RELATIONSHIP BETWEEN COMPLIANCE IN DRUG USE AND THE.pdf

by Neo Thurston

Submission date: 08-Oct-2025 05:09AM (UTC-0700)
Submission ID: 2774814889
File name: RELATIONSHIP_BETWEEN_COMPLIANCE_IN_DRUG_USE_AND_THE.pdf (301.48K)
Word count: 3748
Character count: 19077

SEKOLAH TINGGI ILMU KESEHATAN
TELOGOREJO

Science and Community Pharmacy Journal
Volume 3 Issue 2 Year 2024 Pages 203-210
E-ISSN 2830-6139| DOI:
12.23.23456/scienceandcommunitypharmacy.cj
Web https://ojs.stikestelogorejo.ac.id/

RELATIONSHIP BETWEEN COMPLIANCE IN DRUG USE AND THE SUCCESS OF ANTIHYPERTENSION THERAPY IN THE INSTALLATION OUTPATIENT CARE AT TAWANGSARI COMMUNITY HEALTH CENTER, SUKOHARJO

Brian Epaphroditus [1)]; *Ovikariani[1)]; Retnowati[1)]*

1) Undergraduate of Pharmacy,STIKES Nasional,Central of Java,Indonesia

** Correspondence to: ovikariani@stikesnas.ac.id*

Abstract: The high incidence of hypertension in Indonesia is not followed by patient compliance in taking medication. The determinant of successful therapy is compliance with medication use. Low compliance levels cause problems such as increasing rates of chronic diseases and their complications. In 2019, the Tawangsari Sukoharjo Health Center was ranked eighth in Sukoharjo Regency with the largest number of hypertension patients, namely 1,583 people. This study aims to determine the relationship between drug compliance and the success of therapy in hypertension patients at the outpatient installation of Tawaangsari Health Center, Sukoharjo. This study is a descriptive observational study with a cross-sectional approach. Data collection was carried out using a purposive sampling method using the ASK-12 questionnaire in hypertensive patients who met the inclusion criteria. The research data were analyzed using chi-square statistics. The results showed that patients with high compliance were 45.7% while low compliance was 54.3%. The success rate of therapy was 55.7% of patients succeeded and 44.3% of patients failed. The results of the chi-square test showed a P value of 0.026 (P <0.05). which means that there is a relationship between compliance and the success of antihypertensive therapy in outpatient settings at the Tawangsari Health Center

Keywords: Compliance level ; antihypertensive therapy ; therapeutic success

INTRODUCTION

Hypertension is a risk factor for several diseases, including stroke, myocardial infarction, angina, kidney failure, heart failure, and sudden death from cardiovascular disease (Saseen and MacLaughlin, 2017). The World Health Organization (WHO) estimates that by 2025, 1.5 billion people will suffer from hypertension and 9.4 million people will die from hypertension and complications each year (Ministry of Health of the Republic of Indonesia, 2019). The results of the 2018 Basic Health Research (Riskesdas) showed that the prevalence of hypertension in Indonesia obtained by measuring patients aged ≥18 was 34.1%. Central Java Province, Sukoharjo Regency is ranked 4th as the district/city with the highest percentage of hypertension in 2017, which is 12.25% (Central Java Health Office, 2018).

Tawangsari Sukoharjo Health Center is ranked third out of twelve health centers in Sukoharjo with the highest number of hypertension sufferers with a total of 4,776 sufferers (Sukoharjo Regency Health Profile, 2023). The high incidence of hypertension in Indonesia is not followed by patient compliance in taking medication (BPOM, 2006). Compliance is the most common cause of drug-related problems (DRP) which result in failure of therapeutic effects.

Based on data obtained from a preliminary study by researchers at the Tawangsari Sukoharjo Health Center in August 2023, data from the last 3 months in October - December 2022 showed that there were a total of 462 hypertension cases and the results showed that there had never been any research related to medication adherence in hypertensive patients. In addition, the increase in the number of patients diagnosed with hypertension from year to year makes hypertension a top priority that must be treated immediately to prevent an increase in prevalence. Based on this background, researchers want to know the level of medication adherence in hypertensive patients and the relationship between medication adherence and the success of therapy in hypertensive patients in the outpatient installation at the Tawangsari Sukoharjo Health Center.

METHODS

This study is observational with a cross-sectional approach, conducted by measuring the independent variables and dependent variables only once without any follow-up, and the study was conducted at one time. The independent variable data collected is primary data obtained directly from the results of the respondent questionnaire, while the dependent variable is secondary data obtained from medical record data of hypertension patients. The tools used in this study were data collection sheets containing patient identity and a questionnaire containing questions from Adherence Starts with Knowledge-12 (ASK-12).

The materials used are answers from a number of respondents to questions contained in the Adherence Starts with Knowledge-12 (ASK-12) questionnaire, as well as recording of medical record data obtained from the Tawangsari Sukoharjo Health Center. In this study This researcher use two variable that is variable free and variable bound . Instruments used in study This covering sheet data collection that includes column age data entry patient,gender,level education , employment status , marital status and questionnaire obedience drink drug in a number of ASK-12 research can used in study for measure compliance disease chronic including hypertension (Ramadhay 2020) One of the tool measuring compliance drink drugs that can used is (ASK-12) which has available version Language Indonesia which has validated and reliable matter This indicates that questionnaire (ASK-12) version Language Indonesia reliable For used measure level compliance drink drug patient hypertension (Ramadhay, 2020).

RESULT AND DISCUSSION

Respondent characteristic data traced in this study include age, gender, education, occupation, duration of suffering, use of medication, and comorbidities . Based on the inclusion and exclusion criteria that have been set by the researcher, the results of the respondent characteristic analysis are obtained in table 1:

Table 1. Distribution of Respondent Characteristics Data

Characteristics	Number of patients	%
Age		
Late adolescence (18 – 25 years)	1	1.4%
Adults (26 – 45 years)	6	8.6 %
Early and late elderly (46 – 65 years)	4 3	62%
Seniors (>65 years)	20	28%
Gender		
Man	27	3 9 %
Woman	43	61 %
Education		
No school	1	1.4 %
Elementary School or Equivalent	1 4	20%
Junior High School or Equivalent	14	20 %

High School or Equivalent	34	48.6 %
Higher Education (Diploma, Bachelor's, Master's, Doctoral)	7	10%
Work		
Work or be an entrepreneur	34	48.6 %
Doesn't work	14	20%
Taking care of household	22	31.4%
Long suffering		
1 year	21	30%
2 years	26	37.1%
3 years	14	20%
4 years	7	10%
5 years	1	1.4%
≥ 6 years	1	1.4%
Use of drugs		
Amlodipine	52	74.3%
Captopril	6	8.6%
Nifedipine	0	0 %
Furosemide	5	7.1 %
Candesartan	7	10 %
Accompanying diseases		
DM	26	37.14 %
Gout	19	27.1 4 %
coronary heart	11	15.71%
Kidney disease	2	2.8 6 %
Asthma	1	1.43 %
There isn't any	1 1	15.71%
Amount	70	10 0 %

Table 1Distribution Frequency Success Rate Therapy

No	Success	Number of patients	Percentage (%)
1	Success	32	45.7 %
2	Failed	38	54.3 %
	Amount	7 0	100%

Based on the interpretation of table 2, it can be seen that the frequency of successful blood pressure control in hypertensive patients at the Tawangsari Health Center, Sukoharjo Regency, can be seen that there were 32 successful patients and 38 unsuccessful patients.

Table 2Distribution Frequency Compliance

No	Compliance	Number of Patients	Presentation
1	High Compliance	38	54.3%
2	Low Compliance	32	45.7%
	Total 70		100%

Based on the interpretation of table 3, it can be seen that the frequency of compliance of hypertension patients at the Tawangsari Health Center, Sukoharjo Regency with high compliance is 38 patients (54.3%) while low compliance is 32 patients (45.7%) of the total sample. Classification of patients with ASK-12 scores is based on the results of the *cut off point calculation*.

Table 3. Relationship between Compliance Level and Success of Antihypertensive Therapy

Compliance Level	Success		N (%)	P *value*
	Success	Failed		
Tall	10	28	38 (54.3%)	
Low	22	10	32 (45.7%)s	0.026
	Total		70 (100%)	

Based on table 4, it shows that hypertensive patients have a high level of drug compliance and are successful as many as 10 respondents while patients who have high compliance and are unsuccessful are 28 respondents. In patients who have low compliance and are successful as many as 22 respondents, while patients who have low compliance and are unsuccessful as many as 10 respondents. This happened because at the time of the study there were patients who forgot to take their medication, did not take their medication routinely and stopped/stopped taking their medication for reasons of feeling bored and uncomfortable

Table 4Tabulation Cross Between Age With Compliance Patient

No	Age	Compliance				Total	
		High		Low			
		N	%	N	%	N	%
1	Late adolescence (18-25 years)	1	2,6	0	0	1	1,4
2	Adults (26-45 years)	3	7,9	3	9,4	6	8,6
3	Early and late elderly (46-65 years)	22	57,9	21	65,6	43	61,4
4	Seniors (≥ 65 years)	12	31,6	8	25,0	20	28,6
	Total	38	100	32	100	70	100

In table 5, it can be seen that the respondents who are most compliant in taking hypertension medication are respondents in the elderly age category (46-65 years). The results above are in accordance with the research of Smantummkul, (2014) which states that age affects a person's compliance. The researcher's assumption in this study is that the more mature the age, the more it can affect a person's level of compliance.

Table 5. Tabulation Cross Between Type Sex With Compliance

No	Gender	Compliance					
		Height		Low		Total	
		N	%	N	%	N	%
1.	Male	15	39.5	12	37.5	27	38.6
2.	Women	23	60.5	20	62.5	43	61.4
Total		38	100	32	100	70	10 0

Table 6 shows that the respondents who are most compliant in taking hypertension medication are female respondents, namely 23 respondents (61.4%). The health behavior shown by male and female respondents when undergoing hypertension treatment in proportion shows that female respondents are more compliant in undergoing hypertension treatment compared to male respondents.

Table 6Tabulation Cross Between Education With Compliance Patient

No	Education	Compliance					
		Higher		Low		Total	
		N	%	N	%	N	%
1.	No school	1	2.6	0	0	1	1.4
2.	Elementary School or Equivalent	7	18.4	7	21.9	14	20
3.	Junior High School or Equivalent	8	21.1	6	18.8	14	20
4.	High School or Equivalent	20	52.6	14	43.8	34	48, 6
5.	College (Diploma, Bachelor's, Master's, Doctorate)	2	5.3	5	15.6	7	10
	Total	38	100	32	100	70	10 0

In table 7, it can be seen that the respondents who are most compliant in taking hypertension medication are respondents with a high school education category or equivalent, 20 respondents (48.6%). The results above are in accordance with Rizki Aulia's research (2018) which states that a person's educational background affects a person's compliance. The researcher's assumption in this study is that education can affect a person's compliance. The higher a person's education, the higher the level of compliance.

Table 7. Tabulation Cross Between Work With Compliance

No	Compliance Job High Low Total						
		N	%	N	%	N	%
1.	Work or Entrepreneurship	18	47.4	16	50	34	48.6
2.	Doesn't work	8	21.1	6	18.8	14	20
3.	Taking care of household	12	31.6	10	31.3	22	31.4
Total		38	100	32	100	70	10 0

In table 8, it can be seen that the respondents who are most compliant in taking hypertension medication are respondents with the job category, namely working or being an entrepreneur, 18 respondents (48.6%). The results above are in accordance with Maulinina's research, (2013) which states that work can affect a person's level of compliance. The researcher's assumption in this study is that the work done affects a person's knowledge where the longer the person works in a job, the higher the level of compliance.

Table 8. Cross Tabulation Between Duration Of Suffering And Patient Compliance

No	Long suffering	Compliance					
		Tall		Low		Total	
		N	%	N	%	N	%
1.	1 year	11	28.9	10	31.3	21	30
2.	2 years	16	42.1	10	31.3	26	37.1
3.	3 years	4	10.5	9	28.1	13	18.6
4.	4 year	5	13.2	2	6.3	7	10
5.	5 year	1	2.6	1	3.1	2	2.9
	> 6 year	1	2.6	0	0	1	1.4
	Total	38	100	32	100	70	10 0

In table 9, it can be seen that the respondents who are most compliant in taking hypertension medication are respondents with a category of suffering for 2 years, 16 respondents (37.1%). It is possible that the underlying reason/cause for this is because the longer a person suffers from a disease, the more they will understand the disease they are suffering from. Sufferers have more knowledge and understanding compared to sufferers who have just suffered from hypertension. In addition, sufferers who have suffered from hypertension for a long time have greater concerns compared to new sufferers.

Table 10. Tabulation cross between disease accompanying with compliance

No	Accompanying Diseases	Compliance				Total	
		High		Low			
		N	%	N	%	N	%
1.	DM	14	36.8	12	37.5	2 6	37.1
2.	Uric Acid	11	28.9	8	25.0	1 9	27.1
3.	Coronary Heart	5	13.2	6	18.8	11	15.7
4	Asthma	1	2.6	1	3.1	2	2.9
5	Kidney Failure	1	2.6	0	0	1	1.4
6	None	6	15.8	5	15.6	11	15.7
		38	100	32	100	70	100

The non-compliance of hypertensive patients in taking medication can have a very big negative effect, such as the emergence of complications (Muhlis and Jihan Prameswari, 2020). Table 13 shows that the respondents who are most compliant in taking hypertension medication are respondents with the category of comorbid diabetes mellitus (DM) 14 respondents (37.1%). Hypertensive patients with diabetes are at high risk of experiencing non-compliance in taking medication.

DISCUSSION

The results of the frequency distribution of data based on age show that the age of respondents who suffer from hypertension is mostly in the early and late elderly age (46-65 years) as many as 43

respondents (61%), while for the age range of respondents who suffer from hypertension the least is late adolescence as many as 1 respondent (1.4%). This is in accordance with research conducted by Haswan (2017) which also found that most hypertension sufferers are in the age group >50 years.
The results of the frequency distribution of data based on gender show that the gender of respondents who suffer from hypertension is mostly female, which is 27 respondents (38.57%) compared to males, which is 43 respondents (61.4%). This is in accordance with research conducted (Rayhani 2017) regarding the relationship between gender and the incidence of hypertension in patients treated at the Adult Polyclinic of Bangkinang Health Center, which found that women suffer from hypertension more than men, which is 38.57% compared to 61.4%. This is because when women enter old age, women will also enter menopause, where women are more influenced by hormonal changes (Sepriawan *et al* ., 2018; Warjiman *et al* ., 2020). Distribution results data frequency based education show that most dominated is high school or equal that is as many as 34 respondents (48.75%), while frequency lowest education that is No school with number of 1 respondents (1.4%) of amount sample . This is in accordance with study Goddess (2022) which shows that of 70 sufferers hypertension there were 34 people (48.57%) with high school education . Level of education can change behavior positive , education health also provides a information to someone who will cause improvement his knowledge (Wahyuni , 2021).

The results of the frequency distribution of data based on employment show that the most dominant is working or being an entrepreneur, which is 34 respondents (48.57%) of the total sample, while the lowest frequency is not working, which is 14 respondents (20%) of the total sample. The results of the Riskesdas (2017) study on hypertension according to its characteristics showed that employment status can also affect the occurrence of hypertension. The results of the frequency distribution of data based on the duration of suffering show that the most is 2 years with 26 respondents (37%) of the total sample, while the lowest frequency is ≥6 years with 1 respondent (1.4%). The duration of this disease suffered by the respondent can have a positive or negative effect on patient compliance in taking antihypertensive drugs. The positive effect obtained from the duration of the patient's suffering from the disease is that the longer the patient suffers from hypertension, the greater the level of compliance with taking the drug.

Based on results distribution use drug show Amlodipine is the most dominant from drug other that is as many as 52 respondents (74.2%). Amlodipine including to in drug Calcium Channel Blocker (CCB) class . Some comprehensive meta - analysis trial state that CCB will reduce morbidity and mortality cardiovascular related hypertension that is not controlled , including stroke. Agents this can also used as line First For patient age continued (Muzaffar, 2011). Candesartan is included in the *angiotensin receptor blockers* (ARB) class of drugs that work by inhibiting angiotensin II receptors. When angiotensin II is inhibited, blood vessels will relax and widen so that blood flow becomes smoother and blood pressure drops. Captropil is an ACE inhibitor drug that will inhibit ACE so that the conversion of angiotensin I to angiotensin II will also be inhibited. Angiotensin II is a powerful vasoconstrictor that also stimulates aldosterone secretion, causing increased sodium and water reabsorption and reduced potassium. Because ACE is inhibited, vasodilation and decreased aldosterone will occur. Furosemide comes from the *Loop diuretic* or strong diuretic group and has efficacy in producing stronger diuresis, but this type of diuretic can also reduce PVR and reduce vasodilation compared to using thiazide diuretics. Nifedipine is included in the Calcium Channel Blocker (CCB) drug class. The way this drug works is by inhibiting the flow of calcium that enters the cells of blood vessels and the heart. Calcium is needed for muscle contractions of blood vessels and the heart.

CONCLUSION

The level of drug compliance and success of antihypertensive therapy in the outpatient installation of the Tawangsari Health Center in May 2024, namely patients with high compliance were 54.3% and low compliance was 45.7%, while the success rate of therapy was 45.7% of patients succeeded and 54.3% of patients failed . The results of statistical tests using the chi-square test showed that there was a relationship between drug compliance and the success of antihypertensive therapy in the outpatient installation of the Tawangsari Sukoharjo Health Center . The results of the chi-square test showed a P Value of 0.026 (P <0.05) which means that there is a relationship between compliance and the success of antihypertensive therapy in the outpatient installation at the Tawangsari Health Center.

REFERENCES

Abdel-Qadir, HM, Tu, JV, Yun, L., Austin, PC, Newton, GE and Lee, DS 2010, Diuretic Dose and Long-Term Outcomes in Elderly Patients with Heart Failure After Hospitalization, *American heart journal* , 160(2), pp. 264-271.

Alfian, R., Susanto, Y., & Khadizah, S., 2017, Quality of Life of Hypertension Patients with Comorbidities in the Heart Polyclinic of Ratu Zalecha Martapura Regional Hospital. *Journal of Pharmascience* , *4* (1).

Alldredge, BK, Corelli, RL, Ernst, ME, Guglielmo, BJ, Jacobson, PA, Kradjan, WA, and Williams, BR 2013, *Koda-kimble and Young's Applied Therapeutics: The Clinical Use of Drugs* . Lippicont Williams & Wilkins.

Anggara, FHD and Prayitno, N., 2013, Factors Related to Blood Pressure at Telaga Murni Health Center, West Cikarang in 2012, *Scientific Journal of Health* , 5(1), pp.20-25.

Anwar, K. and Masnina, R., 2019, The Relationship between Compliance in Taking Antihypertensive Medication and Blood Pressure in Elderly People with Hypertension in the Working Area of Air Putih Samarinda Health Center, *Borneo Student Research*, pp. 494–501.

Aulia, Rizki., 2018, The Influence of Knowledge on Hypertension Patient Compliance in the Outpatient Installation of Dr. Moewardi Surakarta Hospital, February – April 2018, *Thesis*, Muhammadiyah University of Surakarta.

Bonow, R, Mann D, Zipped D, Libby P., 2012, *Braunwald's Heart Disease: A Textbook of Cardiovascular Medicine*. Saunder Elsevier.

Dewi, WAF 2020, The Impact of Covid-19 on the Implementation of Online Learning in Elementary Schools, *Journal of Educational Sciences*, 2(1), pp. 55– 61.

Dipiro, JT, Ellingrod, VL, Dipiro, CV and Schwinghammer, TL 2021, *Pharmacotherapy Handbook* . 11th edn. McGraw Hill. Drennan.V, Graw.C, 2000. Australian College of Pharmacy Practice . *Nurses Journal*.

Duwi Priyatno. 2013. *Correlation, Regression and Multivariate Analysis Using SPSS* . Yogyakarta : Gava Media. Dzau, VJ and Balatbat, CA, 2019, Future of Hypertension: The Need for Transformation, *AHAjournal* , 74 (450–457).

Erwina, I., 2015, Factors Related to Medication Compliance in Schizophrenia Patients at the Polyclinic of Hb. Saanin Padang Mental Hospital in 2015. *Thesis* . Andalas University. Padang. Fauzi, I., 2014,

Fitrina, Y. and Harysko, RO, 2015, The Relationship between Characteristics and Motivation and Compliance in Undergoing Treatment at the Talang Health Center, Solok Regency in 2014, *Journal of Health Sciences „AFIYAH* , 2(2).

Gumi, VC, Larasanty, L, PF and Udayani, NNW, 2013, Identification of Drug Related Problems in Handling Hypertension Patients at the Jembrana Community Health Center UPT, *Udayana Pharmacy Journal* , 2(3).

Lazzara, DJ, Savoy, AM and Kostas-Polston, E., 2007, A Psychometric 63Toolbox for Testing Validity and Reliability, Journal of Nursing Scholarship , 39(2), pp. 155–164.

JNC8 Guideline Recommendations, *Alabama Pharmacy Association* , pp. 1-8.

Ministry of Health of the Republic of Indonesia. 2019, *Hypertension Kills Silently, Know Your Blood Pressure* . Ministry of Health of the Republic of Indonesia.

Surakarta City Health Office. 2020, *Surakarta Health Profile 2020*. Surakarta: Surakarta City Health Office.

Smart Book of Early Detection of Symptoms, & Treatment of Gout, Diabetes & Hypertension . Yogyakarta: Araska.

RELATIONSHIP BETWEEN COMPLIANCE IN DRUG USE AND THE.pdf

ORIGINALITY REPORT

23%	21%	8%	5%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	ojs.stikestelogorejo.ac.id Internet Source	14%
2	thesjp.org Internet Source	1%
3	protected.uncfsu.edu Internet Source	1%
4	repository.um-surabaya.ac.id Internet Source	1%
5	researchspace.ukzn.ac.za Internet Source	1%
6	pharmrep.org Internet Source	1%
7	Erni Tri Indarti, Ernawati. "The Correlation Age and Body Mass Index (BMI) Score with Blood Pressure in Hypertension Patient", Journal for Research in Public Health, 2024 Publication	<1%
8	journals.lww.com Internet Source	<1%
9	pakacademicsearch.com Internet Source	<1%
10	"Enhancing Capacity of Healthcare Scholars and professionals in Responding to the Global Health Issues", Walter de Gruyter GmbH, 2019 Publication	<1%

11	Submitted to Higher Education Commission Pakistan Student Paper	<1 %
12	pdffox.com Internet Source	<1 %
13	Submitted to Badan PPSDM Kesehatan Kementerian Kesehatan Student Paper	<1 %
14	Hajime Yamazaki, Katsuyoshi Matsuoka, Jovelle Fernandez, Toshifumi Hibi, Mamoru Watanabe, Tadakazu Hisamatsu, Shunichi Fukuhara. "Ulcerative colitis outcomes research in Japan: protocol for an observational prospective cohort study of YOURS (YOu and Ulcerative colitis: Registry and Social network)", BMJ Open, 2019 Publication	<1 %
15	garuda.kemdikbud.go.id Internet Source	<1 %
16	mutalikpharmacology.com Internet Source	<1 %
17	pjlss.edu.pk Internet Source	<1 %
18	link.springer.com Internet Source	<1 %
19	perpustakaan.poltekkes-malang.ac.id Internet Source	<1 %
20	theicph.com Internet Source	<1 %
21	Yuka Kimura, Toshiyuki Koya, Takashi Hasegawa, Hiroshi Ueno et al. "Characterization of low adherence population in asthma patients from Japan	<1 %

using Adherence Starts with Knowledge-12", Allergology International, 2020
Publication

22 Karisma Dwi Ana, Fakhrun Nisa' Fiddaroini, Fahrur Rozi. "The Relationship Between The Role of Cadres and The Behavior of Mothers in Stunting Prevention at Posyandu Toddler Mancar Village Jombang Regency", Adi Husada Nursing Journal, 2024 <1%
Publication

Exclude quotes	On	Exclude matches	Off
Exclude bibliography	On		