



Factors related to the utilization of health services for diabetes mellitus patients during covid 19 pandemic

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ABSTRACT

Background: The starting point for a healthy life with diabetes is early diagnosis, the longer a person lives with undiagnosed and untreated diabetes, the worse the possible health outcomes. So it is necessary to perform a health check will reduce the risk of complications. This study aims to determine the factors related to the utilization of health services in patients with diabetes mellitus at the Suro District Health Center. Aceh Singkil Year 2020. Methods: This type of research is analytic observational with a cross sectional design. The population was used as a sample, namely all people with Diabetes Mellitus who came for treatment in May 2020 to the Suro Health Center totaling 42 respondents. The data analysis technique used chi square statistical test. Results: Utilization of health services carried out by people with Diabetes Mellitus at the Suro Health Center had a relationship with knowledge with a value of $p = 0.006$ and perception of pain was related to the use of health services $p = 0.009$ while distance had no relationship with the use of health services with a value of $p = 0.125$. Conclusion: Patients with Diabetes Mellitus on average have less knowledge and have negative perceptions about Diabetes Mellitus related to the utilization of health services, innovations to increase knowledge of Diabetes Mellitus and perceptions are recommended specifically for women to continue to use health services to avoid an increase in blood sugar levels first. to prevent complications. Suggestions This research is further carried out for the utilization of health services and policies to design interventions to change the pattern of utilization of health services

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INTRODUCTION

Minimum service standards (SPM) are provisions regarding the type and quality of basic services which are mandatory government affairs that every citizen has the right to obtain at a minimum. The Ministry of Health has set the Minister of Health Regulation number 43 of 2016. (1) Health services for people with Diabetes Mellitus receive health services according to standards. The Regency/City Government has an obligation to provide standardized health services to all people with Diabetes Mellitus aged 15 years and over as a secondary prevention effort in their working area within one year. Health services according to standards include blood sugar measurement, education, pharmacological therapy.

Nationally, data shows that as many as 2,687,994 people have been provided with health services according to standards. The target of achieving health services for people with Diabetes Mellitus is determined based on the

prevalence of Diabetes Mellitus that has been set by the Center for Data and Information of the Ministry of Health / BPS. Calculation of the achievement of health services for people with diabetes mellitus, namely the number of people with diabetes mellitus aged 15 years in their working area who received health services according to standards within one year divided by the estimated number of people with diabetes mellitus aged 15 years in their work area based on the number district/city prevalence in the same one year is multiplied by 100%.

Provinces with the highest achievement for health services for people with diabetes mellitus are those with 100% achievement, namely the Provinces of West Sumatra, Bangka Belitung Islands, South Sumatra, Bengkulu and Banten. Provinces with achievements of more than 100% were carried out by the Province of Lampung (129%). This could be due to the fact that when the target was set, the number of people with diabetes mellitus was still small, but after screening, the number of people with Diabetes Mellitus

was more than the target so that the number of people served was also more than 100%, while in Aceh the percentage of people with Diabetes Mellitus who received health services was 67.%.⁽²⁾

Diabetes not only causes premature death worldwide. It is also a leading cause of blindness, heart disease and kidney failure. The International Diabetes Federation (IDF) organization estimates that there are at least 463 million people aged 20-79 years in the world suffering from diabetes in 2019 with a prevalence rate of 9.3% of the total population at the same age. Based on gender, IDF estimates the prevalence of diabetes in 2019 is 9%, female 9.65% male. The prevalence of diabetes is estimated to increase as the general population increases to 19.9% or 111.2 million people aged 65-79 years. The figure is predicted to continue to increase to reach 578 million in 2030 and 700 million in 2045.⁽³⁾

In the last three decades, the prevalence of diabetes has increased dramatically in countries of all income levels, approximately 422 million people worldwide have diabetes, mainly in low and middle income countries, and 1.6 million deaths are directly attributable to diabetes each year. Both the number of cases and the prevalence of diabetes have been steadily increasing over the last few decades. There is a globally agreed target to halt the rise in diabetes and obesity by 2025.⁽⁴⁾

Indonesia is one of the 5th out of the top 10 countries or regions for the number of adults (20-79 years) with undiagnosed Diabetes in 2019. Increasing population risk and failure to control factors such as obesity and diet the bad one. However, the prevalence is increasing because people with Diabetes Mellitus are living longer as a result of increased care and also the trend of increasing life expectancy.⁽⁵⁾

Diabetes Mellitus that does not get good handling can cause an increased risk of acute and chronic complications. So self-care is needed to reduce the risk of these complications. Symptoms of this complication are seen in millions of cases in the world. 3% of global blindness can be attributed to diabetic retinopathy, kidney failure, reduced blood flow and nerve damage to the feet which can lead to leg ulcers, resulting in the need for limb amputation, as well as severe and lifelong health problems.^{.(4)}

The starting point for living a healthy life with diabetes is early diagnosis – the longer a person lives with undiagnosed and untreated diabetes, the worse the health outcomes are likely to be. Easy access to basic diagnostics, such as blood glucose testing, should therefore be available in primary health care settings. Patients will require periodic specialist assessments or treatment for complications.⁽⁴⁾

Preliminary survey at the Suro Health Center, the average age of people with Diabetes Mellitus who came for treatment was 8 people aged 50-60 years, Gender was 7 people, Diabetes Mellitus was 1-3 years old 7 people, Perception of Diabetes Mellitus: Negative 8 people, Utilization of Health Services: 3 people. Based on the above background, researchers will conduct research on what factors affect people with Diabetes Mellitus in the utilization of health services.

METHOD

This type of analytic observational research with a cross sectional approach to see the factors related to the utilization of health services for people with diabetes mellitus at the Suro Health Center, Aceh Singkil Regency, meaning that the

measurement of variables is only carried out by observing a certain period and is carried out one time at a time. certain at the same time.⁽⁶⁾

The sampling technique in this study was adult patients aged > 40 years with Diabetes Mellitus who visited Suro Health Center to receive Diabetes services, totaling 42 respondents (Total Smpling) ⁽⁷⁾. This research has been approved by the Research Ethics Committee of STIKes Mitra Husada Medan, Indonesia No: 317/KEP-MHM/XI/2020 dated November 7, 2020. Aspects of ethical approval in this study respect human dignity. Morally, there is an important reason and its relevance in respecting human values in this study, namely on the basis of the consent of patients with Diabetes Mellitus at the Suro Health Center, Aceh Singkil District as evidenced by an agreement to become a respondent signed by the respondent. Prior to filling out the questionnaire all respondents were informed about the purpose of the study, why it was chosen, benefits that could be obtained, confidentiality of the data, and telephone numbers where they could be contacted. mAll eligible respondents were offered to participate in this study for face-to-face interviews in the patient waiting room. to protect the privacy of respondents.

RESULTS AND DISCUSSION

Univariate analysis in this study provides a description of the characteristics that include age, gender, education, occupation, duration of suffering from Diabetes Mellitus. Sociodemographic characteristics describe the self-image of 42 people. The description of the characteristics of people with Diabetes Mellitus can be seen in Table I.

Table I: Characteristics of Diabetes Mellitus Patients

Characteristics	Total	Percentage (%)
Age		
41-50 tahun	8	19,1
51-60 tahun	16	38,1
61-70 tahun	15	35,7
≥ 70 tahun	3	7,1
Total	42	100
Gender		
Male	17	40,5
Female	25	59,5
Total	42	100
Education		
SD	2	4,8
SLTP	7	16,7
SLTA	21	50,0
D3/Sarjana	11	28,5
Total	42	100
Profession		
Didn' t work	6	14,3
Laborer/Farmer	15	35,7
Wiraswasta	19	45,2
PNS	2	4,8
Total	42	100
Salary		
≤ 2,5 juta	17	40,5
> 2,5 juta	25	59,5
Total	42	100
Duration of Diabetes mellitus		
<5 Years	19	45,2
>5 Years	23	54,8
Total	42	100

This study found that the majority of people with Diabetes Mellitus were aged 51-60 years, 16 respondents (38.1%) and female sex 25. respondents (59.5%), high school education 21 respondents (50%), work as entrepreneurs 19 respondents (45.2%) Income > 2.5 million as many as 25 respondents (59.5%) and long suffering from Diabetes Mellitus > 5 years as many as 23 respondents (54.8%).

Factors Relating to the Utilization of Health Services for Diabetes Mellitus Patients at the Suro Health Center, Aceh Singkil Regency in 2020, obtained data as shown in table: 2 below.

Based on Table 2 the level of knowledge of Diabetes Mellitus sufferers who utilize health services at the Suro Health Center, Aceh Singkil Regency in 2020 the majority have less knowledge as many as 23 (54.8%) respondents, Perceptions of Diabetes Mellitus sufferers have a negative perception of 24 (57.1%) respondents and accessibility to easily reach health services as many as 27 (64.3%) respondents.

Table 2. Level of Knowledge, Perception, Accessibility of Health Services for Diabetes Mellitus Patients

Knowledge	Total	Percentage (%)
Less	23	54,8
Good	19	45,2
Total	42	100
Perception		
Positive	18	42,9
Negative	24	57,1
Total	42	100
Accessibility of Health Services		
Easy	27	64,3
Difficult	15	35,7
Total	42	100

Table 3. Relationship between Knowledge and Utilization of Health Services for Diabetes Mellitus Patients

Knowledge	Utilization		Not Utilization		Total		Significance
	n	%	n	%	n	%	
Good	17	73,9	6	26,1	23	100	p=0,006
Less	6	31,6	13	68,4	19	100	

From Table III: above, it can be seen that 13 (68.4%) respondents who have less knowledge do not use health services, from the statistical test results obtained that there

is a relationship between knowledge and utilization of health services with a value of p = 0.006.

Table 4. Relationship between Perception and Utilization of Health Services for Diabetes Mellitus Patients

Perception	Utilization		Not Utilization		Total		Significance
	n	%	n	%	n	%	
Positive	14	77,8	4	22,2	18	100	p=0,009
Negative	9	37,5	15	62,5	24	100	

From Table IV: above, it can be seen that 15 (62.5%) respondents had negative perceptions so they did not take advantage of health services. From the statistical test results,

there was a relationship between perception and utilization of health services with p value = 0.009.

Table 5. Relationship between Accessibility and Utilization of Health Services for Diabetes Mellitus Patients

Accessibility	Utilization		Not Utilization		Total		Significance
	N	%	n	%	n	%	
Easy	17	63,0	10	37,0	27	100	p=0,152
Difficult	6	40,0	9	60,0	15	100	

From the table above, it can be seen that 10 (37.0%) respondents who have easy accessibility but do not use health services, from the results of statistical tests it is found that there is no relationship between accessibility and utilization of health services with p = 0.152.

entrepreneur 19 respondents (45.2%) Income > 2.5 million as many as 25 respondents (59.5%) and duration of suffering from Diabetes Mellitus > 5 years as many as 23 respondents (54,8%).

The results of research conducted in China and the United Kingdom survey data found that the same socioeconomic group had the same level of service utilization, and research conducted in Iran showed that demographic and socioeconomic factors had more influence on the utilization of health services. Several studies have stated that education as a factor that has a positive effect on the utilization of health services, the higher the level of individual education, the more the use of health services. This is justified by the assumption that people with higher education have better health status and they need better health services and they need less services than others and it is reported that women use more health services than men.(8)

DISCUSSION

Characteristics of Diabetes Mellitus Patients at Suro Health Center in 2020

The results showed that the characteristic data of the respondents are shown in Table I: from 42 respondents it was found. This study found that the age of most people with Diabetes Mellitus was 51-60 years old, 16 respondents (38.1%) and female sex, 25 respondents (59.5%).), high school education 21 respondents (50%), work as

There are several characteristics in common with the research conducted by Hidayah M (2019) in the Pucang Sewu Public Health Center Surabaya Work Area in terms of female gender (62%) and the majority of high school education levels (40.5%). (9) Characteristics of self-care has also been researched by Putri, L (2017) which states that the most people with Diabetes Mellitus are in the elderly 56 years old by 49.8%, female gender 61.5% and high school education, namely 31.8% . (10) Diabetes Mellitus is often found in the elderly, because as a person ages, the physiological function of a person's body will experience a decrease in insulin secretion, resulting in the ability to control blood glucose less optimally. (11)

Factors Affecting the Utilization of Health Services

1. Knowledge

From Table III: above, it can be seen that 13 (68.4%) respondents who have less knowledge do not use health services. From the results of the Chi Square test, it can be seen that there is a relationship between knowledge and utilization of health services with p value = 0.006. From this study, only 6 respondents (31.6%) had good knowledge about Diabetes Mellitus who used health services. Research conducted in Dhaka, Bangladesh majority of patients (66%) showed average knowledge and only 13% showed good knowledge about diabetes, A study by Islam et al. reported that Overall, 45.6% of participants had good knowledge, 37.7% moderate and 16.7% poor about diabetes. However, many studies from developed and developing countries found that the general knowledge of diabetic patients about diabetes is still low, in Singapore the general population shows the same results. One hospital in Dhaka Bangladesh found more than 50% of Diabetes patients had poor knowledge about symptoms, treatment and complications. Patient education level, occupation, income are associated with level of knowledge about risk factors, prevention, control and complications of Diabetes Mellitus. Several studies have also reported the same results. According to Powell, Hill, & Clancy, (2007) in Siddique et al. (2017). (12)

2. Pain perception

Based on Table IV: shows that from 42 respondents as many as 24 (57.1) have negative perceptions and do not use health services as many as 15 (62.5%). The results of the chi Square statistical test p value = 0.009 This means that there is a relationship between negative perceptions and the utilization of health services.

Respondents do not take advantage of health services, this is because respondents do not understand when someone is said to be sick, respondents do not understand what actions will be taken if sick and the need is not immediately to take advantage of health services for the whole family. Barriers to the use of health services are due to the cultural values of people with Diabetes Mellitus and services related to the health care system. In addition, respondents prefer to self-medicate with alternative and independent medicine by making herbal concoctions using leaves obtained from agricultural products. A strong belief in independence reflects the mindset that illness can get better without professional help and can hinder early detection and treatment of disease. Other patient-related and cultural factors that may contribute to primary healthcare utilization, A study conducted among residents of public rental housing

found that they were more likely to seek medical attention only when symptoms such as pain appeared. (13)

3. Accessibility

From Table V: above, it can be seen that 10 (37.0%) respondents who have easy accessibility but do not use health services. Easy accessibility means that it is easy to reach and available public transportation to health services. The average trip to Suro Health Center is 15-30 minutes when viewed in terms of travel costs, it costs 5,000-10,000 Rupiah and the majority of Diabetes Mellitus patients use motorbikes.

There is no relationship between accessibility and utilization of health services. Easy accessibility does not affect respondents to come to the Pustu and Puskesmas health services, this is because respondents still choose treatment through herbal ingredients by utilizing leaves obtained from plants in the fields. This is in line with research. A study conducted in Singapore among residents of public rental housing found that they were more likely to seek medical services citing a lack of access to healthcare. (13).

CONCLUSIONS

Patients with Diabetes Mellitus on average have less knowledge and have negative perceptions about Diabetes Mellitus related to the use of health services, innovations to increase knowledge of Diabetes Mellitus and perceptions are recommended specifically for women to continue to use health services to avoid an increase in blood sugar levels especially to prevent complications. Suggestions This research is further carried out for the utilization of health services and policies to design interventions to change the pattern of utilization of health services.

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REFERENCES

- Ernawati. Nursing Management Diabetes Mellitus Terpadu, 2013.
- Hidayah, Amerta Nutr. Behavioral relation of Self-Management with Blood Sugar level in patient Diabetes Mellitus Type 2 at Woking Area Health Center Pucang Sewu, Surabaya, DOI: 10.2473/amnt.v3i3.2019.176-182.
- International Diabetes Federation, IDF Diabetes Atlas Ninth Edition 2019.
- Machfoedz et al. health Education, Fitramaya, Yogyakarta, 2005.
- Minister Health of Indonesia. Data and Information Center Jakarta Indonesia, 2020.
- Minister health of Indonesia. Indonesia Health Profile of 2019. Jakarta, Indonesia, 2020

- Notoatmojo, S. Health Research Methodology, Second Edition. Rineka Cipta, Jakarta, 2011.
- Putri, L. R. Description of Self Care Patient Diabetes Mellitus (DM) at Working Area health Center Sronol Semarang, 2017, (Thesis), Corpus ID: 79683247.
- Regulation Minister Health of Indonesia Number 43 of 2016 about Minimum Service Standards in the Health Sector.
- Seng et al. Outpatient primary and tertiary healthcare utilisation among public rental housing residents in Singapore, BMC Health Services Research (2019) 19:227 <https://doi.org/10.1186/s12913-019-4047>
- Siddique, et al. Diabetes knowledge and utilization of healthcare services among patients with type 2 diabetes mellitus in Dhaka, Bangladesh, BMC Health Services Research (2017) 17:586 DOI 10.1186/s12913-017-2542-3.
- Solmaz Azimzadeh S, et al. Effective Factors of Utilization of Inpatient, Outpatient, Diagnostic, and Pharmaceutical Health Services: A Systematic Review, www.gmj.ir, GMJ.2019;8:e1236.
- WHO. Diabetes. Retrieved from https://www.who.int/health-topics/diabetes#tab=tab_1, 2020.

