



## Communication, Information and Education Services Related to Adherence to Taking Medication in Type 2 Diabetes Mellitus Patients at H. Adam Malik Central General Hospital Medan

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<p><b>Track Record Article</b></p> <p>Accepted: 17 June 2024 Revised: 6 May 2024 Published: 28 June 2024</p> <p><b>How to cite :</b> Dasopang, E. S., Siahaan, D. N., Sandika, T., Thaharah, Y. R., Nuzulia, N., &amp; Lince, V. (2024). Communication, Information and Education Services Related to Adherence to Taking Medication in Type 2 Diabetes Mellitus Patients at H. Adam Malik Central General Hospital Medan. Contagion : Scientific Periodical of Public Health and Coastal Health, 6(1), 619–626.</p>	<p style="text-align: center;"><b>Abstract</b></p> <p><i>One of the standards for clinical pharmacy services in hospitals is related to communication, information, and education. Blood sugar levels in Diabetes Mellitus patients are strongly influenced by lifestyle, calorie consumption, and drugs consumed. The purpose of this study was to determine the provision of Communication, Information and Education services on Adherence to Taking Medication in Type 2 Diabetes Mellitus Patients at the H. Adam Malik Medan Central General Hospital. This research is a quantitative descriptive type research. The research was conducted at the H. Adam Malik Medan Central General Hospital, which was conducted from March 2023 to June 2023. The population used in this study were patients with type 2 diabetes mellitus from March 2023 to June 2023. Sampling using purposive sampling technique. The research sample amounted to 100 people. The research instrument used a questionnaire. Data analysis using univariate analysis with descriptive, data processing with Statistical Product and Service Solution (SPSS) software version 20. The results showed that Communication, Information and Education services by Doctors as many as 94 people (94%), Pharmacists as many as 5 people (5%), and Nurses as many as 1 person (1%) and adherence to taking medication in Type 2 Diabetes Mellitus (DM) patients were found that 60 respondents (60%) were classified as moderate adherence, 40 respondents (40%) were classified as low adherence. Pharmacists should be able to improve their knowledge, abilities, and skills in conducting Communication, Information, and Education Services so that patients are more compliant in the treatment of Diabetes Mellitus.</i></p> <p><b>Keyword: Communication, Diabetes Mellitus type 2, Education, Information, Service</b></p>
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### INTRODUCTION

The high prevalence of Diabetes Mellitus (DM) in Indonesia is an important concern of the government, most patients are less compliant in consuming drugs, due to the lifelong use of DM drugs. Compliance is one of the most important factors in the success of a patient's therapy including Diabetes Mellitus patients, Compliance is an issue that needs attention in DM patients (Romadhon et al., 2020).

The International Diabetes Federation (IDF) reports that 357 million people worldwide have diabetes mellitus (DM), and that the disease is thought to be the cause of death for over 6.7 million people between the ages of 20 and 79 (IDF, 2021). Indonesia is ranked 5th with the most cases of DM disease at 19.7 million. Based on the Basic Health Research in 2018, the prevalence of DM in Indonesia is 1.5%, increasing in 2023 to 11.7% (Kemenkes RI, 2018; Kemenkes RI, 2023).

One of the ways to achieve therapeutic success is to adhere to drug use guidelines. This is especially important when using antidiabetic medications, as noncompliance will result in therapeutic failure, which is what leads to the onset of additional diseases or what are commonly referred to as complications (Datak & Febriani, 2020).

Enhancing the way that physicians and nurses communicate with patients is one way to increase adherence. An essential factor in determining the level of adherence is the calibre of interactions between medical professionals and patients. To give patients feedback after learning about their diagnosis, health professionals must improve their interactions with patients. To improve the interaction of health workers with patients, good communication is needed by health workers. Communication of a health worker can provide complete information to increase patient knowledge, so that it is expected to increase patient compliance in carrying out therapy (Neil, 2012).

Pharmacists are one of the professions tasked with providing communication, information and education services to patients, especially DM patients. In order for the use of antidiabetic drugs to be carried out safely and effectively, pharmacists must carry out communication, information and education (Sinuraya et al., 2019). DM patient compliance in taking medication is important so that therapeutic outcomes can be achieved (Diantari et al., 2019).

Clinical pharmacy services are services provided by pharmacists who are directly responsible to patients for the use of drugs and consumable medical supplies with the aim of improving the service and quality of life of patients. Clinical pharmacy services play an important role in the treatment of DM. Through clinical pharmacy services, pharmacists provide pharmaceutical services, especially communication, information and education, especially by educating DM patients about their condition and inviting them to participate in various activities (Dasopang, 2018).

Communication, information and education services are generally carried out at the time the medicine is handed over to the patient. Quality communication, information and education services are measured from the level of patient satisfaction in accordance with established service standards (Anindita et al., 2022).

Therefore, it is hoped that with communication, information and education to patients, it will increase compliance with taking medication in patients with diabetes mellitus. The purpose of this study was to determine the role of Communication, Information and Education Related to Adherence to Taking Medication in Type 2 Diabetes Mellitus Patients at the H. Adam Malik Central General Hospital Medan.

## METHODS

This research is a quantitative descriptive type research. Descriptive research aims to describe important events that are happening (Sugiyono, 2019). The research was conducted at H. Adam Malik Medan Central General Hospital, which was conducted from March 2023 to June 2023.

The population used in this study were Type 2 Diabetes Mellitus (DM) patients from March 2023 to June 2023. Sampling using purposive sampling technique. Data collection in this study is primary data. The data collection technique used in this study was a questionnaire (Sugiyono, 2022). The sample selection is in accordance with predetermined criteria, so the research sample was 100 people.

The inclusion criteria in this study were Type 2 Diabetes Mellitus (DM) patients who received communication, information, and education services at the H. Adam Malik Medan Central General Hospital, Type 2 DM patients who were willing to become respondents, and Type 2 DM patients who could read and write. While the exclusion criteria of the study were Type 2 Diabetes Mellitus (DM) patients who did not answer the questionnaire completely, patients who did not receive communication, information, and education services, patients were not willing to be respondents and could not read and write.

The research instrument used questionnaire data on communication, information, and education services for outpatient Type 2 Diabetes Mellitus patients. The data collection technique was carried out by distributing questionnaires on communication, information, and education services in the form of compliance questionnaires related to adherence to taking medication in Diabetes Mellitus patients. in the compliance question item there are 3 questions, each answer that is "yes" in filling out the questionnaire is given a value of 1, the answer that is "no" is given a value of 0. The question item for communication, information and education services consists of health workers who provide communication, information and education services.

Data analysis used univariate analysis with descriptive in the form of frequency distribution and percentage of each research variable. Data analysis was carried out with computer assistance using Statistical Product and Services Solution (SPSS) version 20 software.

## RESULTS

**Table 1. Analysis of Respondent Characteristics**

Variable	Frequency	%
Age (years)		
40-50	23	23.0
51-60	45	45.0
≥ 61	32	32.0
Total Patients	100	100
Gender		
Male	60	60.0
Female	40	40.0
Total Patients	100	100
Long suffering		
<5 years	46	46.0
> 5 years	54	54.0
Total Patients	100	100

Based on table 1. frequency distribution of respondents that there are 100 respondents, obtained data on the age of respondents aged 40-50 years as many as 23 people (23%), aged 51-60 years 45 people (45%) ≥ 61 years 32 people (32%). The gender of the respondents, male 60 people (60%) and female 40 people (40%). The length of time suffering from Diabetes Mellitus (DM) disease from <5 years as many as 46 people (46%) and >5 years as many as 54 people (54%).

**Table 2. Frequency distribution of communication, information, and education services and the level of adherence to taking medication in patients with type 2 diabetes mellitus**

Variable	Frequency	%
Characteristics of communication, information, and education services		
Doctor	94	94.0
Pharmacists	5	5.0
Nurse	1	1.0
Total Patients	100	100
Compliance With Taking Medication		
High compliance	0	0
Moderate compliance	60	60.0
Low compliance	40	40.0
Total Patients	100	100

Based on table 2. provision based on communication, information and education services, obtained 100 respondents, the data obtained is about who provides communication, information and education services to patients including communication, information and education services by doctors as many as 94 people (94%), by pharmacists as many as 5 people (5%), and by nurses as many as 1 person (1%). Adherence to taking medication in Type 2 Diabetes Mellitus patients is known that 60 respondents (60%) are classified in the category of moderate adherence level, 40 respondents (40%) are classified in the category of low adherence

level. Measurement of the level of compliance with taking medication in Type 2 DM patients is classified as moderate.

## DISCUSSION

Communication, Information and Education based on Minister of Health Regulation Number 72 of 2016 is one of the pharmacist's duties in the clinical field, especially Diabetes Mellitus (DM) patients. In this study, it was found that Communication, Information and Education carried out by doctors amounted to 94% or almost 100%. This is due to the lack of pharmacists in the hospital or pharmacists are more positioned in the managerial department (Ma'ula et al., 2023). Clinical pharmacy services in hospitals must be performed by chemists in accordance with Minister of Health Regulation Number 72 of 2016. These services include assessment and prescription services, drug history tracking, drug reconciliation, drug information services, drug side effect monitoring, drug use evaluation, and sterile preparation dispensing (Sinuraya et al., 2019).

In Diabetes Mellitus patients the level of knowledge about calories is low (40%) and is 60% which can result in the number of calories ingested by patients, especially Diabetes Mellitus, can be excessive and cause an increase in blood sugar levels. This is in accordance with previous research conducted by Lafau (2021), where Diabetes Mellitus patients like to consume sweet and fatty foods, so they can aggravate the Diabetes Mellitus disease suffered.

Based on research Yulianti et al., (2022), stated that there is a significant relationship between doctor communication and medication adherence. This is because excellent doctor-patient communication has a strong influence on medication adherence. The better the doctor-patient interpersonal communication, the better the level of compliance with the treatment.

Providing counseling by pharmacists can improve the understanding and level of compliance of patients suffering from type 2 diabetes mellitus. This has an impact on achieving better therapeutic outcomes and improving the overall quality of life of patients (Laxmi et al., 2021). Pharmacists play a crucial role in customizing the use of oibat for each patient, including customizing the dosage, type, method, timing, freedom, and duration of oibat use according to the patient's condition. The goal is to achieve optimal therapeutic efficacy with minimal adverse effects (Anggredi et al., 2021).

Research Fatiha et al., (2021), claimed that, prior to chemist counselling, there was a notable difference in the treatment compliance of patients with diabetes mellitus. Patients receive counselling on how to utilise medications, dosages, indications, side effects, timing of use, managing hypoglycemia, managing stress, and enhancing lifestyle choices. Pharmacist

counseling is pharmaceutical care that is used to improve treatment. According to research Tumiwa et al., (2014), Patients who receive sufficient information on drug use will be more compliant in taking their medication. Research Mursal (2016) also stated that patients who were given counseling tended to have better compliance compared to patients who were not given counseling.

Research results Setyani et al., (2023), shows that with the role of pharmacists in pharmaceutical services, good clinical results can be achieved as well as the emergence of good relationships between other health workers, achieving better patient blood sugar control, reduced risk factors, increased adherence to treatment, and also improving the quality of life of patients.

A healthy lifestyle such as exercise, healthy food consumption, adequate rest, and avoiding stress should be controlled in Diabetes Mellitus patients, because an unhealthy lifestyle can lead to increased blood sugar levels (Alrosyidi et al., 2020). The results of the level of knowledge about the pattern of life in the category of insufficient (63%), this amount is 3.5 times that of high patient knowledge while the level of knowledge is low (19%).

Diabetes Mellitus patients must take the drug in a long period of time so it requires high compliance. Increased patient compliance needs the help of health workers. Compliance can be maximized by the presence of Komunikasi, Informasi, dan Edukasi conducted by health workers either through advertising, socialization conducted by Related Agencies such as health offices, health centers, hospitals. In this study, the level of adherence in Diabetes Mellitus patients in the medium category is 1.5 times that of the low level of knowledge. While there is no percentage in the high category. This is in line with previous research conducted by Lafau, (2021) where patient compliance can be influenced by many factors both internally and externally. The patient himself has a very strong desire to obey but is not supported by external factors, such as the absence of family support, financial problems, distance to health facilities, and others.

The role of pharmacists in communication, information and education services at the H. Adam Malik Medan Central General Hospital is still not well implemented as in the Minister of Health Regulation Number 72 of 2016 concerning Pharmaceutical Service Standards in Hospitals. Through clinical pharmacy services, pharmacists play a role in providing pharmaceutical services, namely communication, information and education services, namely by explaining information to Diabetes Mellitus patients, so that Diabetes Mellitus patients can know their disease and are invited to take an active role in its management so that treatment can be optimal. This can be caused by many factors, such as the lack of pharmacists in the

hospital, the lack of involvement of pharmacists in Visite activities, limited implementation time and the lack of communication, information and education activities by pharmacists.

## CONCLUSIONS

The results indicated that the degree of medication compliance among patients with Type 2 Diabetes Mellitus was rated as moderate, and that the role of chemists in providing Communication, Information, and Education services at the H. Adam Malik Medan Central General Hospital was still not well implemented as stated in the Regulation of the Minister of Health Number 72 of 2016 concerning Pharmaceutical Service Standards in Hospitals. It is advised that chemists expand their expertise in providing communication, information, and educational services.

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