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RELATIONSHIP BETWEEN KNOWLEDGE OF DEGENERATIVE DISEASES AND PATIENTS' MEDICATION ADHERENCE AT OTANAHA REGIONAL GENERAL HOSPITAL (RSUD OTANAHA)

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ABSTRACT

Degenerative diseases such as diabetes mellitus and hypertension require long-term pharmacological treatment and consistent medication adherence to prevent complications and maintain patients' health. Patient knowledge regarding disease characteristics, treatment objectives, medication use, and potential complications may influence adherence behavior. This study aimed to determine the relationship between knowledge of degenerative diseases and medication adherence among patients with diabetes mellitus and hypertension at Otanaha Regional General Hospital. This study employed a quantitative analytical approach with a cross-sectional design. The study population consisted of 52 patients, with 46 respondents selected using the Slovin formula, comprising 23 patients with diabetes mellitus and 23 patients with hypertension. Data were collected using a structured knowledge questionnaire and the 8-item Morisky Medication Adherence Scale (MMAS-8). Data were analyzed using frequency distributions and Pearson correlation with a significance level of 0.05. Among patients with diabetes mellitus, moderate medication adherence was the most common category (43.48%), while good and moderate knowledge each accounted for 30.43%. A significant positive relationship was found between knowledge and medication adherence ($p=0.047$; $r=0.315$). Among patients with hypertension, the largest proportion was categorized as adherent (34.78%), while very good knowledge was most prevalent (30.43%). A significant and very strong positive relationship was observed ($p=0.004$; $r=0.878$). These findings indicate that better disease knowledge is associated with higher medication adherence, although the strength of the relationship differs between disease groups.

Keywords: *degenerative diseases; knowledge; medication adherence; diabetes mellitus; hypertension.*

INTRODUCTION

Degenerative diseases, particularly chronic non-communicable diseases such as diabetes mellitus, hypertension, and cardiovascular diseases, have become major public health concerns worldwide. These diseases generally require long-term treatment, continuous monitoring, and sustained patient involvement because they may progressively impair health and lead to

various complications. The burden of chronic diseases is particularly substantial among older adults and patients with multiple health conditions, contributing to increased morbidity, mortality, reduced quality of life, and greater utilization of healthcare services [1][2]. Therefore, effective disease management is essential to control disease progression and prevent complications.

Medication therapy is one of the main components of long-term management for patients with degenerative diseases. However, the effectiveness of treatment depends not only on the appropriate selection and prescription of medications but also on patients' adherence to the prescribed regimen. Medication adherence refers to the extent to which patients take medications according to the agreed recommendations of healthcare providers. Inadequate adherence can reduce treatment effectiveness and increase the risk of disease progression, complications, hospitalization, and unnecessary healthcare expenditures [3][4]. Despite its importance, medication adherence remains a persistent challenge in the management of chronic diseases.

One of the factors that may influence medication adherence is patients' knowledge regarding their disease and treatment. Adequate knowledge enables patients to understand the characteristics of their disease, the purpose of prescribed medications, the importance of taking medication regularly, and the potential consequences of inappropriate medication use. In contrast, insufficient knowledge may result in incorrect medication use, missed doses, or discontinuation of treatment. Previous studies have demonstrated a relationship between disease or medication knowledge and adherence among patients receiving long-term treatment. For example, knowledge regarding type 2 diabetes mellitus has been associated with medication adherence, while inadequate medication knowledge has also been identified as a potential barrier to appropriate medication use [5][6].

The relationship between knowledge and medication adherence is also influenced by other patient-related and treatment-related factors. Health literacy, treatment burden, beliefs about medications, cognitive ability, and communication between patients and healthcare professionals can affect patients' ability and willingness to follow treatment recommendations [7][8][9]. Among patients with chronic diseases, these factors may become increasingly important when treatment involves long-term medication use or multiple medications. Consequently, improving patients' knowledge should be considered as one component of a broader approach to improving medication adherence.

Previous research has examined medication adherence in several chronic diseases, including hypertension and diabetes mellitus. Studies have identified patient characteristics, health literacy, disease knowledge, medication-related beliefs, and treatment burden as important factors associated with adherence [1][10][4]. However, the findings from studies focusing on individual chronic diseases cannot necessarily be generalized to all patients with degenerative diseases because differences in disease characteristics, medication regimens, patient populations, and healthcare settings may influence adherence behavior.

In addition, research specifically examining the relationship between patients' knowledge of degenerative diseases and medication adherence in regional hospital settings remains limited. Local healthcare conditions, patient characteristics, access to health information, communication with

healthcare providers, and the organization of pharmaceutical services may influence patients' understanding of their diseases and their adherence to treatment. Therefore, investigating this relationship in a specific hospital setting is important to provide evidence that is relevant to local healthcare practice.

Based on this background, this study aims to determine the relationship between knowledge of degenerative diseases and patients' medication adherence at Otanaha Regional General Hospital (RSUD Otanaha). The results of this study are expected to provide evidence regarding the role of patient knowledge in medication adherence and contribute to the development of appropriate educational and pharmaceutical care strategies for patients with degenerative diseases.

Literature Review

Degenerative Diseases

Degenerative diseases are generally characterized by chronic and progressive deterioration of the structure or function of tissues and organs. In clinical practice, the term is often used in relation to chronic non-communicable diseases that require long-term treatment and continuous disease management. Patients with conditions such as diabetes mellitus, hypertension, and cardiovascular diseases may require prolonged pharmacological therapy to control symptoms, prevent complications, and maintain quality of life. The long-term nature of treatment may also increase the complexity of medication use, particularly among patients with multiple chronic conditions who may experience polypharmacy [11][12].

The chronic and progressive characteristics of degenerative diseases

require patients to actively participate in their treatment. Successful management depends not only on healthcare services and appropriate medication but also on patients' ability to understand their disease and consistently follow treatment recommendations. Consequently, patient-related factors, including knowledge, beliefs, motivation, and self-management ability, are important considerations in the management of these conditions.

Medication Adherence

Medication adherence refers to the extent to which a patient's medication-taking behavior corresponds with the agreed recommendations of a healthcare professional. Adherence includes taking the correct medication, dose, frequency, and duration as recommended. In patients with chronic diseases, adequate adherence is essential because pharmacological treatment often needs to be maintained over an extended period. Poor adherence can reduce treatment effectiveness and increase the risk of disease progression, complications, hospitalization, and healthcare costs [13][14].

Medication adherence is a multidimensional behavior influenced by numerous factors. These include the complexity of the treatment regimen, medication-related beliefs, perceived benefits and risks, health literacy, patient characteristics, and the relationship between patients and healthcare providers [14][15]. Patients who take multiple medications may experience greater treatment burden, which can further increase the risk of missed doses or inappropriate medication use.

Various interventions have therefore been developed to improve

medication adherence. These include patient education, behavioral counseling, medication reminders, pharmacist involvement, and technology-based interventions. Evidence suggests that interventions addressing both individual and contextual barriers may be more effective than approaches that focus solely on providing information [11][16][17].

Patient Knowledge

Patient knowledge refers to an individual's understanding of their disease, treatment objectives, prescribed medications, dosage and administration instructions, potential adverse effects, and the consequences of inappropriate medication use. Adequate knowledge can support patients in making appropriate decisions concerning their treatment and may increase their ability to manage chronic conditions independently.

Knowledge is closely related to health literacy, although the two concepts are not identical. Health literacy encompasses the broader ability to obtain, understand, evaluate, and use health information to make appropriate health decisions. A systematic review found an association between health literacy and medication adherence among patients with chronic diseases, suggesting that patients with better capacity to understand and use health information may be more capable of following medication regimens appropriately [18].

Inadequate knowledge may create barriers to adherence. Patients who do not understand the purpose of their medication may perceive treatment as unnecessary, particularly when symptoms have improved. Similarly, misunderstanding dosage instructions or treatment duration

may lead to incorrect medication use. Therefore, improving disease and medication knowledge represents an important component of patient-centered strategies for supporting adherence.

RESEARCH METHODS

This study employed a quantitative analytical approach with a cross-sectional design to examine the relationship between patients' knowledge of degenerative diseases and their medication adherence at Otanaha Regional General Hospital (RSUD Otanaha). Data on the independent and dependent variables were collected at a single point in time. The study focused on patients diagnosed with degenerative diseases, particularly diabetes mellitus and hypertension.

Population and Sample

The study population consisted of all patients with degenerative diseases receiving treatment at Otanaha Regional General Hospital, Buladu Village, Kota Barat District, with a total population of 52 patients. The sample size was determined using the Slovin formula, resulting in 46 respondents. The sample consisted of 23 patients with diabetes mellitus and 23 patients with hypertension.

Respondents were selected based on the established inclusion criteria, namely patients diagnosed with diabetes mellitus or hypertension who were receiving medication treatment at the hospital and were willing to participate in the study. Patients who were unable to complete the questionnaire or did not provide informed consent were excluded.

Research Instruments

The instruments used in this study consisted of an informed consent form and

questionnaires measuring patients' knowledge and medication adherence.

1. Informed Consent

An informed consent form was provided to ensure that respondents understood the purpose and procedures of the study and voluntarily agreed to participate. Participation was based on adequate information regarding the study and the rights of respondents.

2. Patient Knowledge Questionnaire

A structured questionnaire was used to assess respondents' knowledge regarding degenerative diseases. The questionnaire covered aspects related to the definition and characteristics of the disease, risk factors, symptoms, complications, treatment, and the importance of regular medication use. Knowledge scores were used to classify respondents according to their level of knowledge.

3. Morisky Medication Adherence Scale (MMAS-8)

Medication adherence was assessed using the 8-item Morisky Medication Adherence Scale (MMAS-8), a self-report instrument designed to evaluate medication-taking behavior. The instrument assesses several aspects of medication adherence, including forgetting to take medication and difficulties in following the prescribed medication regimen.

The MMAS-8 consists of eight questions. Responses are scored according to the scoring system of the instrument, producing a total score ranging from 0 to 8. Higher scores indicate better medication adherence. The resulting scores were subsequently categorized according to the adherence classification used in this study.

Data Collection Technique

Data were collected through interviews and questionnaires. Before data collection, respondents were provided with an explanation regarding the purpose and procedures of the study and were asked to provide informed consent. The questionnaire was then administered to eligible respondents to obtain information regarding their knowledge of degenerative diseases and medication adherence.

The researchers also conducted interviews when necessary to clarify respondents' answers and ensure that the questionnaire was completed appropriately. The collected questionnaires were reviewed for completeness before being processed and analyzed.

Data Analysis

Data analysis was conducted using Statistical Package for the Social Sciences (SPSS) for Windows. The analysis consisted of univariate and bivariate analyses.

1. Univariate Analysis

Univariate analysis was conducted to describe the characteristics of each study variable. The results were presented using frequency distributions and percentages. The variables analyzed included patients' knowledge of degenerative diseases and medication adherence, as well as relevant respondent characteristics.

2. Bivariate Analysis

Bivariate analysis was performed to examine the relationship between the independent variable, namely patients' knowledge of degenerative diseases, and the dependent variable, namely medication

adherence. The relationship between the two variables was analyzed using the Pearson correlation test with SPSS for Windows.

The statistical significance level was set at $\alpha = 0.05$. A p-value less than 0.05 was considered statistically significant, indicating a significant relationship between patients' knowledge of degenerative diseases and their medication adherence.

RESEARCH RESULTS

Medication Adherence Among Patients with Diabetes Mellitus

The distribution of medication adherence among the 23 patients with diabetes mellitus is presented in Table 1.

Table 1. Distribution of Medication Adherence Among Patients with Diabetes Mellitus

No.	Adherence Level	Frequency	Percentage
1	Very adherent	2	8.69%
2	Adherent	3	13.04%
3	Moderately adherent	10	43.48%
4	Non-adherent	6	26.09%
5	Highly non-adherent	2	8.69%
Total		23	

Source: Primary Data (2023)

The results indicate that the largest proportion of patients with diabetes mellitus were classified as moderately adherent, comprising 10 respondents (43.48%). This was followed by 6 respondents (26.09%) classified as non-adherent, 3 respondents (13.04%) as adherent, and 2 respondents (8.69%) each as very adherent and highly non-adherent.

Knowledge Level Among Patients with Diabetes Mellitus

The distribution of knowledge levels among the 23 patients with diabetes mellitus is presented in Table 2.

Table 2. Distribution of Knowledge Levels Among Patients with Diabetes Mellitus

No.	Knowledge Level	Frequency	Percentage
1	Very good	6	26.09%
2	Good	7	30.43%
3	Moderate	7	30.43%
4	Low	3	13.04%
5	Very low	0	0%
Total		23	100%

Source: Primary Data (2023)

The findings show that the highest proportions were observed in the good and moderate knowledge categories, each consisting of 7 respondents (30.43%). A total of 6 respondents (26.09%) had very good knowledge, while 3 respondents (13.04%) had low knowledge. No respondents were classified as having very low knowledge.

Relationship Between Knowledge and Medication Adherence Among Patients with Diabetes Mellitus

The reliability and correlation analysis for patients with diabetes mellitus is presented in Table 3.

Table 3. Relationship Between Knowledge and Medication Adherence Among Patients with Diabetes Mellitus

Variable	Cronbach's Alpha	Pearson Correlation	Sig. (2-tailed)
Medication adherence	0.631	0.315	0.047
Knowledge	0.659		

Source: Primary Data (2023)

The reliability analysis showed Cronbach's alpha values of 0.631 for the medication adherence instrument and 0.659

for the knowledge instrument. These values indicate acceptable internal consistency for the instruments used in the study.

The Pearson correlation analysis produced a significance value of 0.047, which is lower than the predetermined significance level of 0.05. Therefore, there was a statistically significant relationship between knowledge and medication adherence among patients with diabetes mellitus. The Pearson correlation coefficient was 0.315, indicating a positive but weak correlation. This suggests that higher knowledge levels tended to be associated with better medication adherence, although the strength of the relationship was relatively low.

Medication Adherence Among Patients with Hypertension

The distribution of medication adherence among the 23 patients with hypertension is presented in Table 4.

Table 4. Distribution of Medication Adherence Among Patients with Hypertension

No.	Adherence Level	Frequency	Percentage
1	Very adherent	3	13.04%
2	Adherent	8	34.78%
3	Moderately adherent	4	17.39%
4	Non-adherent	6	26.09%
5	Highly non-adherent	2	8.69%
Total		23	100%

Source: Primary Data (2023)

Among patients with hypertension, the largest proportion was classified as adherent, comprising 8 respondents (34.78%). This was followed by 6 respondents (26.09%) who were classified as non-adherent, 4 respondents (17.39%) as moderately adherent, and 3 respondents

(13.04%) as very adherent. Meanwhile, 2 respondents (8.69%) were classified as highly non-adherent.

Knowledge Level Among Patients with Hypertension

The distribution of knowledge levels among the 23 patients with hypertension is presented in Table 5.

Table 5. Distribution of Knowledge Levels Among Patients with Hypertension

No.	Knowledge Level	Frequency	Percentage
1	Very good	7	30.43%
2	Good	6	26.08%
3	Moderate	6	26.08%
4	Low	4	17.39%
5	Very low	0	0%
Total		23	100%

Source: Primary Data (2023)

The results demonstrate that the largest proportion of patients with hypertension had very good knowledge, comprising 7 respondents (30.43%). This was followed by the good and moderate knowledge categories, each consisting of 6 respondents (26.08%). Four respondents (17.39%) had low knowledge, while none of the respondents were classified as having very low knowledge.

Relationship Between Knowledge and Medication Adherence Among Patients with Hypertension

The results of the reliability and Pearson correlation analyses among patients with hypertension are presented in Table 6.

Table 6. Relationship Between Knowledge and Medication Adherence Among Patients with Hypertension

Variable	Cronbach's Alpha	Pearson Correlation	Sig. (2-tailed)
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Medication adherence	0.993	0.878	0.004
Knowledge	0.667		

Source: Primary Data (2023)

The reliability analysis showed Cronbach's alpha values of 0.993 for the medication adherence instrument and 0.667 for the knowledge instrument, indicating acceptable internal consistency.

The Pearson correlation analysis resulted in a significance value of 0.004, which was below 0.05. Thus, there was a statistically significant relationship between knowledge and medication adherence among patients with hypertension. The Pearson correlation coefficient was 0.878, indicating a very strong positive correlation. This finding suggests that patients with higher levels of knowledge tended to demonstrate substantially better medication adherence.

Overall, the results demonstrate a significant positive relationship between knowledge and medication adherence in both patient groups. However, the strength of the relationship differed considerably between patients with diabetes mellitus and those with hypertension. The relationship was weak among patients with diabetes mellitus ($r = 0.315$) but very strong among patients with hypertension ($r = 0.878$).

DISCUSSION

Medication Adherence Among Patients with Diabetes Mellitus

The findings showed that the largest proportion of patients with diabetes mellitus were classified as moderately adherent, accounting for 10 respondents (43.48%). Meanwhile, 6 respondents (26.09%) were classified as non-adherent,

while only 5 respondents (21.73%) were categorized as adherent or very adherent. These findings indicate that medication adherence among patients with diabetes mellitus at Otanaha Regional General Hospital was not optimal.

The predominance of moderate adherence may reflect the long-term nature of diabetes mellitus treatment. Diabetes management generally requires patients to take medication continuously, follow dietary recommendations, monitor blood glucose, and attend regular healthcare visits. Maintaining these behaviors over an extended period can be challenging, particularly when patients experience treatment fatigue or perceive fewer immediate benefits from medication when symptoms are absent. Previous research has shown that medication adherence in chronic diseases is influenced by multiple factors, including treatment complexity, patient beliefs, health literacy, and individual characteristics [19][12].

The proportion of non-adherent patients also indicates that knowledge alone may not be sufficient to ensure consistent medication-taking behavior. Patients may understand the importance of treatment but still experience difficulties in maintaining adherence because of forgetfulness, daily routines, medication burden, concerns about adverse effects, or personal beliefs regarding medication. Therefore, interventions to improve adherence among patients with diabetes mellitus should not focus exclusively on providing information but should also address behavioral and practical barriers to medication use.

Knowledge Level Among Patients with Diabetes Mellitus

The results showed that patients with diabetes mellitus had predominantly good and moderate levels of knowledge, each accounting for 7 respondents (30.43%). In addition, 6 respondents (26.09%) had very good knowledge, while only 3 respondents (13.04%) had low knowledge. No respondents were categorized as having very low knowledge.

These findings suggest that most patients had an adequate understanding of diabetes mellitus. Adequate knowledge may help patients recognize the chronic nature of the disease, understand the importance of treatment, and become more aware of the consequences of uncontrolled blood glucose levels. However, the presence of patients with moderate and low knowledge indicates that gaps in disease-related understanding still exist.

The findings are consistent with the concept that knowledge and health literacy can contribute to patients' ability to manage chronic diseases. Hyvert et al. [18], reported an association between health literacy and medication adherence in patients with chronic diseases. Patients who can obtain, understand, and apply health information may be better positioned to follow medication instructions and participate actively in their treatment.

Nevertheless, knowledge should not be interpreted as the sole determinant of medication adherence. Knowledge provides an important foundation for appropriate health behavior, but its effect may depend on patients' motivation, beliefs, self-efficacy, social support, and interaction with healthcare professionals. Thus, patients with adequate knowledge may still demonstrate inadequate adherence when other barriers are present.

Relationship Between Knowledge and Medication Adherence Among Patients with Diabetes Mellitus

The Pearson correlation analysis demonstrated a significant positive relationship between knowledge and medication adherence among patients with diabetes mellitus ($p = 0.047$; $r = 0.315$). Because the significance value was below 0.05, the null hypothesis of no relationship was rejected. The positive correlation indicates that patients with higher knowledge tended to have better medication adherence. However, the correlation coefficient of 0.315 indicates that the strength of the relationship was relatively weak.

This finding supports the assumption that knowledge is one of the factors contributing to medication adherence. Patients who understand their disease and the purpose of treatment may be more likely to recognize the importance of taking medication regularly. Knowledge can also help patients understand the consequences of missing doses and the importance of maintaining treatment even when symptoms are controlled.

The finding is consistent with AlShayban et al. [5], who reported an association between disease knowledge and medication adherence among patients with type 2 diabetes mellitus. Similarly, Mekonnen and Gelayee [6], emphasized that inadequate medication knowledge may constitute a barrier to appropriate use of chronic medications.

However, the relatively weak correlation observed in this study indicates that knowledge explains only a limited part of medication adherence behavior among patients with diabetes mellitus. This result

is theoretically reasonable because adherence is a multidimensional behavior. Al Bawab et al. [19], noted that medication nonadherence can be influenced by several factors, including patient-related characteristics, medication-related factors, and beliefs concerning treatment.

Therefore, improving knowledge among patients with diabetes mellitus should be accompanied by other strategies, such as medication reminders, counseling, reinforcement by healthcare professionals, and interventions addressing patients' concerns regarding their medications. Costa et al. [11], also emphasized that adherence interventions may need to address multiple barriers rather than relying solely on educational approaches.

Medication Adherence Among Patients with Hypertension

Among patients with hypertension, the largest proportion was categorized as adherent, comprising 8 respondents (34.78%). However, 6 respondents (26.09%) were classified as non-adherent and 4 respondents (17.39%) as moderately adherent. These findings indicate that although the largest single category was adherence, a substantial proportion of patients still experienced difficulties following their prescribed medication regimen.

Hypertension often requires long-term or lifelong pharmacological treatment. One of the challenges in hypertension management is that patients may not experience noticeable symptoms despite elevated blood pressure. Consequently, some patients may perceive medication as less necessary when they feel physically well. Such perceptions may negatively influence adherence, particularly when

treatment needs to be continued for a prolonged period.

The findings reinforce the importance of continuous patient education and communication in hypertension management. Healthcare professionals need to explain not only the purpose of antihypertensive medications but also the risks associated with uncontrolled blood pressure and discontinuing medication without professional advice. Afiani et al. [1], emphasized that medication adherence among patients with hypertension is influenced by multiple determinants, indicating that adherence requires a comprehensive approach.

Knowledge Level Among Patients with Hypertension

The results showed that the largest proportion of patients with hypertension had very good knowledge, consisting of 7 respondents (30.43%). A further 6 respondents (26.08%) each had good and moderate knowledge, while 4 respondents (17.39%) had low knowledge. No respondents were classified as having very low knowledge.

The relatively high level of knowledge among patients with hypertension may be related to their previous exposure to health information through healthcare services, medication counseling, or repeated interactions with healthcare professionals. Patients receiving long-term treatment may have more opportunities to obtain information regarding their disease and medication.

Nevertheless, the presence of respondents with moderate and low knowledge indicates that educational needs remain. Knowledge should cover not only the definition and symptoms of

hypertension but also risk factors, complications, medication purpose, dosage, duration of treatment, and the importance of adherence even when symptoms are not present.

The findings are consistent with the broader evidence regarding the importance of health literacy in chronic disease management. Hyvert et al. [18], found that health literacy is associated with medication adherence, suggesting that patients' ability to understand and use health information may contribute to their treatment behavior.

Relationship Between Knowledge and Medication Adherence Among Patients with Hypertension

The most notable finding of this study was the relationship between knowledge and medication adherence among patients with hypertension. The Pearson correlation test produced a significance value of 0.004, which was below 0.05, with a correlation coefficient of 0.878. This demonstrates a statistically significant and very strong positive relationship between knowledge and medication adherence.

The positive direction indicates that patients with higher levels of knowledge tended to demonstrate better medication adherence. The strength of the correlation was substantially greater than that observed among patients with diabetes mellitus. This finding suggests that knowledge may play a particularly important role in medication-taking behavior among the hypertensive patients included in this study.

A possible explanation is that patients with better knowledge may have a clearer understanding of the consequences of uncontrolled hypertension and the

importance of continuous medication use. Understanding that hypertension can cause serious complications even without obvious symptoms may encourage patients to maintain their treatment. In contrast, patients with inadequate knowledge may underestimate the importance of regular medication use.

This finding is broadly consistent with previous research demonstrating the importance of knowledge and health literacy in medication adherence. Hyvert et al. [18], identified an association between health literacy and medication adherence among patients with chronic diseases, while Al-Noumani et al. [12] showed that medication adherence is influenced by multiple patient-related and treatment-related factors.

The very strong correlation observed in this study, however, should be interpreted cautiously. The hypertension subgroup consisted of only 23 respondents, and the cross-sectional design does not establish a causal relationship. Therefore, the result demonstrates an association rather than proving that increased knowledge directly causes improved medication adherence. Other variables that were not examined in this study, such as age, education, duration of illness, number of medications, medication beliefs, family support, access to healthcare, and patient-provider communication, may also contribute to adherence.

CONCLUSION

There was a significant positive relationship between patients' knowledge of degenerative diseases and medication adherence at Otanaha Regional General Hospital. Among patients with diabetes

mellitus, the relationship was statistically significant but weak, indicating that knowledge was associated with adherence but was not the only factor influencing medication-taking behavior. Among patients with hypertension, the relationship was statistically significant and very strong, suggesting a stronger association between knowledge and adherence in this group. These findings indicate that improving patients' understanding of their disease and treatment is an important component of medication adherence management. However, educational interventions should be complemented by counseling, medication reminders, behavioral support, and attention to other barriers to adherence to achieve more consistent long-term treatment behavior.

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