The Relationship Between The Level Of Knowledge And Attitude Of Type 2 Diabetes Mellitus Participants On Adherence With The Covid-19 Health Protocol

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ABSTRACT

Background: COVID-19 is an acute respiratory disease that was discovered in early December 2019 and is called a public health emergency by WHO. Patients with type 2 diabetes mellitus are susceptible to infection with COVID-19 because it is a co morbid disease.

Objective: To identify the relationship between the level of knowledge and attitudes of participants in PROLANIS type 2 diabetes mellitus to adherence with the COVID-19 health protocol.

Method: Analytical descriptive using cross-sectional design. The hypothesis test used was the Chi Square Test. The questionnaire that has been validated with the number of respondents is 38 samples.

Results: The results shows 28 people (93.3%) had a good level of knowledge in the obedient category with a p value of 0.004 and as many as 31 people (91.2%) had a positive attitude in the obedient category with a p value of 0.009.

Conclusion: There is a relationship between the level of knowledge and attitudes towards compliance with the COVID-19 health protocol.

Keywords: COVID-19, type 2 Diabetes Mellitus, PROLANIS

I. INTRODUCTION

Diabetes Mellitus (DM) is categorized into non contagious diseases which is currently a serious problem of global public health. The incidence of DM sufferers worldwide always reach sharp increase every year. Based on International Diabetes data collection Federation (IDF), the incidence rate of diabetes mellitus sufferers in the world in 2019 was 463 million. It is estimated to rise to 51% (700 million) in 2045. The high number makes Indonesia the sixth in the world after China, India, America States, Brazil and Mexico as diabetics aged 20-79 year. In line with this, prevalence of diabetes mellitus in Indonesia based on the results of Basic Health Research (RISKESDAS) shows significant improvement of 2%, in 2013 (6.9%) and (8.5%) in the year of 2018. Prevalence of diabetes mellitus in Sumatera Utara Province inclined an increase of 0.2% per amount population suffering from diabetes mellitus.

Corona virus Disease 2019 (COVID-19) is an infection Corona virus (CoV) which causes respiratory illness ranging from the common cold to acute respiratory syndrome. This disease started early December 2019 in Wuhan City, Province Hubei-China and emerged as a plague global and health problems significant community. World Health Organization (WHO) declared this COVID-19 outbreak as the Health Public of Concern International (PHEIC). WHO reported that case on the 30th January 2020, totaling 7,818 cases around the world, with mostly in China and 82 cases were reported in 18 countries outside China. On 22 May 2020 COVID-19 cases have covered 216 countries with as many cases 5,304,772 have been confirmed as affected COVID-19 globally. According to the data of Indonesian Health Ministry (KEMENKES) the COVID-19 situation on the 29th August 2020 in Indonesia confirmed 169,195 cases of COVID-19 with the number of cases died of 7,261. COVID-19 cases already spread throughout the province in Indonesia including Sumatera Utara with the number of cases 4.6 per 1,000,000 populations. In Medan the number of positive COVID-19 cases treated for 1,916 cases
and 196 cases died. People with COVID-19 based on one of the companion cases is diabetes mellitus that is equal to 479 per positive cases and 162 cases of COVID-19 with diabetes mellitus died.6

DM sufferers are prone to be infected with COVID-19 due to common co morbid diseases against the occurrence of COVID-19. SARS-CoV-2 uses ACE2 receptors to stick and reproduce self. In DM sufferers occur increase in ACE2. Therefore, it can increase twice as much severity even cause death so the patient requires Intensive Care Unit (ICU).7,9 Based on several studies has been done regarding knowledge and attitudes towards COVID-19, the majority of 98% of people know about Corona virus and 78% society agrees with the existence lockdown imposed by the government. This means that society has good knowledge and positive attitude against the occurrence of COVID-19.10,11 What is the level of knowledge and attitudes of Chronic Disease Management Program (PROLANIS) Diabetes Mellitus type 2 for adherence the COVID-19 health protocol?

Clinic IMAN is First Level Health Facilities (FKTP) in collaboration with the Social Security Administrator (BPJS). FKTP is the first point of contact chronic disease patients, especially DM. Based on the discussion above, the researchers interested in knowing the relationship the level of knowledge and attitudes of the participants PROLANIS Type 2 Diabetes Mellitus adherence to health protocols COVID-19 at the Clinic IMAN.

II. METHODS

This type of research is analytic descriptive research with cross sectional design where data retrieval were only taken once taking to know relationship level of knowledge and PROLANIS participants’ attitude with diabetes mellitus type 2 towards COVID-19 health protocol compliance in November 2020. Data were collected using a rate questionnaire of knowledge, attitude and obedience to the COVID-19 health protocol that has been validated. Questionnaires were given to respondents and they were asked to answer questions that have been provided. Total sampling method was used with a sample size of 38person. Data collection was obtained using primary data.

III. RESULT

1. Distribution of Characteristic Data Respondents

The results of research on PROLANIS respondents type 2 diabetes mellitus based on the variable are as follows:

Table 4.1 Distribution of Characteristic Data Respondents

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>40-50 years</td>
<td>2</td>
<td>5.3</td>
</tr>
<tr>
<td>51-60 years</td>
<td>12</td>
<td>31.6</td>
</tr>
<tr>
<td>61-70 years</td>
<td>21</td>
<td>55.3</td>
</tr>
<tr>
<td>71-80 years</td>
<td>3</td>
<td>7.9</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>10</td>
<td>26.3</td>
</tr>
<tr>
<td>Female</td>
<td>28</td>
<td>73.7</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elementary School</td>
<td>4</td>
<td>10.5</td>
</tr>
<tr>
<td>Junior High School</td>
<td>13</td>
<td>34.2</td>
</tr>
<tr>
<td>Senior High School</td>
<td>17</td>
<td>44.7</td>
</tr>
<tr>
<td>Bachelor</td>
<td>4</td>
<td>10.5</td>
</tr>
</tbody>
</table>

Table 4.1 shows that based on age group found mostly the age of 61-70 years with 21 people (55.3%), followed by the age of 51-60 years,12 people (31.6%), aged 71-80 years as many as 3 people (7.9%) and aged 40-50 years as many as 2 people (5.3%). Based on gender found gender most are women totaled 28 people (73.7%) meanwhile male numbered 10 people (26.3%). For education level, Senior High Schools has the highest number with 17 people (44.7%), followed by Junior High Schools as much 13 people (34.2%), Bachelor as many as 4 people (10.5%) and Elementary Schools as many as 4 people (10.5%).

2. Distribution of Respondents’ Characteristic Data based on Variables

The result of research results on PROLANIS respondents type 2 diabetes mellitus based on studied variables are as follows:

Table 4.2 Distribution of Respondents Characteristic Data based on Variables

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Table 4.2 shows as many as 30 people (78.9%) have good knowledge, 7 people (18.4%) have enough knowledge and 1 person (2.6%) has less knowledge. Attitude variable has the highest number with 34 people (89.5%) 4 people for negative attitude (10.5%). Based on adherence there are 32 people (84.2%) categorized as adherence and 6 people (15.8%) did not comply.

3. Knowledge Level Relationship with Adherence

Chi-Square test results for the relationship between knowledge and adherence to PROLANIS respondents with diabetes mellitus type 2, the data were obtained as follows:

Table 4.3 Chi-Square Test Result Knowledge Relationship with Adherence

<table>
<thead>
<tr>
<th>Knowledge</th>
<th>Adherence</th>
<th>Not adherence</th>
<th>Total</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good</td>
<td>28</td>
<td>2</td>
<td>30</td>
<td>0.004</td>
</tr>
<tr>
<td></td>
<td>93.3%</td>
<td>6.7%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enough</td>
<td>4</td>
<td>3</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td></td>
<td>57.1%</td>
<td>42.9%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0%</td>
<td>100.0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>32</td>
<td>6</td>
<td>38</td>
<td>100.0%</td>
</tr>
<tr>
<td></td>
<td>84.2%</td>
<td>15.8%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4.3 shows there are 28 people (93.3%) with that knowledge good and 4 people (57.1%) with enough knowledge to have compliance with the category of compliance. To lacking knowledge lacks obedient category. From the results of the Chi-Square test indicated by the p value 0.004, which means p <0.05 thus indicating a relationship between the level of knowledge with adherence.

4. Attitude Relationship with Adherence

Chi-Square test results for the relationship of attitude with obedience to the PROLANIS respondents type 2 diabetes mellitus obtained data as following:

Table 4.4 Chi-Square Test Result Attitude Relationship with Adherence

<table>
<thead>
<tr>
<th>Attitude</th>
<th>Adherence</th>
<th>Not adherence</th>
<th>Total</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive</td>
<td>31</td>
<td>3</td>
<td>34</td>
<td>0.009</td>
</tr>
<tr>
<td></td>
<td>91.2%</td>
<td>8.8%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negative</td>
<td>1</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>25.0%</td>
<td>75.0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>32</td>
<td>6</td>
<td>38</td>
<td>100.0%</td>
</tr>
<tr>
<td></td>
<td>84.2%</td>
<td>15.8%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4.4 indicates that there are 31 people (91.2%) with a positive attitude and 1 person (25.0%) with a negative attitude have compliance with the category obey. The non-compliant category shows that 3 people (8.8%) have a positive attitude and as many as 3 people (75.0%) who have negative attitudes. From the 2 x 2 table above shows there are 2 cells having less Expected count value of five. On the Chi-Square test obtained a p value of 0.001 however because it does not meet the requirements of the Chi-Square Fisher's test Exact Test with Exact value Significance 0.009 was used. This means that the p value <0.05 so it can be concluded that there is a relationship between attitude and obedience.
IV. DISCUSSION

PROLANIS application implemented based on the Implementation Manual PROLANIS accordingly by Regulation No.12 of 2013 about Health Insurance. Based on the basis is obtained forms the implementation of PROLANIS activities namely PROLANIS participant medical consultation, PROLANIS participant education, reminders, home visits, club activities and monitoring the health status of participants PROLANIS. PROLANIS goal is encourage participants with disease chronically get a quality of life optimal so as to prevent the emergence of disease complications. Activities education to PROLANIS participants in the form of counseling with a purpose to increase knowledge health in an effort to recover disease and prevent its onset back disease as well as improve health status for participants who following PROLANIS. As in research of Rahman Shahrul et al, entitled PROLANIS group education in the prevention of COVID-19 show the results that activity COVID-19 prevention education on elderly is very necessary. Where prevention of COVID-19 including into implementing health protocols which is in line with this research.

On the research results that have been conducted, it was found that 38 participants PROLANIS type 2 diabetes mellitus has a number results the highest knowledge as much 30 people (78.9%) with good category, as many as 7 people (18.4%) with enough category and only 1 person (2.6%) with a less category. Knowledge is the result of knowing and going after individuals carry out sensing against a particular object. The sensing happens through human senses. Most of them human knowledge is acquired through sight and hearing. Knowledge is closely related the level of education, the higher it is education of an individual it will the more extensive that knowledge. The research obtained knowledgeable by category both are dominated by education level Senior High Schools because of the number of respondents most have the latest education Senior High School versus Bachelor.

The results showed any relationship between levels knowledge with obedience running health protocols COVID-19 in PROLANIS participants diabetes mellitus type 2 at the FAITH Clinic. This is evidenced by the results of the analysis obtained p value 0.004 (p <0.05). The results of this study are in line with research conducted by Eman et al, that there is a relationship between knowledge and obedience someone to lifestyle changes in people with metabolic syndrome. Sufferers who have levels good knowledge will be able to become a good mentor for himself. With knowledge possessed will affect participant compliance PROLANIS type 2 diabetes mellitus in running health protocols COVID-19. According to the results research conducted by Purnamasari Vivien Dwi who has states that there is a relationship between the knowledge of PROLANIS participants with compliance in running treatment. Implementation of activities PROLANIS activities especially in form of extension can add increase in knowledge acquired PROLANIS participants so affect compliance, especially in carrying out treatment.

Attitude towards the COVID-19 obtained from the results of research on PROLANIS participants with diabetes mellitus type 2, namely there is a result of the number of attitudes positive as many as 34 people (89.5%) and as many as 4 people (10.5%) with attitudes negative means more respondents have a positive attitude in comparison negative. Attitude is a response or reactions that are still closed from the individual against an object or stimulus, that is accompanied by certain feelings and provide an individual basis for behave. Influencing factor a person's attitude is divided into factors internal, namely from within the individual and external factors, namely factors from outside which can be direct or indirectly. Based on attitude change theory in obeying suggestion by Kelman in Alhamda, there are three stages, namely first compliance where the individual complies suggestion without self-awareness and tend to comply with advice because fear of punishment or sanctions. At the identification stage, namely the stage second where obedience emerges occurs because the individual is attracted or admire a certain figure so the individual wants to follow his actions without understanding fully the meaning and benefits of the action. The last stage is internalization i.e. the individual will obey advice for understanding the benefits found by obeying that recommendation.

The results showed there is a relationship between attitude and compliance running protocols health of COVID-19 in participants diabetes mellitus type 2 at the FAITH Clinic. This is evidenced by the results of the analysis the obtained p value is 0.009 (p<0.05). The results of this study are in line with research by the Arlinda et al, states that there is a relationship between attitudes towards obedience. The better the attitude then the higher the level of compliance.

Diabetes mellitus is a health related problems with a lifestyle tends to be less healthy. This disease creates a condition which is carried for life. Patient knowledge about DM disease is a means can support sufferers to run
handling of DM during his life. Patient behavior that is based on knowledge and a positive attitude lasted permanently. Knowledge which submitted to DM sufferers will make sufferers understand about the disease and how to change behavior in the face of illness. In research by Girish et al, found a relationship between knowledge in DM sufferer’s type 2 on medication adherence. Sufferers who don't know about DM disease is often non-adherent in carry out treatment.\textsuperscript{20} Other than that in the research of Asila et al, indicates an attitude relationship DM sufferers with compliance get treatment.\textsuperscript{21} The attitude of DM sufferers is very influenced by knowledge, in terms of this knowledge will bring DM sufferers to determine attitudes, think and try to reduce the condition of the disease. If knowledge DM sufferers have good attitude should be able to support obedience. Knowledge and attitude plays an important role for DM sufferers as well compliance running protocols health COVID-19. COVID-infection 19 can increase two fold degree of severity in people with DM type 2 because it is a co-morbid disease. With that knowledge good and positive attitude towards COVID-19 health protocol compliance 19 is very necessary for DM sufferers. With the existence of extension activities what PROLANIS can do help increase against knowledge, attitude and obedience. Thing it makes DM sufferers obtain an optimal quality of life and prevent complications disease so that the goal is achieved PROLANIS.

V. CONCLUSION

Based on the research results has been done regarding the relationship between knowledge and the attitude of the diabetic PROLANIS participants mellitus type 2 for adherence the COVID-19 health protocol, then can be concluded that:

1. There is a significant relationship between levels of knowledge against health protocol compliance COVID-19 with p value = 0.004
2. There is a significant relationship between attitudes to compliance the COVID-19 health protocol with p value = 0.009
3. Based on characteristic data respondents at the age obtained results most in the 61-70 age group years by the number of 21 people (55.3%), by gender the most women obtained with a total of 28 people (73.7%) and at the educational level obtained the most high school results with a total of 17 people (44.7%).
4. Based on the level of knowledge, attitude and obedience found results supreme well knowledgeable with a total of 30 people (78.9%), positive attitude of 34 people (89.5%) and compliance with obedient category as many as 32 people (84.2%).

SUGGESTION

1. It is hoped that the next researcher to be able to increase the number of sample in order to get more leverage result.
2. Researchers suggest for researchers can then compare level of knowledge and attitude to protocol compliance health COVID-19 on people with type 2 diabetes who follow PROLANIS and type 2 DM sufferer who did not follow PROLANIS.
3. Researchers suggest for members families with type 2 diabetes can increase the level of knowledge regarding health protocols COVID-19 to keep up sufferers from COVID-19 infection.
4. It is hoped that healthy facilities will remain maintain the quality of service in PROLANIS activities already going well.

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