

## INSTRUMENTAL SUPPORT FAMILY FOR DIET COMPLIANCE WITH TYPE 2 DIABETES MELLITUS

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### ABSTRAK

Dukungan instrumental merupakan dukungan yang dilakukan secara nyata seperti membantu biaya pengobatan, menyiapkan makanan, dan transportasi untuk pemeriksaan rutin, serta dapat berupa penyediaan waktu untuk melayani dan mendengarkan keluarga yang sakit dalam menyampaikan perasaannya. Hal-hal tersebut sangat membantu penderita diabetes melitus dalam mematuhi terapi diet. Desain penelitian ini adalah penelitian kuantitatif dengan pendekatan yang dilakukan adalah cross sectional menggunakan analisis Rank Spearman. Nilai P value  $0,00 < 0,05$ , yang berarti terdapat hubungan antara dukungan instrumental keluarga dengan kepatuhan diet diabetes melitus. Berdasarkan temuan penelitian ini, terdapat hubungan antara dukungan instrumental dengan kepatuhan diet diabetes melitus. Rekomendasi Penelitian: Dukungan instrumental dapat digunakan untuk mendukung pengobatan diabetes melitus.

Kata Kunci : Diabetes Melitus tipe 2, dukungan instrumental keluarga, kepatuhan diet

### ABSTRACT

*Instrumental support is support that is done in real terms, such as helping with medical expenses, preparing food, and transportation for routine checks, and can be in the form of providing time to serve and listen to sick families in conveying their feelings. These things are very helpful for people with diabetes mellitus in complying with dietary therapy. This research design uses a quantitative research approach. The approach method taken is a cross-sectional approach with analysis using Spearman rank with a P value of  $0.00 < 0.05$ , there was a relationship between family instrumental support and diabetes mellitus diet compliance. According to the findings of this study, there is a correlation between instrumental support and adherence to the diabetes mellitus diet. Instrumental support can be used to support medication for diabetes mellitus.*

*Keywords : Diabetes mellitus; family instrumental support; diet adherence*

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### INTRODUCTION

Diabetes Mellitus is a chronic metabolic disorder which is better known as the silent killer of humans. Often people do not realize that the person has diabetes, and often experience delays in treating it so that many complications occur. Diabetes Mellitus is a degenerative disease that is of important concern. Data from International Diabetes Federation, 2021 around 537,000,000 aged 20 - 79 years or adults, 10.5% worldwide have diabetes. around 1 in 2 or (44.7% : 239.7 million) people living with diabetes as adults in 2021 are unaware of their condition. Diabetes should be diagnosed as early as possible to prevent or delay complications, avoid premature death and improve quality

of life. Without sufficient action to resolve the situation in 2030 it is estimated that there will be 643,000,000 or 11.3% of cases and in 2045 the number will increase to 783,000,000 or 12.2% (Ibrahim, I, 2022).

The prevalence of Diabetes in Indonesia continues to increase every year. Based on Riskesdas in 2018, the increase in DM cases increased by around 8.5%. In 2021 estimates that the incidence of DM in Indonesia will continue to increase to 21.3% . Diabetes Mellitus sufferers in East Kalimantan are the second highest after DKI Jakarta in the 2018 Riskesdas, Data on Non-Communicable or Degenerative Diabetes Mellitus for East Kalimantan Province in 2020, as many as 17,884 people. According to Riskesdas data (2018), there are 3,678 diabetes sufferers in Kutai Kartanegara, and Kutai Kartanegara has the second largest number of diabetes sufferers after Samarinda with 4,116 people. The Kutai Kartanegara City Health Service stated that the Rapak Mahang Community Health Center was the community health center with the highest Diabetes patients, namely 900 people in 2022. After that, it was followed by the Muara Jawa Community Health Center area with 864 cases and the Loa Kulu Community Health Center with 861 cases during 2022. This shows that diabetes cases Mellitus in East Kalimantan, especially in the Tenggarong City area, is still a problem that has not been resolved (Wibowo T.A.,2022).

After conducting a Preliminary Study at the Rapak Mahang Community Health Center, Tenggarong City in December 2022, data was obtained from the Elderly Polytechnic Team, namely 576 people starting from the last 6 months from June to November 2022. The diabetes mellitus patients were actively undergoing examinations routine health care at the Rapak Mahang Community Health Center, Tenggarong City every month. Rapak Mahang Public Health Center has 4 working areas consisting of Bukit Biru Village, Jahab Village, Melayu Village and Timbau Village. Symptoms of type II diabetes mellitus occur slowly and are often not realized, caused by unhealthy lifestyles, messy eating patterns, consuming less nutritious foods such as junk food and foods that contain high levels of sugar, and lack of physical activity such as sports activities. Sufferers must also be able to maintain a normal body weight. However, for sufferers in the final stages, they will likely be given insulin injections (Sari, 2020).

The main obstacle in treating Diabetes Mellitus diet is the patient's boredom in complying with diet therapy which is very necessary to achieve success. The execution of the type 2 diabetes diet is greatly impacted by family support (Jamaludin et al, 2019). Diabetes Mellitus diet compliance is a form of obedience and discipline towards the diet that is being carried out by Diabetes Type 2 Diet Patients. Assessing the level of patient compliance in following the doctor's recommendations for controlling blood glucose levels is quite difficult, both regarding medication taking schedules and dosages, as well as lifestyle patterns (Nursihhah, M., 2021).

One component that is quite important is diet management, which is directed at maintaining blood glucose levels under control and maintaining them close to normal, avoiding acute complications for patients and improving overall health status through optimal nutrition (Solekhah, 2020). In fulfilling Type II diabetes patients' dietary compliance need support from the family. Because the family is a system in which family members are interconnected and interdependent in providing support, affection and a sense of security, and harmoniously carrying out their respective roles to achieve goals, family is an important component in a person's life (Kevin, 2020).

## **RESEARCH METHODS**

This study employs a quantitative research design with a cross-sectional plan. The sample in this study was 77. Sampling using the technique of *accidental sampling*. Following the respondent's signature on the informed consent and consent sheet, the respondents fill in answers about family support tools and dietary compliance tools, The number of questions is 16 using a Likert Scale with 13 favorable questions and 3 unfavorable questions which has validity and reliability . The Spearman Rank bivariate analysis was used in this study. This research was carried out at the Rapak Mahang Community Health Center, Tenggara City on March April- Mei 2023.

## RESULT AND DISCUSSION

The results obtained from the study are as follows :

Table 1. Characteristics of Respondents (n=77)

| No           | Age           | f         | %          |
|--------------|---------------|-----------|------------|
| 1            | 25 - 35 Years | 2         | 2,6        |
| 2            | 36 - 45 Years | 18        | 23,4       |
| 3            | >45 Years     | 57        | 74,0       |
| <b>Total</b> |               | <b>77</b> | <b>100</b> |

According to the findings of the study, the majority of respondents were over the age of 45, amounting to 57 people (74.0%). This is because as you get older, the risk of increasing blood glucose levels increases due to decreased physiological functions of the body, including the work of the pancreas in producing insulin (Taharuddin, 2017). The findings of this study back up previous research findings (Rizkina Riani, 2022) showing that the majority of respondents in this study were over 45 years old, with 33 people (66%) having higher blood sugar levels.

Table 2. Characteristics of Respondents (n=77)

| No           | Gender | f         | %          |
|--------------|--------|-----------|------------|
| 1            | Man    | 30        | 39         |
| 2            | Woman  | 47        | 61         |
| <b>Total</b> |        | <b>77</b> | <b>100</b> |

According to the findings of this study, the majority of respondents (47 women, 61.0%) were female. According to Black & Hwakks (2014), this is because women have the hormone estrogen, which at menopause will decrease and increase cholesterol levels. Cholesterol itself is one of the triggers for increasing Diabetes Mellitus. The findings of this study back up previous research findings (Ibrahim, 2022) which found that DM in women was 67% higher than men.

Table 3. Characteristics of Respondents (n=77)

| No           | Work             | f         | %          |
|--------------|------------------|-----------|------------|
| 1            | Housewife        | 21        | 27,27      |
| 2            | Private employee | 15        | 19,48      |
| 3            | Self-employed    | 15        | 19,48      |
| 4            | Civil servant    | 26        | 33,77      |
| <b>Total</b> |                  | <b>77</b> | <b>100</b> |

Civil servants were the most common occupation among respondents, accounting for 26 people (33.8%). This is due to high job demands which have an impact on the respondent's lifestyle. High job demands make life patterns instantaneous, including in terms of preparing food, there is no time to prepare food, so people tend to choose instant food (Junk food/Fast food). The findings of this

study back up the findings of previous studies (Purnaningsih, 2017) with 8 respondents who worked as civil servants (36.4%), where this job had the highest results compared to the jobs of other respondents.

Table 4. Characteristics of Respondents (n=77)

| No           | Family Instrumental Support | f         | %          |
|--------------|-----------------------------|-----------|------------|
| 1            | Supportive                  | 69        | 89,6       |
| 2            | Less Supportive             | 8         | 10,4       |
| <b>Total</b> |                             | <b>77</b> | <b>100</b> |

In the family instrumental support variable, the largest data results were obtained, namely supporting 69 people (89.6%). Because family instrumental support aims to make it easier for someone to carry out their activities related to the problems they face, or directly help with the difficulties they face, for example by providing food according to the patient's diet pattern, providing medicines, energy, funds, or providing time. to serve and listen to sick families in conveying their feelings. The findings of this study back up previous discoveries from research. (Margareta H., 2019) which shows that almost some DM sufferers received instrumental support in the good category, namely 21 people (39.6%) while sufferers who received the adequate and poor categories had a good percentage. the same, namely 16 people (30.2%).

Table 5. Characteristics of Respondents (n=77)

| No           | Dietary compliance | f         | %          |
|--------------|--------------------|-----------|------------|
| 1            | Obedient           | 67        | 87,0       |
| 2            | Less Obedient      | 10        | 13,0       |
| <b>Total</b> |                    | <b>77</b> | <b>100</b> |

Based on the results of the research, 67 people (87.0%) were obedient. Meal planning is very important in controlling blood glucose levels for DM sufferers. The success of controlling DM treatment depends on the level of patient compliance with the prescribed diet therapy. The goal of diet therapy is to improve eating habits and achieve desired metabolic control. Apart from maintaining normal body weight while on a diabetes diet, diet management also aims to keep blood glucose levels near normal, treat acute complications and improve overall health through optimal nutrition. The findings of this study back up previous discoveries from research. (Bangun, 2020) which showed that more than half of the respondents adhered to the DM diet with 27 (56.3%) respondents.

Table 6. Correlation (n=77)

| Variable                                            | $r_{xy}$ | P-Value |
|-----------------------------------------------------|----------|---------|
| Instrumental family support with dietary compliance | 0,755    | 0,000   |

Based on the results of the analysis of the relationship between family instrumental support and dietary compliance, it was carried out using *Spearman rank* with a significance level of  $\alpha = 5\%$  with p value =  $0.00 < \alpha = 0.05$  and the strength of the relationship was 0.755, the correlation was very strong, so  $H_0$  was rejected. This means that there is a significant relationship between family instrumental support and diabetes mellitus diet compliance at the Rapak Mahang Community Health Center, Tenggarong City.

The findings of this study back up previous discoveries from research which stated that there was a correlation between instrumental family support and Type 2 diabetes compliance management with good results of 72.5% and poor results of 27.5% with a p value = 0.000. Family instrumental family support is a source of help in monitoring individual needs and finding solutions that can help individuals in carrying out activities. The function of health care is to provide food, clothing, shelter, health care and protection against danger and The function of economics is represented by adequate data, such as finance and space (Khasanah, 2019).

This research states that instrumental support is a reinforcement for the elderly in preparing their needs (for example, preparing medication to be taken, replacing white rice with brown rice to support them in carrying out assessments) which supports the elderly in complying with diabetes mellitus management so that the elderly are more compliant in undergoing diabetes mellitus management. Research conducted shows that the instrumental support provided by the family has an influence on the dietary management behavior of DM sufferers (Margareta H., 2019).

The healthcare function of sick families also includes instrumental support. The health care function includes providing shelter, food, clothing, health care, and protection from danger, while the economic function includes adequate resources such as finances and space. Instrumental support aims to make it easier for someone to carry out their activities related to the problems they face, or to help directly with the difficulties they face, for example by providing food according to the patient's diet pattern, providing the necessary medicines.

Instrumental support is a family's full support or assistance in the form of energy, funds, or giving time to help and pay attention to the sick family express their emotions. The type of instrumental assistance that patients receive in this study was help from the family in preparing the types of vegetables consumed such as spinach, lettuce, and broccoli. The family also helps sufferers to avoid sweet foods such as candy, cake, dodol. This research also found that families often take the time to supervise sufferers when following a diet and remind sufferers to always comply with the diet schedule rules recommended by officials. Apart from that, families buy and prepare food according to the type and quantity recommended by health workers (Kevin, 2020)

Most respondents in this study reported that this form of support made it easier for them to carry out their activities. This is because the family provides complete and adequate equipment and provides the type of diet needed. Sufferers feel that they have no difficulty in providing the type of diet they are experiencing. Sufficient instrumental support is one of the factors that helps DM sufferers undergo a diet that is maintained and well-controlled. This research is also supported by previous research which found that high instrumental support had a positive impact on diet management behavior (Kevin, 2020)

Family support is important for diabetes mellitus sufferers, instrumental support is support that is carried out in real ways such as helping with medical costs, preparing food, transportation for routine check-ups, and may come in the form of making time to serve and listen to the ill family as they express their feelings. These things really help diabetes mellitus in following the diet that has been given. The importance of the family providing emotional and financial assistance is also very important during the healing stage.

## **CONCLUSION**

There is a correlation between family instrumental support and Type 2 diabetes diet compliance at the Rapak Mahang Public Health Center, Tenggarong City.

## **SUGGESTIONS**

Nurses at the Community Health Center convey to every Diabetes Mellitus sufferer and their family that instrumental support for dietary compliance is very necessary so that the family prepares the necessary instrumental needs either independently or with state assistance so that the patient's blood sugar is controlled.

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