

Effect of Flyers on Knowledge and Adherence to Medication of Hypertensive Patients

Husnawati^{1*}, Fitra Ramadhan¹, Septi Muharni¹, Fina Aryani¹,
Cindy Oktaviana Laia¹, Reni Zulfitri²

Artikel Penelitian

Abstract: Knowledge and adherence to taking medication in patients with hypertension is very important because knowing and adhering in taking antihypertensive drugs can control the blood pressure of people with hypertension. The purpose of this study was to determine the effect of giving flyers on knowledge and adherence to taking medication for hypertensive patients. The method used in this research is a quasi-experimental method, with a non-randomized control group pretest and posttest design which was carried out on 96 respondents with purposive sampling technique. Collecting data for knowledge using the knowledge questionnaire, and adherence using the MMAS-8 scale. Data were analyzed using Wilcoxon test and Mann-Whitney test. The results of the study on hypertensive patients showed that giving flyers had a significant effect on knowledge with a p value = 0.000 and on patient adherence with a p value = 0.000.

Keywords: hypertension, flyers, knowledge, adherence

¹ Sekolah Tinggi Ilmu Farmasi
Riau, Pekanbaru, Riau,
Indonesia

² Fakultas Keperawatan
Universitas Riau, Pekanbaru,
Riau, Indonesia

Korespondensi:

Husnawati
hoe5nawati@gmail.com

Abstrak: Pengetahuan dan kepatuhan minum obat pada penderita hipertensi sangat penting karena pengetahuan dan kepatuhan dalam minum obat antihipertensi dapat mengontrol tekanan darah penderita hipertensi. Tujuan dari penelitian ini adalah untuk mengetahui pengaruh pemberian flyer terhadap pengetahuan dan kepatuhan minum obat pada pasien hipertensi. Metode yang digunakan dalam penelitian ini adalah metode eksperimen semu, dengan rancangan *pretest* dan *posttest non randomized control group design* yang dilakukan terhadap 96 responden dengan teknik *purposive sampling*. Pengumpulan data untuk pengetahuan menggunakan kuesioner pengetahuan, dan kepatuhan menggunakan MMAS-8. Analisis data menggunakan uji Wilcoxon dan uji Mann-Whitney. Hasil penelitian pada pasien hipertensi menunjukkan bahwa pemberian flyer berpengaruh signifikan terhadap pengetahuan dengan p value = 0,000 dan terhadap kepatuhan pasien dengan p value = 0,000

Kata kunci: hipertensi, flyers, pengetahuan, kepatuhan

Pendahuluan

Hypertension presents a distinctive problem in treatment and is a lifelong disease that causes few symptoms until an advanced stage. Hypertension contributes to 55% of global deaths caused by cardiovascular disease (1). The prevalence of hypertension in Indonesia tends to increase along with increasing age, where the highest prevalence is in the >75 year age group of 63.8%. In a study at the University of North Carolina involving about nine thousand men and women over a period of more than 11.6 years, cardiovascular disease rates increased significantly with increasing blood pressure. Compared to patients with normal blood pressure, the risk of developing cardiovascular disease, especially stroke, with high blood pressure is two and a half times greater (2).

Several research results show that the patient's medication adherence level is still low, such as: A study in Portugal showed that only 46.2% of hypertensive patients showed high adherence (3). The results of the study in Hong Kong also showed that only 32.4% of patients showed optimal adherence (4). The results of the research by Hazwan & Pinatih (2017) show that only 30% of hypertensive patients have high adherence (5). Better adherence to antihypertensive use is also associated with lower cardiovascular mortality (6). A key factor in patient adherence to treatment is understanding of treatment instructions. In this case, understanding of treatment instructions and increasing patient adherence are strongly influenced by pharmaceutical service interventions, namely Drug Information Services (PIO) (7).

Controlling hypertension is included in the main indicators of health development targets in the 2015-2019 national medium-term development plan (RPJMN) in the 2015-2019 Ministry of Health strategic plan, which states that the government through the Indonesian Ministry of Health stated that the target of hypertension prevalence in 2019 decreased from 26.5% in 2013 to 23.4% in 2019 (8). Based on the above considering the importance of knowledge and adherence to antihypertensive drug therapy in controlling blood pressure, researchers were

interested in knowing the effect of giving flyers to the level of knowledge and obedience of hypertensive patients. This study was conducted with the aim of knowing the effect of giving flyers to knowledge and adherence to taking medication for hypertension patients.

Material and Methods

This study used a quasi-experimental method with control group in a pre- and post-test design. The study involved 96 hypertensive patients in Pekanbaru, Indonesia. Purposive sampling was used for selecting respondents. All respondents were divided into two groups, the intervention group and the control group. The intervention group received flyer and the control group received services as usual.

Results and Discussions

Sociodemographic data

The complete results regarding the distribution of respondents' sociodemographic data can be seen in **Table 1**.

Based on the results of the study of patient characteristics, it can be seen that the majority of patients are female. The results of Kamran et al (2014) and Sibomana et al (2019) studies also show similar results, namely that the majority of hypertension sufferers are women (9,10). Research by Agrina et al (2011), states that the high proportion of women is due to a greater relationship between hormonal factors in women's bodies than men (11).

The number of hypertensive patients in the age range of 41-60 years is in line with data from the National Center for Cardiovascular Disease in China in 2010 which also showed that patients with hypertension 45 years and over reached 40%. This is in accordance with research conducted by Udayana (2015) which found the most subjects for hypertension patients based on education level dominated by middle education level as much as 28.6% followed by respondents with low education as much as 25% (12). Based on table, it can be seen that the majority of respondents' occupations are housewives. This is in line with the results of gender that the majority are women.

Table 1. Sociodemographic Data

No.	Sociodemographic data		Amount (n=96)	Percentage (%)
1	Gender	Male	39	40,6
		Female	57	59.4
2	Age Range	early adulthood	2	2.1
		middle adulthood	63	65.6
		elderly adults	31	32.3
3	Education	Low education	16	16.6
		Middle education	71	73.9
		High education	9	9.5
4	Occupational Category	Pension	5	5.2
		Enterpreneur	28	29.2
		Government employee	4	4.2
		Housewife	51	53.1
		Others	8	8.3

Table 2. The Level of Knowledge Data

Level of knowledge	Control group (n=48)				Intervention group (n=48)			
	Pretest		Posttest		Pretest		Posttest	
	n	%	n	%	n	%	n	%
Low	7	14.6	3	6.3	18	37.5	2	4.2
High	41	85.4	45	93.8	30	62.5	46	95.8

The Level of Knowledge Data

Data about the level of knowledge of hypertensive patients in Pekanbaru can be seen in **Table 2.**

From the knowledge at the time of the pretest and posttest of the control group and intervention group, it can be seen that there are quite a lot of respondents with high knowledge, this is due to several factors. These factors include the age of the respondent, which in the control group is dominated by the age range of 41-60 years and

the age of 61 years. Age is a variable that is always considered in research. According to two traditional attitudes regarding the course of development during life, namely the older, the wiser, the more information you find and the more things you do so that your knowledge increases (13).

The Level of Adherence Data

The level of adherence data of hypertensive patients can be seen in **Table 3.**

Table 3. The Level of Adherence Data

The Level of Adherence	Control Group (n=48)				Intervention Group (n=48)			
	Pretest		Posttest		Pretest		Posttest	
	n	%	n	%	n	%	n	%
Low	10	20.8	12	25	12	25	2	4.2
Middle	34	70.8	26	54.2	16	33.3	9	18.8
High	4	8.4	10	20.8	20	41.7	37	77.1

From the table above, it can be seen that the majority of respondents in the control group had a moderate level of adherence to taking medication, during the pretest and posttest. In the intervention group, the majority of respondents were at a high level of adherence, both at the pretest and posttest.

The effects of the given flyer against the change of knowledge and adherence of respondents

In **Table 4** it can be seen the effect of giving flyers on changes in patient knowledge and adherence.

Based on the results of this study, it was found that there was a significant difference in the effect of giving flyers to knowledge scores from pretest to posttest in the treatment group, in contrast to the control group which found that there was no significant difference in changes in knowledge scores from pretest to posttest without giving flyer education.

Candrasari's research (2010), there is a significant difference in knowledge before and after being given health education as indicated by a p-value of 0.000 ($p < 0.05$), and research conducted by Firmawati (2014) that providing educational media in the form of educational blogs can increase knowledge about hypertension with p of 0.00 ($p < 0.05$), knowledge of hypertension includes the definition, classification, course of the disease, causative factors, signs and symptoms, risk factors, complications, and management of hypertension (14, 15). From this study, it was found that there

was a significant effect of giving flyers to the adherence score from pretest to posttest in the treatment group, in contrast to the case in the control group which was found that there was no significant effect of changing the adherence score from pretest to posttest in the control group.

This was also obtained by Insaniputri (2012), showing a significant difference in the level of patient adherence at the pretest and posttest which was stated by the p value = 0.000 from the two-tailed test which was smaller than the value (0.050), to test the hypothesis (one-tailed test) showed a value of $p < 0.050$, indicating that the level of patient adherence has increased after being given lecture material and led to a statistically significant increase in the level of patient adherence (16).

The results obtained from the Mann-Whitney test were carried out, the p value was $p = 0.000$ ($p < 0.05$) so it could be concluded that there was a significant difference in score changes between the treatment group and the control group. From the score change data seen in the attachment to the Mann-Whitney test, the difference in knowledge scores shows the difference in the average knowledge of the control group, the average score change is 0.19 and for the knowledge score of the treatment group, the average score change is 1, 48. This means that the provision of educational media in the form of flyers can have a significant effect on changes in the level of knowledge positively in the given treatment group.

Table 4. The effects of the given flyer against the change of knowledge and adherence of respondents

No.	Category	<i>P value</i>	Results
1	Change of pretest and posttest scores of knowledge in the control group	0.09	Not significant
2	Change of pretest and posttest scores of adherence in the control group	0.166	Not significant
3	Change of pretest and posttest scores of knowledge in the intervention group	0.000	Significant
4	Change of pretest and posttest scores of adherence in the intervention group	0.000	Significant
5	Change of knowledge scores between control and intervention group	0.000	Significant
6	Change of adherence scores between control and intervention group	0.000	Significant

These results are in line with research conducted by Saftarini (2015) using different media, there is a significant relationship between the provision of leaflets in increasing respondents' knowledge about progesterin injection contraception (p value = 0.000), and research by Adawiyani (2013) on the effect of media education on the level of knowledge of the respondents showed that there was a significant difference, the effect of giving booklets to the test and control groups on the level of knowledge with a value of $p = 0.000$ (17,18).

The results obtained from the Mann-Whitney test carried out showed p value, namely $p = 0.000$ ($p < 0.05$) so it can be concluded that there was a significant difference between the intervention group and the control group. From the average change in the adherence score for the control group, an average value of 0.13 was obtained, this indicates that there is a change from the pretest score to the control posttest score, but the change is very small. Meanwhile, for the intervention group, the average value for the change from the pretest score to the posttest score was 1.09. This indicates that there is a significant change in the

score. This means that the provision of educational media in the form of flyers can have a significant effect on changes in the level of adherence in the given treatment group.

This is also in accordance with the research conducted by Adawiyani (2013) about the effect of providing educational media on the level of adherence. From his research on the effect of providing education on anemia booklets on adherence to taking blood-added tablets, it was found that there was a significant difference between the test group and the control group on the level of adherence based on the questionnaire with p value = 0.0079 (18). Then the research conducted by Dewanti et al (2015) that there is a significant effect between the group given leaflets and the group not given leaflets on changes in adherence and self-efficacy levels as well as decreasing blood pressure in hypertensive patients (19).

Conclusion

From the results of research on the effect of giving flyers to the knowledge and obedience of hypertension patients at the Sidomulyo Inpatient

Health Center, Pekanbaru City, it was found that there was an effect of providing education through flyer media on knowledge with a p value = 0.000 and obedience with a p value = 0.000.

Acknowledgement

I would like to thank all those who have contributed to the smooth running of this research.

References

1. Zou G, Zhang Z, Walley J, Gong W, Yu Y, Hu R, Yin J, Yu M and Wei X. Use of medications and lifestyles of hypertensive patients with high risk of cardiovascular disease in rural China, *PloS one*. 2015;10(5):p.e0124484.
2. Kowalski RE. *Hypertension Therapy 8 Week Program*, Qanita, Bandung; 2010.
3. Amaral O, Chaves C, Duarte J, Coutinho E, Nelas P, dan Preto O. Treatment adherence in hypertensive patients -a cross-sectional study, *Procedia-Social and Behavioral Sciences*. 2015;171(1):1288–1295. <https://doi.org/10.1016/j.sbspro.2015.01.243>.
4. Wong MCS, Tam WWS, Wang HHX, Cheung CSK, Tong ELH, Cheung NT, dan Griffiths SM. Duration of initial antihypertensive prescription and medication adherence: A cohort study among 203,259 newly diagnosed hypertensive patients, *International Journal of Cardiology*. 2015;182(1):503-508. <https://doi.org/10.1016/j.ijcard.2014.12.058>.
5. Hazwan A. dan Pinatih GNI. Gambaran karakteristik penderita hipertensi dan tingkat ketaatan minum obat di wilayah kerja puskesmas Kintamani I, *Intisari Sains Medis*. 2017;8(2):130-134.
6. Wong MCS, Tam WWS, Cheung, CSK, Wang HHX, Tong ELH, Sek ACH, dan Griffiths S. Drug adherence and the incidence of coronary heart disease- and stroke-specific mortality among 218,047 patients newly prescribed an antihypertensive medication: A five-year cohort study, *International Journal of Cardiology*. 2013;168(1):928-933. <https://doi.org/10.1016/j.ijcard.2012.10.048>.
7. Insani WN, Lestari K, Abdullah R, dan Ghassani SK. Pengaruh Pelayanan Informasi Obat terhadap Keberhasilan Terapi Pasien Diabetes Melitus Tipe 2, *Jurnal Farmasi Klinik Indonesia*. 2013;2(4):127-135.
8. Kementerian Kesehatan RI. *Rencana strategis Kementerian Kesehatan 2015-2019*, Kementerian Kesehatan RI. Jakarta: 2015.
9. Kamran A, Ahari SS, Biria M, Malpour A, and Heydari H. Determinants of patient's adherence to hypertension medications: application of health belief model among rural patients, *Annals of Medical and Health Sciences Research*. 2014;4(6):922-927.
10. Sibomana JP, McNamara RL, Walker TD. Patient, clinician and logistic barriers to blood pressure control among adult hypertensives in rural district hospitals in Rwanda: a cross-sectional study, *BMC cardiovascular disorders*. 2019;19(1):231.
11. Agrina A, Rini SS. and Hairitama R. Kepatuhan lansia penderita hipertensi dalam pemenuhan diet hipertensi, *Sorot*. 2011;6(1):46-53.
12. Udayana PAK. Tingkat Kepatuhan Pasien Hipertensi Dalam Mengonsumsi dan Menghindari Faktor Risiko di Wilayah Puskesmas Banjarangkan II. *E-Jurnal Medikal Udayana*. 2015;4(3).
13. Notoatmodjo S. *Metodologi Penelitian Kesehatan*, Rineka Cipta, Jakarta: 2010.
14. Candrasari A. Pengaruh Pendidikan Tentang Hipertensi Terhadap Perubahan Pengetahuan dan Sikap Lansia di Desa Makamhaji Kartasura Sukoharjo. *Fakultas Kedokteran. Universitas Muhammadiyah Surakarta. Jurnal Biomedika*. 2010;2(2).
15. Firmawati E. Pengaruh Blog Edukatif Tentang Hipertensi Terhadap Pengetahuan Tentang Hipertensi dan Perilaku Diet Hipertensi Pada Pasien Hipertensi di Wilayah Kerja Puskesmas Wirobrajan Yogyakarta. *Muhammadiyah Journal Of Nursing. Universitas Muhammadiyah Yogyakarta*; 2014.

16. Insaniputri P. Pengaruh Pemberian Ceramah dan Materi Ceramah Terhadap Tingkat Kepatuhan Pasien Terkait Penggunaan Antidiabetes Oral di Puskesmas Beji Kota Depok Tahun 2012, Skripsi. FMIPA: Universitas Indonesia; 2012.
17. Saftarini H. Pengaruh Pemberian Leaflet Terhadap Pengetahuan Akseptor Mengenai Kontrasepsi Suntikan Progestin di Puskesmas Sungai Kakap Kabupaten Kubu Raya Tahun 2015. Skripsi Program Studi Farmasi Fakultas Kedokteran Universitas Tanjungpura Pontianak; 2015.
18. Adawiyani R. Pengaruh Pemberian Booklet Terhadap Pengetahuan, Kepatuhan Minum Obat Tablet Tambah Darah dan Kadar Hemoglobin Ibu Hamil, Jurnal Ilmiah Mahasiswa, Universitas Surabaya. 2013;2(2).
19. Dewanti WA, Andrajati R, Supardi S. Pengaruh Konseling dan Leaflet Terhadap Efikasi Diri, Kepatuhan Minum Obat, dan tekanan darah Pasien Hipertensi di Dua Puskesmas Kota Depok. Jurnal Kefarmasian Indonesia. 2015;5(1):33-40. p-ISSN: 2085-675X. e-ISSN: 2354-8770.