

# A Correlation Between Education And Family Support With Regular Control Of Blood Sugar Levels In Diabetes Mellitus Patients At Hasanudin Damrah Manna Hospital

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## ARTICLE HISTORY

Received [08 Maret 2024]

Revised [02 Mei 2024]

Accepted [30 Mei 2024]

## Keywords :

Diabetes Mellitus, Blood Sugar,  
Family Support Education.

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## ABSTRACT

WHO predicts an increase in the number of DM patients in Indonesia to around 21.3 million in 2030. Indonesia is ranked fourth in the world for the number of DM sufferers. The Basic Health Research Report in 2018 had the 2nd highest mortality aged 45-54 year group at 14.7%. Data from Hasanudin Damrah Hospital, the number of DM sufferers in 2021 was 902 cases, in 2022 there were 602 and in 2023 from January to June there were 497. Data from health workers at Hasanudin Damrah Hospital said that many DM sufferers did not check their blood sugar levels. The aim of the research is to determine a correlation between education and family support and regular control of blood sugar levels in Diabetes Mellitus sufferers at Hasanudin Damrah Manna Hospital.

This research is a quantitative research using a cross sectional study design. The number of samples in the study was 69 respondents. The analysis used is univariate and bivariate analysis with the chi-square test.

The results of the research were that most of the respondents had a secondary education level, 41 respondents (59.4%), most of the respondents did not have family support, 37 respondents (53.6%), some of the respondents had irregular control of blood sugar levels, 38 respondents (55.1%). There is a significant correlation between education (0.000) and family support (0.004) with regular control of blood sugar levels at Hasanudin Damrah Manna Hospital.

It is hoped that further research can be carried out to look at the aspect of external support for regular control of blood sugar levels in DM sufferers.

## INTRODUCTION

Diabetes Mellitus (DM) is Wrong One threat main for health man . *WorldHealth Organization* (WHO) predicts exists increase amount patient DM in Indonesia from 8.4 million on year 20 2 0 be around 21.3 million on in 2030 .

Report Research Health Basis ( Riskesdas ) in 2018 of DM sufferers in Indonesia as many as 1,017,290 cases . DM too is reason death 2nd highest on group aged 45-54 years in urban areas ( 14.7 % ) and 6th highest in the area rural areas ( 5.8% ). Obtained data from Service Health Bengkulu Province in 2018 total There are 7,531 people suffering from DM in Bengkulu Province .

Studies study has prove that DM patients who do control rate sugar blood in a way regular own quality good life And Also own risk more complications low ( Mcculloch , 20 1 9 ). For that , control rate sugar blood for DM sufferers really important Where can help determine handling proper medical care so that can reduce risk serious complications And help sufferer adapt or arrange pattern eating , activity physique And Also need insulin levels for repair rate sugar blood everyday ( Benjamin, 20 2 0 ).

Participation member family in nurse DM patients include medication , diet, exercise physical , and charging time positive leisure for health family is form role active for success DM management as well can prevent various type possible complications happened ( Rifki , 20 2 0 ).

Data obtained from Hasanudin Damrah Manna Hospital, total There are as many DM sufferers in 2021 902 case , and 20 22 years as much 602 Cases , in 2023 from January to June were 497 .

Based on the data obtained from officer health Hasanudin Damrah Manna Hospital , that Still Lots DM patients who do control sugar blood No regular that is around 37%. Results interviews with 10 DM sufferers who did not regular control sugar blood , 8 of them say No do inspection Because No exists member family accompanying to Hasanudin Damrah Manna Karen Hospital distance House to a sufficient hospital Far And Already carry on age , 2 others say Because feel No There is complaint so that No There is will For check it out rate sugar his blood . Research objectives for do study regarding

educational and support relationships family with regularity control rate sugar blood on Diabetes Mellitus sufferers at Hasanudin Damrah Manna Hospital.

## RESEARCH METHODS

The research design used is design *cross-sectional*. The population in this study was all Diabetes Mellitus patients at Hasanudin Damrah Manna Hospital in January-March 2023, totaling 102 cases. Big sample that obtained as much 69 person. Technique taking sample on study This is *non-probability sampling* with approach *purposive sampling* that is based sampling on consideration And in accordance with criteria inclusion And exclusion. Instruments that used For obtain internal data study This that is form questionnaire. Technique Data Collection used data primary and secondary. Data Analysis using Analytics univariate and a bivariate analysis with test *Chi-Square*.

### Results

#### a. Univariate Analysis

The research results show that almost half of the 69 respondents from respondents regularity control of irregular blood sugar levels as much as possible 38 respondents ( 55.1 %). Most of the respondents secondary education level as much as 41 respondents ( 59.4 %). Most of the respondents family support doesn't support as much 37 respondents ( 53.6 %).

#### b. Bivariate Analysis

**Table 1. Relationships Level of education with Regularity of Blood Sugar Level Control at Hasanudin Damrah Manna Hospital year 2023**

Level of education	Regular Control of Blood Sugar Levels						$\chi^2$	p
	Irregular		Regular		Total			
	n	%	n	%	n	%		
basic education	17	89.5	2	10.5	19	100.0	22.29	0,000
Middle education	13	31.7	28	68.3	41	100.0		
higher education	1	11.1	8	88.9	9	100.0		
Total	31	44.9	38	55.1	69	100.0		

Results Test *Chi Square* on *Pearson Chi Square* obtained a value of 22.29 with a value (  $p = 0.000$  ) < (  $\alpha=0.05$  ) meaning there is connection between education level and regular control of blood sugar levels.

**Table 2. Connection Family support with Regularity of Blood Sugar Level Control at Hasanudin Damrah Manna Hospital year 2023**

Family support	Regular Control of Blood Sugar Levels						$\chi^2$	p
	Irregular		Regular		Total			
	n	%	n	%	n	%		
Does not support	23	62.2	14	37.8	37	100.0	9.57	0.004
Support	8	25.0	24	75.0	32	100.0		
Total	31	44.9	38	55.1	69	100.0		

Results Test *Chi Square* on *Continuity Correction* obtained a value of 9.57 with a value (  $p = 0.004$  ) < (  $\alpha=0.05$  ) meaning there is connection between family support and regularity of control of blood sugar levels (  $p = 0.004$  ) < (  $\alpha=0.05$  ).

## RESULT AND DISCUSSION

#### a. Connection Level of education with Regularity of Control of Blood Sugar Levels

Results Test *Chi Square* on *Pearson Chi Square* in this study shows that There is connection between education level and regularity of control of blood sugar levels (  $p = 0.000$  ) < (  $\alpha= 0.05$  ).

The results of the study showed that there were 2 respondents (10.5%) who had basic education but were regular in controlling blood sugar levels, because the respondents received informational support from their families, such as providing information about where to go for treatment, giving suggestions for me to control my insulin at health services, and telling me to follow education about DM so that my knowledge of the importance of preventing and controlling blood sugar levels improves.

There is 1 respondent (11.1%) who has higher education but does not regularly control blood sugar levels, because the knowledge I got from the education I took was not in the health sector, apart from that, the busyness I have makes me forget and lazy about controlling blood sugar levels and My family also doesn't care enough about the importance of controlling blood sugar levels.

This research is in line with Alia's 2019 research stating that there is a significant relationship between education level and control of blood sugar levels, *p value* (0.002). People with low education have a risk of irregular control of blood sugar levels of 4.8 times compared to people who regularly control blood sugar levels with an OR value of 4.8.

The level of education has an influence on the regularity of controlling blood sugar levels . People with a high level of education will usually have a lot of knowledge about health. With this knowledge, people will have awareness of maintaining their health. The level of knowledge also influences the regularity of controlling a person's blood sugar levels because it is related to what is done. Increasing the level of education will increase awareness of healthy living and regular control of blood sugar levels . Individuals with low education are at risk of paying less attention to lifestyle and regular control of blood sugar levels and what should be done to prevent DM (Notoadmodjo, 2021). This is also supported by research by Falea, et al (2019) that educational factors influence the regularity of controlling blood sugar levels.

#### b. Family Support Relationships with Regularity of Control of Blood Sugar Levels

Results Test *Chi Square* on *Continuity Correction* in this study shows that There is connection between family support and regularity of control of blood sugar levels (  $p = 0.004$  ) < ( $\alpha = 0.05$  ).

The results showed that 14 respondents (37.8%) did not receive family support but regularly controlled blood sugar levels, due to the respondents' strong desire to recover from DM which can cause death and reduce the respondents' immune system which makes them unproductive. work and become a burden on the family.

There were 8 respondents (25.0%) who received family support but were not regular in controlling blood sugar levels, because my busy life made me forget and lazy to control blood sugar levels, besides that, my family also did not care about the importance of controlling my blood sugar levels. blood..

Results Alia's 2019 research shows that There is connection between support family with regularity control rate sugar blood at home Sick District General Lebong ( $p=0.004$ ). Respondents who have support family low 5.3 times more risk big For No regular control rate sugar blood compared to with support family tall .

Study Priharianto A. , 2019 show There is significant relationship \_ between support family with regularity control rate sugar blood with use *Chi-Square* with mark  $p =0.009$ .

This matter in accordance with theory that states that support family as important factor in obedience management disease . Support family is a strong indicator that can be give something impact positive to maintenance self on patient with Diabetes Mellitus ( Hensarling , 20 1 9).

Research conducted \_ by Albherta (20 2 2) stated that factor affecting regularity control rate sugar blood that is support ( $p=0.012$ ). So Also with study from Purnamatari (20 2 1) stated that significant related factors with regularity inspection rate sugar blood that is support family (  $p =0.001$ ; OR=4.6; CI95%=2.1-9.3)

According to Rosland et al (20 1 8) support family can have different effects to each component behavior management independent patient . Support family Possible considered more important or means on related activities with support to implementation treatment nor management control to disease . Implementation a number of component management treatment or management control to something disease Possible Also influenced by factor external family .

## CONCLUSIONS AND RECOMMENDATIONS

### Conclusion

There 's a relationship significant relationship between level of education and family support regularity of control of blood sugar levels at Hasanudin Damrah Manna Hospital.

## Recommendations

Research needs to be done more deep with amount a more representative sample and aspect support external to Regular control of blood sugar levels in DM sufferers .

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