

# OPTIMIZING HOME PHARMACY CARE USING EDUCATIONAL MEDIA TO IMPROVE MEDICATION COMPLIANCE FOR HYPERTENSIVE PATIENTS

Mustaqimah<sup>1</sup>, Ali Rakhman Hakim<sup>1\*</sup> and Rina Saputri<sup>1</sup>

<sup>1</sup>Pharmacy Department, Faculty of Health, Sari Mulia University, Indonesia

\*alirakhmanhakim@unism.ac.id

## Abstract

Hypertension is an incurable disease, so the therapy given aims to control blood pressure and prevent complications. Until now, there have been many efforts made by pharmacists in an effort to increase the success of therapy, one of which is by providing Home Pharmacy Care services. Based on the results of previous studies, it is necessary to modify the role of home pharmacy care by utilizing the role of educational media. This is intended to reduce the number of hypertension that continues to increase in the community. The purpose of this study is to analyze various educational media that can support the role of Home Pharmacy Care to improve medication adherence for hypertension patients. This research is a true experimental research with pre and post test control group design. Respondents were divided into 3 groups, namely groups that only received home pharmacy care, home pharmacy care with leaflet media, and home pharmacy care with video media. The results of the descriptive analysis showed that the control and video groups did not experience a significant change in compliance, while the group that received leaflets showed that the respondents' compliance in the low category decreased to 15.8%. The results of statistical analysis showed that there were significant differences between groups, where the leaflet group showed better adherence. The conclusion of this study is that the provision of educational media using leaflets can optimize home pharmacy care in an effort to improve patient compliance

**Keywords:** Home Pharmacy Care, Hypertensive Patients, Patient Compliance

## Introduction

Hypertension is a disease with a high prevalence and is the highest cause of death. Hypertension is called the "silent killer" because it often occurs without complaints, so the patient does not know he is having hypertension, but then the patient gets a complicated disease or complications from hypertension. Based on data from the World Health Organization (WHO), around 972 million people or 26.4% of people worldwide suffer from hypertension, this figure is likely to increase to 29.2% in 2025. The prevalence of hypertension in Indonesia reaches 21.3%<sup>1</sup>. Based on data from the Basic Health Research Report in 2018, the highest prevalence of hypertension in Indonesia in 2018 was in the Province of South Kalimantan, which was ranked first at 44.1% at the age of >18 years. Based on these data, it can be seen that there has been a significant increase in the incidence of hypertension in South Kalimantan Province<sup>2</sup>.

Hypertension is a degenerative disease that must be watched out for, because it can pose a risk of dangerous complications. Hypertension is an incurable disease, so the therapy given aims to control blood pressure and prevent complications. Generally, complications of this disease can result in death, so the use of hypertension drugs must be consumed for life. One of the important factors that determine the success of hypertension therapy is patient compliance in taking medication<sup>3</sup>.

Based on the results of the study (Rinda et al, 2018) the cause of the highest non-adherence to therapy in hypertensive patients was intentional non-compliance by patients with a percentage of 32.14% for various reasons, including fear of the emergence of adverse effects from long-term drug use and patients feeling uncomfortable. experience symptoms and signs of hypertension (patients assume that if their blood pressure is high they will feel dizzy) so that patients have the perception that their blood pressure is normal<sup>4</sup>.

Until now, there have been many efforts made by pharmacists in an effort to increase the success of therapy, one of which is by providing Home Pharmacy Care services. The results of Rahasasti's study in 2020 showed that the provision of education had a good influence on patient compliance<sup>5</sup>. The results of the 2017 study by Utaminingrum W, et al. showed that Home Pharmacy Care had a good influence on patient compliance<sup>6</sup>. Most of the education given to patients was carried out at the pharmacy. , while the education carried out at the patient's home by pharmacists is still limited. Research on Home Pharmacy Care shows that providing education to patients is carried out directly without going through other educational media that has the potential to support patient compliance. Based on the results of this study, research can be carried out by modifying the role of home pharmacy care by utilizing the role of educational media. This is intended to reduce the number of hypertension that continues to increase in the community.

The purpose of this study is to analyze various educational media that can support the role of Home Pharmacy Care so that adherence to medication for hypertension patients can increase. This research is very necessary because currently the community's compliance in undergoing therapy is quite low coupled with the Covid-19 pandemic condition where hypertension is one of the comorbid diseases. So that the results of this research can be immediately applied to the community and become a program reference for pharmacists in Indonesia to carry out Home Pharmacy Care.

## Methods

This research is a true experimental research with pre and post test control group design. Sampling was carried out in Banjar district involving 3 sub-districts, namely Martapura District, West Martapura District, and Sungai Tabuk District. The dependent variable in this study was patient

compliance with hypertension medication, while the independent variable in this study was the provision of home pharmacy care using educational media in the form of leaflets and videos. Data was collected using the MMAS-8 medication adherence questionnaire. Questions 1 – 4 and 6 – 7 for the answer “yes” are worth 0 and “no” are worth 1. Question number 5 for the answer “yes” is worth 1 and “no” is worth 0. Question number 8 is for the answer “a” is worth 1 , "b" is 0.75, "c" is 0.5, "d" is 0.25, and "e" is 0. Patients are declared to have high compliance if the total score of the questionnaire is 8, moderate compliance with a value of 6 - < 8, and low compliance with a value < 6.

Data analysis was performed by univariate, bivariate, and multivariate analysis. Univariate analysis was conducted to determine the patient's compliance profile before being given education and patient's compliance profile after being given education, while bivariate analysis was carried out to determine the difference in the test between the two experimental groups, and multivariate analysis was carried out to examine the differences between all groups.

*Table 1. Bivariate analysis*

Independent variable	Data scale	Dependent variable	Aim	Data analysis
Providing educational media	Compliance	Ordinal	Comparing the control group with the intervention group	Mann Whitney test
			Seeing the magnitude of the influence of the independent variable on the dependent variable	Ordinal regression test

*Table 2. Multivariate analysis*

Independent variable	Dependent variable	Data scale	Aim	Data analysis
Education	Compliance	Ordinal	Comparing compliance across all intervention groups	Kruskall's test

This research has obtained ethical approval (ethical clearance) from the Ethics Commission of Sari Mulia University with the number 036/KE-LPPM/UNISM/VII/2021.

## Result and Discussion

Table 3. Compliance profile of hypertensive patients before and after being given education

Group	Compliance (pretest)						Total	Compliance (posttest)						Total
	Low		Medium		High			Low		Medium		High		
	n	%	n	%	n	%		n	%	n	%	n	%	
Control	9	15.8	0	0	0	0	9	9	15.8	0	0	0	0	9
Leaflet	16	28.1	6	10.5	3	5.3	25	9	15.8	15	26.3	1	1.8	25
Video	18	31.6	4	7.0	1	1.8	23	19	33.3	3	5.3	1	1.8	23

The results of descriptive analysis based on table 3 show that the control group did not experience a change in compliance, all respondents in this group had low adherence, while the intervention group using leaflet media showed that the compliance of respondents in the low category decreased to 15.8%. In this group there was an increase in the compliance category to the moderate category to 26.3%. In the intervention group using video media, there was no improvement in the respondent's compliance category.

Table 4. Results of statistical analysis with SPSS

Statistic analysis	Group	Compliance (Before)	Compliance (After)
Kruskall's test	All groups	0,091	0,000
Mann Whitney test	Control : Leaflet	0,041	0,001
	Control : Video	0,135	0,189
	Leaflet : Video	0,255	0,002
Regresi ordinal	Control : Leaflets	-	0,432
	Control : Video	-	0,145
	Leaflet : Video	-	0,237

Based on the results of multivariate analysis using SPSS showed p value = 0.01 < 0.05 which indicates there is a statistically significant difference in adherence between groups. The results of the bivariate analysis using the Mann Whitney test showed that there was a significant difference in adherence after the intervention between the control group: leaflet with p value = 0.001, leaflet group: video with p value = 0.002, while for the control group: video showed p value = 0.189 which indicates there was no difference between the control group and the video.

The results of the ordinal regression test show that giving leaflet media can have an effect of 43.2% on respondent compliance when compared to controls, while video giving has an effect of 14.5% on respondent compliance when compared to controls, and leaflet giving when compared to video. showed that leaflet media had an effect on increasing patient compliance by 23.7%.

Based on table 3 and table 4, it can be seen that the provision of educational media using leaflets can optimize home pharmacy care in an effort to improve patient compliance. The results of this study are in line with previous studies which showed that leaflet educational media could increase the compliance of hypertensive patients. Rawi's 2019 research shows that a combination of counseling and leaflets can also improve patient compliance. The existence of home pharmacy care has a good influence on patient compliance, then this can be optimized by using leaflet media, because respondents can use leaflets to study independently, can see the contents in a relaxed manner. and can provide details that are not possible to convey orally<sup>8</sup>. However, this study is not in line with other studies which showed that video media did not show a significant difference with the control group in improving adherence of hypertensive patients. The results showed that the provision of video media has not been able to optimize home pharmacy care. Many factors can affect patient compliance besides education. Based on the results of simple interviews, it shows that in the group of respondents who received home pharmacy care interventions with the help of educational media in the form of videos, the desire or motivation for treatment was still lacking. These results are in line with Puspita's research (2016) which shows motivation is one of the factors that have a significant influence on patient compliance<sup>9</sup>.

## Conclusion

Based on the results of the study, it can be concluded that the provision of educational media using leaflets can optimize home pharmacy care in an effort to improve patient compliance.

## Acknowledgements

The author would like to thank the Minister of Education and Technology of the Republic of Indonesia for the research funding provided.

## References

1. WHO, 2016. *Global Health Observatory data repository*. Switzerland: WHO. (<http://apps.who.int/gho/data/view.main.2464> ).
2. Riset Kesehatan Dasar (Riskesdas). 2018. Badan Penelitian dan Pengembangan Kesehatan Kementerian RI tahun 2018.
3. Zhou, D., Xi, B., Zhao, M., Wang, L. and Veeranki, S.P., 2018. Uncontrolled hypertension increases risk of all-cause and cardiovascular disease mortality in US adults: the NHANES III Linked Mortality Study. *Scientific reports*, 8(1), pp.1-7.
4. Rinda C.A, Mustaqimah M.2018. Analisis Jenis Dan Penyebab Ketidaksesuaian Pengobatan Pada Pasien Jaminan Kesehatan Nasional Dengan Hipertensi. *Jurnal Pharmascience*. Vol 5. No. 2.
5. Rinda, A.C. and Mustaqimah, 2018. Analisis Jenis dan Penyebab Ketidaksesuaian Pengobatan pada Pasien Jaminan Kesehatan Nasional (JKN) dengan Hipertensi. *Jurnal Pharmascience*, 5(2).
6. Rahasasti ID, laeliyah N. 2020. Pengaruh Edukasi Farmasi Terhadap Pengetahuan Dan Kepatuhan Minum Obat Pada Pasien Hipertensi Peserta Prolanis Di Puskesmas Kaliwedi

- Kabupaten Cirebon. Syntax Idea: p-ISSN: 2684-6853 e-ISSN: 2684-883X , Vol. 2, No. 7, Juli 2020.
7. Utaminingrum, W., Pranitasari, R. and Kusuma, A.M., 2017. Pengaruh Home Care Apoteker terhadap Kepatuhan Pasien Hipertensi. *Jurnal Farmasi Klinik Indonesia*, 6(4), pp.240-246.
  8. Rawi U, Kumala S, Uun W. 2019. Analisis Efektivitas pemberian konseling dan leaflet terhadap tingkat kepatuhan minum obat dalam mengontrol tekanan darah pada pasien hipertensi di RSUD Dr. Adjidarmo Kabupaten Lebak. *Jurnal Farmagazine* Vol. VI No.1
  9. Puspita, E.(2016). Faktor - Faktor Yang BERhubungan Dengan Kepatuhan Penderita Hipertensi Dalam Menjalani Pengobatan (Studi Kasus di Puskesmas Gunungpati Kota Semarang). Semarang : universitas Negeri Semarang.