



**THE EFFECT OF IMPLEMENTING HPC (HOME PHARMACY CARE) ON  
MEDICATION ADHERENCE AND QUALITY OF LIFE IN CHRONIC DISEASES  
PATIENTS WITH THE BRIEF COUNSELING METHOD**

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**ABSTRACT**

People with chronic diseases who generally require long-term treatment tend to experience problems with non-adherence to their therapy. Non-compliance in taking medication can maintain the patient's condition and impact his quality of life. This research aims to determine the effectiveness of implementing hpc (home pharmacy care) on medication compliance and quality of life in chronic diseases patients using the brief counseling method. The research design is quasi experimental using a pre-test and post-test group design. This research was conducted from 11 June to 27 August 2024. The sample in the study was 33 respondents. The results of the Wilcoxon-Rank Test statistical test show that there is a difference in the level of medication compliance before and after receiving the home pharmacy care implementation intervention for respondents with a value of  $p\text{-value} = 0.00$ , and there is also a difference in the quality of life of respondents after receiving the home pharmacy care implementation intervention with  $p\text{-value} = 0.00$  ( $p < 0.05$ ). The implementation of home pharmacy care, apart from being beneficial in increasing compliance with taking medication, also has an effect on improving the quality of life for chronic disease sufferers. Providing counseling education can increase sufferers' knowledge about drugs, the amount and function of prescribed drugs, as well as increase patient compliance behavior so that it has an impact on mortality and morbidity, as well as improving the quality of life of sufferers. It is hoped that respondents will remain adherent to the treatment regimen in order to improve their health and quality of life.

Keywords: brief counseling; chronic diseases; home pharmacy care; medication adherence; quality of life

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**INTRODUCTION**

Chronic diseases in Indonesia continue to increase, the 2018 Basic Health Research stated that the prevalence of Chronic Kidney Failure increased from 0.2% in 2013 to 0.38% in 2018, in diabetes mellitus, based on the results of blood tests on the population aged  $\geq 15$  years in 2013 as much as 6.9% to 10.9% (based on the 2015 Perkeni consensus) in 2018, while hypertension in 2013 was 25.8%, and increased in 2018 to 34.1%, and the prevalence of cancer was 0.14% in 2013 to 0.18% in 2018 (Kemenkes RI., 2018). The prevalence of people living with multimorbidity is also increasing, multimorbidity is defined as the presence of two or more chronic disease conditions (Vetrano et al., 2019). Multimorbidity is associated with poorer health outcomes, including lower quality of life, especially health dimensions, higher utilization of health care services, increased disability, frailty and mortality (Nguyen et al., 2019). The increasing number of patients with chronic diseases makes it necessary for pharmacists to develop community-based educational and collaborative efforts such as home care. Home care clients who receive many medications for chronic diseases from doctors and pharmacies often experience Drug Related Problems (DRP) and are considered to receive little or no supervision at home (Nurfauzi et al., 2020).

The role of pharmacists in providing primary care services such as monitoring patients in medication adherence, is very beneficial for patients with various diseases and drug consumption, prescription use (Stuhec, 2021). Low medication adherence will have a negative impact on increasing complications, increasing the risk of treatment costs, and having an impact on the risk of hospitalization (Yulianti & Anggraini, 2020). Factors that result in non-adherence to medication use include forgetting, psychosocial stress, anxiety about side effects, low motivation, inadequate knowledge and skills in managing symptoms and treatment of the disease, negative beliefs about the efficacy of treatment, misunderstanding and not accepting the condition of the disease, not believing in the diagnosis and misunderstanding of treatment instructions (Wikan et al., 2021). Medication non-adherence has been associated with poor health outcomes and increased health care costs (Watanabe et al., 2018).

Elderly people with chronic diseases and taking a lot of medication often show poor quality of life (Orlando, 2024). Compliance with taking prescribed medication requires maximum effort so that patients benefit from the treatment. One of the interventions that can be carried out is through education through Home Pharmacy Care (HPC). The implementation of the HPC program aims to accompany patients in undergoing treatment, conduct assessments of patient treatment, provide education about diseases and how to use drugs and monitor the success of patient therapy. The HPC program is very useful for increasing understanding in the management and use of drugs, especially those used in the long term. Pharmacist education through HPC is a pharmaceutical service system that has not been widely implemented in health services (Widyastuti et al., 2019). Based on this description, this study aims to determine the effect of counseling education through Home Pharmacy Care on compliance and quality of life in chronic disease treatment, by further examining the causes of non-compliance of chronic disease sufferers with treatment regimens and the impact of counseling education on changes in respondent behavior in compliance with treatment regimens.

## **METHOD**

The method used in this research is a quantitative research method. The research design is quasi experimental using a pre-test and post-test group design. This research was conducted from 11 June to 27 August 2024. The population and sample in this study were chronic disease sufferers who were registered in the Peukan Baro health center working area. The sample in the study was 33 respondents. In this study, the type of sampling used was consecutive sampling, or sample selection by determining that subjects who met the research inclusion criteria were included in the study so that the sample size determined by the researcher was met. The sample size was determined based on the sample mean from previous research relevant to the research the researcher is conducting. Research that is relevant to the research researchers conducted namely research by Daud, Zulkarnain, & Amu (2021), (Widyastuti et al., 2019), and Ramanath, K. V., & Venkappa, K. R. (2013). In this research, values were obtained The mean sample is 31 respondents, and to prevent drop out (DO), 10% is added to the sample to 33 respondents. The number of samples in this study was 33 respondents, so based on the power analysis table, with a significance level ( $\alpha$ ): 0.5, the number of samples is with an estimated effect size of 0.70, and power of 0.80.

Researchers first filled out a patient characteristics assessment form Before carrying out the intervention, then took measurements to identify treatment using the Probabilistic Medication Adherence Scale (ProMAS) instrument and measured quality of life using the SF-36 instrument. Reliability of the Probabilistic Medication Adherence questionnaire Scale (ProMAS) of 0.81 (Plácido et al, 2020) In the implementation phase of this research, before being given the intervention, respondents were measured on their level of medication compliance and quality of life, then the patient was given an intervention on the implementation of home pharmacy care using the brief

counseling method for each respondent, carried out for 1 month, with 2 direct visits. within a week within 4 weeks, then respondents were again measured on the level of treatment compliance and quality of life. The research data were analyzed using the Wilcoxon Signed Ranks Test statistical test to see differences in medication compliance and quality of life before and after being given the application of home pharmacy care. This research has passed the ethical test from Universitas Sari Mutiara with number No. 2847/F/KEP/USM/VI/2024.

## RESULT

Table 1.  
Respondent characteristics (n= 33)

Respondent characteristics	f	%
Age		
Adult	14	42,4
Elderly	19	57,6
Gender		
Man	6	18,2
Woman	27	81,8
Education		
Elementary school	15	45,5
Junior high school	8	24,2
High School	6	18,2
College	4	12,1
Occupation		
Unemployed	19	57,6
Farmer	6	18,2
Self employed	4	12,1
Civil servant	3	9,1
Retired civil servant	1	3,0

Table 1. The majority of respondents are in the elderly category, namely 19 respondents (42.4%), the majority of gender, namely the female category, 19 respondents (57.6%), the majority have history. Education is elementary school, 15 respondents (45.5%), and the majority of work history is housewife, 19 respondents (57.6%). Non-adherence to medication is often experienced by the elderly, this is due to increased drug consumption and the occurrence of polypharmacy (Khezrian et al, 2020). Polypharmacy, the consumption of five or more medications (Lee, et al. 2020), is associated with loss of resilience and decreased cognitive abilities due to aging, which increases the occurrence of drug-related problems and results in non-adherence and treatment failure and leads to increased costs of care (Plácido, A.I.; Herdeiro, M.T.; Morgado, M.; Figueiras, A.; Roque, 2020). Medication adherence in the elderly is a challenge in health care. Elderly people are often at higher risk of non-compliance, this is because the large number of drugs prescribed are associated with comorbidities. Strategies to increase medication adherence in the elderly can be carried out in various ways such as providing education, mental awareness, reducing physical pain, improving daily routines and electronic reminders (Pratiwi et al., 2023).

Tabel 2.  
Respondent Clinical Data

Katagori	F	%
Diagnose		
Hypertension	24	72,7
Diabetes Mellitus	9	27,3
Long suffering illness		
< 5 year	15	45,5
>= 5 Year	18	54,5

Table 2, the majority of sufferers with hypertension were 24 respondents (72.7%), and the majority of respondents had suffered from the disease for more than 5 years, namely 18 respondents (54.5%). As people get older, a person's risk of developing hypertension increases. This is because the aging process makes blood vessels thicken and become stiff, so blood pressure tends to be high.

Tabel 3.

Medication Adherence Before and After Providing Counseling Education Home Pharmacy Care

Adherence Level	F	%
Pre Test		
Medium-High	11	33,3
Low-Medium	19	57,6
Low	3	9,1
Post Test		
High	17	51,5
Medium-High	14	42,4
Low-Medium	2	6,1

Table 3, before respondents received home pharmacy care counseling education, the majority of medication compliance levels were in the low-medium category, namely 19 respondents (57.6%), whereas after respondents received intervention, the majority of medication compliance levels were in the high category, namely as many as 17 respondents (51.5%). Treatment adherence can be influenced by many factors, including treatment characteristics, disease and treatment beliefs. Non-adherence to treatment in multimorbidity can worsen the burden experienced by individuals because it will result in increased morbidity and mortality. The relationship between adherence and treatment will provide a basis for implementing targeted strategies to increase effective prescribing in patients with chronic diseases (González-Bueno et al., 2021).

Tabel 4.

Quality of Life Before and After Implementation of Intervention Home Pharmacy Treatments

Quality of Life	f	%
Pre Test		
Low	2	6,1
Moderate	23	69,7
High	8	24,2
Post Test		
Moderate	7	21,2
High	16	48,5
Very good	10	30,3

Table 4, before respondents received home pharmacy care counseling education, the majority of respondents' quality of life was in the moderate category, namely 23 respondents (69.7%), while after respondents received intervention, the majority of respondents' quality of life was in the good category, namely 16 respondents ( 48.5 %). The quality of life dimension consists of physical function, physical limitations, body pain, general limitations, vitality, social function, emotional limitations and mental health.

Tabel 5.  
Differences in the medication adherence levels and quality of life before and after being given the intervention home pharmacy care

Variabel	Mean Rank		<i>p-Value</i>
	Before	After	
Medication Adherence	15,00	0,00	.000
Quality of Life	10,50	13,62	.000

Table 5 shows that based on the Wilcoxon Signed Ranks Test statistical test, there are differences in the level of medication compliance and quality of life among respondents after receiving home pharmacy care counseling education ( $p < 0.05$ ).

## DISCUSSION

Previous research conducted by (Wang et al., 2021) aimed to assess the impact of drug therapy led by pharmacist management carried out on elderly outpatients with chronic diseases, the results showed that after the intervention period, patients showed improved clinical outcomes such as decreased blood pressure, changes in total cholesterol, LDL, and triglycerides, than before the intervention, in addition, the average cost of medication per patient also decreased, confirming that pharmacists have a very important role in providing management services for outpatient elderly patients, not only in identifying and solving problems with drug use, but also in improving clinical outcomes (BP and lipid levels) as well as cost-saving effects.

People with chronic diseases require more medical consultations, experience higher rates of hospitalizations, and face increased health care costs. They are also expected to engage in complex self-management, adhere to established treatment regimens such as monitoring symptoms, modifying lifestyle behaviors, and adhering to prescribed medications. Compliance refers to the extent to which a person's behavior conforms to the agreed recommendations of a health care provider. Multimorbidity is closely related to polypharmacy (Stewart, M. Bennie, 2018) it has been previously reported that the risk of medication non-adherence may increase as more medications are prescribed (Zelko et al., 2018).

Treatment adherence can be influenced by many factors, including treatment characteristics, disease and treatment beliefs. Non-adherence to treatment in multimorbidity can worsen the burden experienced by individuals because it will result in increased morbidity and mortality (Foley et al., 2021) the relationship between adherence and treatment will provide a basis for implementing targeted strategies to increase effective prescribing in patients with chronic diseases (González-Bueno et al., 2021). A systematic review research shows that educational interventions accompanied by counseling guidance and continuous monitoring can increase medication adherence in chronic disease sufferers (Anderson et al., 2020).

The implementation of home pharmacy care, apart from being beneficial in increasing compliance with taking medication, also has an effect on improving the quality of life for chronic disease sufferers. Providing counseling education can increase sufferers' knowledge about drugs, the amount and function of prescribed drugs, as well as improve sufferers' compliance behavior so that it has an impact on mortality and morbidity, as well as improving the sufferers' quality of life (Gudi et al., 2019). This intervention supports successful transitions of care through continuous improvement of treatment. Reduction in hospital readmission rates and this intervention also has the greatest impact in reducing hospital readmission rates and improving quality of life for patients (Tomlinson et al., 2020).

Medication adherence can be defined as the extent to which a person's medication-taking behavior follows what is mutually agreed upon by the prescribing doctor. Optimal medication adherence is often considered critical to patient treatment success, as suboptimal compliance can lead to treatment failure and unnecessary medical expenses. Community pharmacist-led interventions have contributed to improved medication adherence and better disease control. Specifically, these interventions have contributed to better blood pressure control, cholesterol management, COPD control and asthma (Milosavljevic et al., 2020).

Non-adherence to medication can take many forms, including not following the prescription, not taking it at all, missing a dose, taking the wrong dose, taking it at the wrong time, and not taking it as directed (for example, with or without food). Non-compliance can also occur in the form of intentionally stopping treatment for a certain period of time or stopping it altogether. Intentional nonadherence is the result of a patient's active decision not to take medication as prescribed; Unintentional non-adherence is the result of other factors such as forgetfulness, misunderstanding of medication regimen, access to medication, or language barriers.

A more active role for pharmacists in medication management could have a positive impact on clinical outcomes. Pharmaceutical interventions can indeed reduce the number of medication-related problems. Research on home medication reviews by pharmacists for DM patients, shows that this program significantly improves glycemic control, Quality of Life, medication adherence, and knowledge of T2DM patients and reduces the number of non-adherence to medication and can optimize diabetes care and reduce medication waste (Rosli et al., 2021).

## CONCLUSION

The implementation of home pharmacy care, apart from being beneficial in increasing compliance with taking medication, also has an effect on improving the quality of life for chronic disease sufferers. Providing counseling education can increase patient knowledge about drugs, the amount and function of drugs prescribed, as well as increase patient compliance behavior so that it has an impact on mortality and morbidity, as well as improving the quality of life of sufferers.

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