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AN OVERVIEW OF MEDICATION ADHERENCE IN PROLANIS PATIENTS IN PEKANBARU

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ABSTRACT

Hypertension and type 2 diabetes mellitus are long-term diseases that are major health problems around the world, especially in Indonesia. They can lead to complications and even death. To reduce complications and deaths from these two diseases, people need to take their medicines as prescribed. Medication adherence is how many of the drugs a doctor gives a patient that the patient takes regularly for a certain amount of time. The Indonesian government is setting up a Chronic Disease Management Program (Prolanis) and a Referral Back Program (PRB) run by the Health Social Security Administration (BPJS) to make it easier for Prolanis patients to get the drug. These programs are meant to lower the risk of complications for people with hypertension and type 2 diabetes mellitus. The goal of this study was to find out the adherence of medication from Prolanis patients in Pekanbaru. This study was a quantitative observational analysis with a cross-sectional analytical design and a cluster sampling sample of 108 people. A questionnaire was used to get the information. In this study, 77 respondents (71.3%) were obedient in taking medications, and 31 respondents (28.7%) were not obedience.

Keywords: medication adherence, Prolanis patients, Pekanbaru

INTRODUCTION

Chronic diseases are defined broadly as conditions that last 1 year or more and require ongoing medical attention or limit activities of daily living or both [1]. The most common effect of this syndrome is death; however, it can also lead to hospitalization, a disability that lasts for an extended period of time, a decrease in quality of life, and other unfavorable results. Conditions such as high blood pressure and diabetes mellitus type 2 are included in the category of chronic diseases [2]. The condition is referred to as hypertension in the medical field. More colloquially, high blood pressure defines a state in which the pressure within the blood vessels is persistently elevated. In the meantime, diabetes mellitus type 2 is a chronic disorder characterized by high blood sugar levels created by impaired insulin release in the pancreas gland. This condition has been around for quite some time. This illness has the potential to result in consequences such as blindness and failure of the kidneys [3].

According to a survey that Riskesdas carried out in 2018, the prevalence of hypertension in the population older than 18 years old is currently 34.11 percent. The province of South Kalimantan in Indonesia has the highest incidence of hypertension, at 44.13%, while the province of Riau Province ranks 23 with a prevalence of 29.14% of the total population. Regarding the entire population, Riau Province has the highest rate of hypertension [4]. While Riau Province ranks 15th with a prevalence of 1.9%, the District Capital of Jakarta (DKI) has the most significant prevalence of type 2 diabetes mellitus in Indonesia at the age of more than 15 years, with a prevalence of 3.4% [5]. The city region of Pekanbaru, which is the capital city of Riau Province, experienced the same thing at the same time. A significant number of persons in this area suffer

from hypertension and type 2 diabetes mellitus, and they visit the Puskesmas. With 35,090 visits a year due to hypertension and 19,093 visits a year attributed to type 2 diabetes mellitus; it is clear that these conditions are a significant public health burden [6].

According to epidemiological research that Kemenkes RI released, hypertension and type 2 diabetes mellitus are acknowledged as being among the most harmful diseases that are prevalent in today's society [5]. The complications that may result from hypertension have the ability to have an effect on the organs of the body, which increases the likelihood that diseases may develop that affect the heart, brain, kidneys, and other organs. Diabetes can lead to several consequences, including retinopathy, encephalopathy, coronary heart disease, renal failure, and stroke. Similarly, diabetes mellitus type 2 can, over time, lead to complications that, if ignored, can cause damage to the heart, blood vessels, eyes, kidneys, and nerves. Diabetes can also cause blindness [7]. Hypoglycemia and diabetic ketoacidosis are both acute complications that can arise due to type 2 diabetes. Meanwhile, diabetes mellitus type 2 can lead to chronic complications such as heart disease, foot ulcers, ischemic stroke, and hemorrhagic stroke [8].

The Chronic Disease Management Program or Prolanis is one of the efforts that the government is working on to minimize the risk that patients with chronic diseases may have additional health problems and urge them to adhere to the treatment regimens prescribed to them. The Health and Social Security Administering Body (BPJS Kesehatan), another one of the government's projects, is in charge of administering this program. Patients who are afflicted with chronic diseases are considered candidates for participation in the Prolanis program, which is run by the Health and Social Security Administration in partnership with medical establishments. This program's objective is to offer patients with the highest possible quality of life by way of the delivery of medical care that is not only efficient but also pleasant for the patient. This initiative will give priority enrollment to any and all BPJS Kesehatan participants who are affected with hypertension and type 2 diabetes mellitus [9]. Referral Services (PRB) program is run by the Health and Social Security Administration. Its purpose is to instill patient discipline regarding treating their illness and consuming their prescribed medication. This program focuses on patients suffering from chronic conditions which can keep up with their current level of health and require treatment over the long term. Patients will have an easier time gaining access to medical services, which will result in an improvement to health care (in terms of promotion, prevention, healing, and rehabilitation) and will make it simpler for patients to take their medications as advised on their prescriptions [10]. The number of Prolanis patients that participated in PRB in the Pekanbaru City Region had the most significant number of participants out of all twelve regencies/cities in Riau Province, with 10,114 patients, according to the information that was collected from BPJS Kesehatan at Riau Province in February 2020. The findings of the study serve as the foundation for this research material.

Patients are expected to comply with their treatment plans and keep a regular treatment schedule because those who suffer from chronic diseases often require long-term care. As a result, patients are expected to remain compliant. Medication adherence is critical for the management of chronic diseases, as well as for the prevention, diagnosis, treatment, and management of chronic diseases [11]. It has been discovered that following a regular medication schedule is significant in minimizing the risk of complications from chronic diseases and cutting down on the cost of medical care [12]. Patients who do not comply with their treatment plan run the risk of experiencing deteriorating health, more extended periods spent recovering, and higher overall medical costs. The key reason that a considerable proportion of patients in Indonesia still do not take their prescribed drugs consistently is that, as stated in the findings published that they believe that they have fully recovered. This condition was found in 59.8% of patients

diagnosed with hypertension, and it was discovered in 50.4% of patients diagnosed with type 2 diabetes mellitus [4].

According to the information gathered, there has not been any previous research carried out on medication adherence in prolans patients in the city of Pekanbaru. Because of this, the researcher decided to conduct a study in the city of Pekanbaru to learn more about the characteristics of medication adherence among prolans patients.

RESEARCH METHODS

In this particular research study, a descriptive observational study design with a cross-sectional approach was utilized. The population for this research consisted of all Prolans patients who were active participants in the PRB in Pekanbaru up through February 2020. According to statistics collected from the Pekanbaru City Health BPJS, the number of Prolans patients who took part in PRB in Pekanbaru 10,114 patients in February 2020. These patients were scattered among 12 sub-districts, including Sukajadi, Pekanbaru City, Sail, Lima Puluh, Senapelan, Rumbai, Bukit Raya, Tampan, Marpoyan Damai, Tenayan Raya, Payung Sekaki and Rumbai Pesisir. After using the Slovin formula on the data obtained from Prolans patients who took part in PRB testing in the Pekanbaru City Region, a total of 108 people were included in the study's sample population. This was the result of applying the Slovin formula to the data. After that, the sample was selected through the utilization of a cluster sampling strategy that was based on 12 community health center (Puskesmas) locations. This was done in order to ensure that the most accurate results were obtained. Because of this, we were able to collect data from nine different individuals at each community health center. In this particular study, primary data are utilized to determine whether or not Prolans patients comply with the prescribed dosage and the frequency with which they consume the drug. In order to retrieve data that is used to gauge a patient's level of adherence to taking their medication, an observation sheet is used. After that, the data that was obtained from the observation sheet is placed into the appropriate spot in the formula for drug adherence, and the outcomes are computed. The formula that is utilized in the process of calculating a patient's level of adherence to their prescribed medication is the formula that was produced from the research that was carried out by Vik et al., [13] and it is presented in the following form:

$$\text{Medication Adherence} = \frac{\text{Number of medications that have been taken}}{\text{Number of drugs that should have been taken}} \times 100\%$$

If the results reveal the number 80% or more, then the subject falls into the obedient category; otherwise, it indicates non-compliance.

This research was conducted from February 2022 to March 2022. Before making observations to determine patient compliance with medication, the researchers first explained to the patient about the research conducted and asked for his consent to become a respondent by signing the consent form. The researcher then observed the patient's medication to determine the patient's adherence to the medication.

RESULTS AND DISCUSSIONS

Respondent Characteristics

Table 1. displays the characteristics of prolans patients based on gender, age, education level, occupational status, duration of suffering from hypertension and/or diabetes mellitus (duration of chronic diseases), and closest family members.

Characteristics	F	%
Age (Year)		
36-45	9	8,3
46-55	25	23,2
56-65	39	36,1
>65	35	32,4
Gender		
Male	27	25
Female	81	75
Education		
Low	41	38
High	67	62
Occupational status		
Working	40	37
Not Working	68	63
Duration of chronic diseases		
≥5 Years	70	64,8
<5 Years	38	35,2
Closest family members		
Spouse	59	54,6
Children	43	39,8
Grandchildren	3	2,8
Others	3	2,8
Total	108	100

According to table 1, most respondents (36.1%) are between the ages of 56 and 65. Respondents were female with a total of 81 (75%). Meanwhile, the majority of respondents had high education level with 67 respondents (62%). In terms of occupational status, the majority of respondents (63%) did not work. Furthermore, there were 70 responders (64.8%) who had suffered from hypertension or diabetes mellitus for at least 5 years. With 59 respondents (54.6%), the husband/wife or spouse are the respondents' closest family members.

Medication adherence of Prolans Patient in Pekanbaru City

Based on the research's findings, the adherence to medicine for Prolans patients in the Pekanbaru can be defined as follows:

Table 2. Medication Adherence

Medication Adherence of Prolans Patients	F	%
Obedience		
Yes	77	71,3
No	31	28,7
Total	108	100

According to Table 2, the majority of Prolans patients were obedient to taking medication, with 77 respondents (71.3%), whereas 31 respondents (28.7%) were not. The high incidence of medication adherence in Prolans patients in Pekanbaru may be attributed to the disease's protracted duration. Based on the characteristics of long-term hypertension or diabetes mellitus, there were 70 respondents (64.8%) who had suffered from hypertension or diabetes mellitus for five years or more, and 38 respondents (35.2%) who had suffered from hypertension or type 2

diabetes mellitus for five years or less. The longer Prolanis patients suffer from the disease and learn about it, the better their understanding of the sickness will be [14]. This is consistent with studies about the association between long-term diabetes mellitus and medication adherence, which suggests that the patient's degree of knowledge can be achieved through treatment experience. As a result of their knowledge and experience with the condition, patients pay more attention to their daily activities to reduce the danger of the disease worsening—patients with long-term illnesses whose experience will assist them in adhering to their therapy [15].

The patient's recent educational history may also affect their ability to adhere to their drug regimen in this study. According to the information gathered about the characteristics of the education level of Prolanis patients in Pekanbaru, there are 67 respondents with a high level of education (representing 62% of the total). In comparison, 41 respondents representing 38% of the total, have a low level of education. According to research carried out before, it is stated that the patient's recent educational history has a dominant influence on patient compliance in taking medication. Education level affects a person's thoughts and actions, that with education a person can increase his intelligence to make better decisions in his actions [16]. According to the findings of another study, a patient's adherence was significantly affected by the amount of education he received most recently. Patients with greater levels of education tend to be more compliant when taking their prescribed medications [17].

Occupational status may also have an impact on Prolanis patients' medication adherence. Based on the occupational characteristics of the Prolanis patients in this study, it was discovered that the majority of the Prolanis patients, as many as 68 (63%), did not work. This is consistent with previous research, which found that busy work or lifestyle has a relationship with patient adherence to treatment, with busyness being one of the reasons patients do not take medication [18]. Another study found that working and being busy with work affects medication adherence, whereas not working has more time to take daily medication and is more likely to stick to medicine [19].

The fact that the majority of respondents in this study were between the ages of 56 and 65, with a total of 39 respondents accounting for 36.1% of the sample, could be the reason why 28,7% prolanis patients in Pekanbaru do not comply with taking their medicine. According to the findings of a study carried out by Nurhidayati in 2018, it has been found that the adult age group has a treatment adherence rate that is relatively greater than the elderly group. The elderly group is the least likely to comply with treatment since this is also tied to access to health services [20]. The majority of elderly people are physically unable to come to health services, which is why this age group has the lowest compliance rate [21].

Gender traits, in addition to age, may influence drug non-adherence. The results revealed more female respondents than male respondents, with 81 (75%). According to other research, there is a significant association between gender and medication adherence in type 2 diabetes mellitus patients, with female patients being more likely than male patients to be non-compliant. Female respondents have a hectic schedule; thus, they forget or take their medication late [22]. Meanwhile, male respondents are more concerned about their sickness; thus, they are more careful in exercising, managing meal patterns, and taking their medication regularly [23]. According to previous studies, there is a significant association between the male being more obedient to treatment than women [24].

CONCLUSION

Referring to the results and discussion of medication adherence in prolanis patients in Pekanbaru, it was concluded that most of the prolanis patients were obedient in taking medications for their chronic diseases

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REFERENCES

- [1] “About Chronic Diseases | CDC.” <https://www.cdc.gov/Chronicdisease/About/Index.Htm> (accessed Oct. 30, 2022).
- [2] M. Comlossy, “Chronic Disease Prevention and Management,” 2013.
- [3] Kementerian Kesehatan RI., “Infodatin tetap produktif, cegah, dan atasi Diabetes Melitus 2020,” Pusat Data dan Informasi Kementerian Kesehatan RI. pp. 1–10, 2020, [Online]. Available: <https://pusdatin.kemkes.go.id/resources/download/pusdatin/infodatin/Infodatin-2020-Diabetes-Melitus.pdf>.
- [4] Kemenkes RI, “Indodatin: Hipertensi,” Kementrian Kesehat. RI, pp. 1–5, 2019, [Online]. Available: <https://pusdatin.kemkes.go.id/resources/download/pusdatin/infodatin/infodatin-hipertensi-si-pembunuh-senyap.pdf>.
- [5] Kemenkes RI, “Hasil Riset Kesehatan Dasar Tahun 2018,” Kementrian Kesehat. RI, vol. 53, no. 9, pp. 1689–1699, 2018.
- [6] Kemenkes RI, “Profil Kesehatan Provinsi Riau Tahun 2018,” pp. 8–25, 2019.
- [7] WHO, “Diabetes.” https://www.who.int/health-topics/diabetes#tab=tab_1 (accessed Oct. 30, 2022).
- [8] PERKENI, Pedoman Pengelolaan dan Pencegahan Diabetes Melitus Tipe 2 Dewasa di Indonesia 2021. 2021.
- [9] BPJS, “Panduan praktis Prolanis (Program pengelolaan penyakit kronis),” BPJS Kesehat., 2014.
- [10] BPJS, Panduan Praktis Program Rujuk Balik Bagi Peserta JKN. 2014.
- [11] C. I. Fernandez-Lazaro et al., “Adherence to treatment and related factors among patients with chronic conditions in primary care: A cross-sectional study,” *BMC Fam. Pract.*, vol. 20, no. 1, pp. 1–12, Sep. 2019, doi: 10.1186/S12875-019-1019-3/TABLES/4.
- [12] M. Al Farisi, “Faktor-Faktor yang Mempengaruhi Ketaatan Minum Obat pada Penyakit Kronik,” *J. Ilm. Univ. Batanghari Jambi*, vol. 20, no. 1, p. 277, 2020, doi: 10.33087/jiubj.v20i1.883.
- [13] S. A. Vik, C. J. Maxwell, D. B. Hogan, S. B. Patten, J. A. Johnson, and L. Romonko-Slack, “Assessing medication adherence among older persons in community settings,” *Can. J. Clin. Pharmacol.*, vol. 12, no. 1, pp. 5–9, 2005.
- [14] M. E. Boyoh, A. Kaawoan, and H. Bidjuni, “Hubungan Pengetahuan Dengan Kepatuhan Minum Obat Pada Pasien Diabetes Melitus Tipe 2 Di Poliklinik Endokrin Rumah Sakit Prof. Dr. R. D. Kandou Manado,” *J. Keperawatan UNSRAT*, vol. 3, no. 3, pp. 1–6, 2015.
- [15] R. Sidiq and Nurleli, “Hubungan Lama Menderita Penyakit Dengan Pengetahuan Perawatan Kulit Dan Kaki Pada Pasien Diabetes Mellitus Tipe 2 Di Ruang Mamplam Rumah Sakit Umum Daerah dr. Zainoel Abidin Banda Aceh,” *Idea Nurs. J.*, vol. 6, no. 2, pp. 30–35, 2015.

- [16] L. D. Fitri, J. Marlindawani, and A. Purba, "ARTIKEL PENELITIAN Kepatuhan Minum Obat pada Pasien Tuberkulosis Paru," *Artik. Penelit.*, vol. 07, no. 01, pp. 33–42, 2018.
- [17] sri siska Mardiana, U. Faridah, Subiwati, and badar daru Wibowo, "Hubungan Tingkat Pendidikan Dengan Kepatuhan Minum," *J. Kesehat.*, vol. 2, no. 1, pp. 22–30, 2021.
- [18] A. A. Jabr, Fatmah, "Factors Affecting Antihypertensive Medications Adherence among Hypertensive Patients Attending a General Hospital in Jeddah City, Saudi Arabia," *J. Family Community Med.*, vol. 12, no. 1, pp. 231–242, 2016, [Online]. Available: [https://eprints.qut.edu.au/100185/1/Fatmah Jabr A_Al Solami_Thesis.pdf](https://eprints.qut.edu.au/100185/1/Fatmah%20Jabr%20A_Al%20Solami_Thesis.pdf).
- [19] M. Abebaw, A. Messele, M. Hailu, and F. Zewdu, "Adherence and Associated Factors towards Antidiabetic Medication among Type II Diabetic Patients on Follow-Up at University of Gondar Hospital, Northwest Ethiopia," *Adv. Nurs.*, vol. 2016, pp. 1–7, 2016, doi: 10.1155/2016/8579157.
- [20] I. Nurhidayati, A. Y. Aniswari, A. D. Sulistyowati, and S. Sutaryono, "Penderita Hipertensi Dewasa Lebih Patuh daripada Lansia dalam Minum Obat Penurun Tekanan Darah © 2018 Program Studi S-1 Kesehatan Masyarakat Universitas Muhammadiyah Semarang Pendahuluan Metode Hasil," *J. Kesehat. Masy.*, vol. 13, no. 2, pp. 4–8, 2018, [Online]. Available: <https://jurnal.unimus.ac.id/index.php/jkmi>.
- [21] R. I. Alam and F. Jama, "Analisis Faktor Yang Mempengaruhi Ketidakpatuhan Berobat Lansia Penderita Hipertensi Di Wilayah Kerja Puskesmas Pampang," *J. Ilm. Kesehat. Pencerah*, vol. 9, no. 2, pp. 115–125, 2020, [Online]. Available: <https://stikesmu-sidrap.e-journal.id/JIKP/article/view/173/149>.
- [22] S. Julaiha, "Analisis Faktor Kepatuhan Berobat Berdasarkan Skor MMAS-8 pada Pasien Diabetes Mellitus Tipe 2," *J. Kesehat.*, vol. 10, no. 2, p. 203, 2019, doi: 10.26630/jk.v10i2.1267.
- [23] I. A. P. M. Diantari and I. M. Sutarga, "Kepatuhan Minum Obat Pada Pasien Diabetes Melitus Tipe 2 Di Wilayah Kerja Puskesmas Tabanan Ii Tahun 2019," *Arch. Community Heal.*, vol. 6, no. 2, p. 40, 2019, doi: 10.24843/ach.2019.v06.i02.p04.
- [24] V. M. Srikartika, A. D. Cahya, R. Suci, W. Hardiati, and V. M. Srikartika, "Analisis Faktor Yang Memengaruhi Kepatuhan Penggunaan Obat Pasien Diabetes Melitus Tipe 2," *J. Manaj. dan Pelayanan Farm.*, vol. 6, no. 3, pp. 205–212, 2016.