskesdas 2018 34.1% and only 54.4% of the hypertensive patients consume drugs regularly⁽²⁾. Research conducted by Liberty in 2017 shows that drug compliance for hypertensive patients is greatly influenced by the length of time they have suffered from the disease⁽³⁾. Hypertension is a chronic disease which requires a long period of treatment even for a lifetime. The length of time required for treatment makes the level of adherence to taking a medication decrease, which greatly influences the effectiveness of the treatment.

Drug compliance for hypertensive patients is very important because it can control blood pressure and prevent complications⁽⁴⁾. One of the factors influencing patient compliance is the patient's level of knowledge. The knowledge about the disease and its treatment is very helpful to improve medication adherence⁽⁵⁾.

Knowledge about the disease and its treatment can be obtained from the health facilities such as drug names, drug use, side effects and things to do and avoid. One of the health facilities that focus on hypertension treatment is a community health center. Community health center provides a "Prolanis" program that focuses on chronic diseases, one of which is hypertension. The prolanis program is carried out every month at the community health center. This program includes examination, treatment, and counseling. The health centers which run this program regularly are Pasir Panjang community health center and Buntok community health center. This study aimed to determine a relationship between knowledge on drug use and drug compliance in hypertensive patients at Pasir Panjang community health center and Buntok community health center.

MATERIALS AND METHODS

METHODS. Research Design. This study used an analytical observational with a cross-sectional approach, data collection was carried out prospectively by giving questionnaires to patients. For the questionnaires used MMAS-8 and HKLS. The questionnaire used was valid and reliable with a Cronbach's Alpha value of 0.824 and the results of the Spearman's test rank correlation was 0.881 for MMAS-8 while for HK-LS the value of Cronbach's

alpha was 0.758 and Spearman's test was 0.890. This study was conducted with the permission from the authorities (the number of document code of ethics 159/KEPK/EC/2021 and 190/KEPK/EC/2021).

Sample Selection. The inclusion criteria: Prolanis patients who have hypertension, uncomplicated hypertensive patients, can communicate well and want to be a respondent. The exclusion criteria: non-Prolanis patients died; pregnant and lactating patients.

Research Location. This research was conducted at Pasir Panjang community health center and Buntok community health center, with a total sample of 95 patients.

Data Retrieval. Data retrieval was done by giving a questionnaire to the patient. The level of knowledge was evaluated by using the HK-LS questionnaire. Suspension is divided into three levels⁽⁶⁾.

1. Good: 76-100%
2. Enough: 56-75%
3. Less: 0-55%

The level of compliance was measured by using the MMAS-8 questionnaire. Scoring is divided into three levels⁽⁷⁾: 1) High compliance (if score= 8); 2) Medium compliance (if the score= 6-7); 3) Low compliance (If score <6).

Data Analysis. Data analysis was carried out by using univariate and bivariate analysis. The bivariate analysis between the level of knowledge and the level of compliance was conducted using chi-square 95% of confidence level.

RESULTS AND DISCUSSION

Respondent Characteristics. The characteristics of respondents can be seen in the Table 1, that female respondents much as 68.4%. Gender affects the occurrence of hypertension. Male has a risk of about 2.3 times more experiencing an increase in systolic blood pressure compared to female, because male have lifestyles that tend to increase blood pressure. However, after entering menopause, the prevalence of hypertension in women increases⁽⁸⁾. Besides, women experience menopause which causes hormonal changes and triggers an increase in blood pressure⁽⁹⁾. Premenopausal women are protected by the hormone estrogen which plays a role in increasing High Density Lipoprotein (HDL). A high level of HDL can protect against disorders of the blood vessels, while the menopause women are in the level of estrogen produced decreases so, the protection of blood vessels also decreases gradually, and usually experienced by women at 45-55 years old⁽¹⁰⁾.

Table 1. Respondent characteristics.

| | Description | Total | % |
|--------------------------|-----------------|-------|-------|
| Gender | Male | 30 | 31.6 |
| | Female | 65 | 68.4 |
| Age | 40-50 years old | 9 | 9.5 |
| | 50-60 years old | 31 | 32.6 |
| | 61-69 years old | 36 | 37.9 |
| | 70-85 years old | 19 | 20 |
| Length time of suffering | <5 years | 45 | 47.37 |
| | 5-10 years | 42 | 44.21 |
| | 10-15 years | 6 | 6.32 |
| | 15-20 years | 2 | 2.1 |

Respondents over 40 years old are very susceptible to suffering from hypertension. The increasing age of a person triggers a decrease in physiological function due to aging, this can cause individuals to have disease susceptibility, including hypertension⁽⁸⁾. The elasticity of blood vessels and the function of the kidneys to balance blood pressure have decreased along with age⁽¹¹⁾.

It can be seen that the patient has suffered for many years. The length of the patient's suffering greatly affects the level of compliance with taking drugs, while hypertension is a disease which need treatment for a lifetime. Patients who suffer from hypertension take many years for treatment. This research is in line with other studies which show a significant relationship between the duration of suffering from hypertension and non-compliance to treatment with $p < 0.05$. This result means that there is a relationship between the length of suffering time and the level of compliance in taking drugs, the longer time of patient suffers from the disease, therefore drug compliance in hypertension also decreases⁽⁹⁾.

Knowledge Level on Drug Use. The level of knowledge (Table 2) shows that 39% of respondents have good knowledge. Patients' good knowledge will affect their compliance with taking drugs. The knowledge of respondents is greatly influenced by many factors such as information from health facilities⁽¹²⁾. One of them is easily accessible to prolans patients. It contains information about drugs and diseases, delivered by health workers during the prolans program. The prolans program conducted every month includes sharing knowledge about hypertension, how to treat it, how to take medicine, and what is recommended and prohibited.

Table 2. Level of knowledge.

| Level of knowledge | Total (person) | Percentage (%) |
|--------------------|----------------|----------------|
| Good | 37 | 39 |
| Enough | 31 | 33 |
| Less | 27 | 28 |
| Total | 95 | 100 |

Drug Compliance. The results of the analysis in table 3 show that the level of respondents' compliance is high at 41%. It indicates that the presence of prolans as a routine activity every month and the provision of treatment information by health workers especially pharmacists to patients can increase patient compliance. This can be seen from the patient's relatively stable blood pressure. The level of patient compliance with taking drugs can be seen from the results of the MMAS-8 questionnaire that respondents never missed a dose.

Table 3. Level of compliance .

| Level of compliance | Total (person) | Percentage (%) |
|---------------------|----------------|----------------|
| High | 39 | 41 |
| Medium | 29 | 31 |
| Low | 27 | 28 |
| Total | 95 | 100 |

The Relationship Between the Level of Knowledge and the Level of Compliance. In total the 3 patients have a low level of knowledge but have a high level of compliance, because the respondents are living in an environment that cares about hypertension treatment. With a supportive environment always remind to take medicine. Meanwhile, respondents who have a high level of knowledge but have a low level of compliance are caused by a high level of activity as much as 60% of respondents in this study were working. This happens to respondents who are 40 years old, so those who are still productive often forget to take their medicine. The data in Table 4 obtained the results of the chi-square analysis of the level of knowledge and the level of compliance obtained p -value < 0.05 indicating that there is a relationship between the level of knowledge and the level of compliance to taking drugs. Knowledge is continuous information by someone who is reorganized every time because of new understanding⁽¹³⁾. People who have good knowledge can increase their self-confidence and also the effectiveness of hypertension treatment. Other studies about medication compliance also state that good knowledge is very important for people with hypertension, because they are able to control the patient's blood pressure and prevent complications⁽¹⁴⁾. The results of Mukhli's research in 2020 showed that 18.8% of hypertensive patients were non-compliance drug use, which was caused by irregular drug use, intervals of drug use and complexity of treatment regimens which made patients lazy missed a dose⁽¹⁵⁾. Factors that influence drug compliance in hypertensive patients are gender, education level and length time of suffering⁽¹⁶⁾. If these factors can be controlled, the

Table 4. The relationship between the level of knowledge and the level of compliance.

| | | Level of compliance (person) | | | |
|--------------------|--------|------------------------------|----------|-----------|-----------|
| | | High | Medium | Low | Total |
| Level of knowledge | Good | 28 | 7 | 2 | 37 (39%) |
| | Enough | 8 | 19 | 4 | 31 (33%) |
| | Less | 3 | 3 | 21 | 27 (27%) |
| | Total | 39 (41%) | 29 (31%) | 27 (28 %) | 95 (100%) |

success of the treatment will also increase. A person beliefs can influence selected action he chooses to take in an activity. This belief is greatly influenced by the level of knowledge⁽¹⁷⁾. Knowledge of all aspects simultaneously can affect the level of drug compliance. If the respondents' knowledge about their disease is increased along with their knowledge of antihypertensive drugs, then drug compliance with antihypertensive will also increase⁽¹⁸⁾.

CONCLUSION

The results of this study found that there was a relationship between the level of knowledge of drug use with compliance with taking drugs in hypertensive patients.

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