



# The Relationship of Demographic Factors with the Quality Management of Life of Diabetic Mellitus Patients in Hospital X

Fakhrudin Nasrul Sani<sup>1\*</sup>, Puput Mulyono<sup>2</sup>

<sup>1,2</sup> Fakultas Ilmu Kesehatan, Universitas Duta Bangsa Surakarta, Indonesia

Corresponding Author: [fakhrudin\\_sani@udb.ac.id](mailto:fakhrudin_sani@udb.ac.id)

**Abstrak.** Sugar level disease or commonly called diabetes mellitus is a degenerative disease that rarely heals, often affecting health so that the quality of life can decrease. The purpose of writing this study is to find out what demographic relationship factors have an impact on the Quality of Life of Patients with Sugar Mellitus Disease or also known as Diabetes Mellitus at Hospital X. This quantitative research uses a research design on the cross sectional method. The research sample totaling 47 respondents was selected through total sampling techniques. Data was collected through the WHOQol-Bref survey instrument. The data analysis in this study applied the kendal test and the *Chi-Square test* to test the relationship between the variables studied. After the research was carried out, a result was obtained that showed demographic factors, namely the age factor to the quality of life had a relationship and as seen from the kendal test with a value of Sig. 0.003 which was below 0.05), other demographic factors there were gender factors that had a relationship with quality of life which was shown through the *chi-square test* where the *Continuity Correction value sig* = 0.022 < 0.05), In addition to demographic factors of age and gender, there are also demographic factors that have a relationship with quality of life, namely the work factor shown in the *Chi-square Test* with a value of *Continuity Correction sig* = 0.008 < 0.05), and there are demographic factors, namely education factors and marital status factors that are not related to the quality of life of people with sugar level disease or diabetes mellitus. For the education factor shown in the kendal test where the sig value = 0.871 > 0.05), and marital status is shown in the Chi-square test based on the Pearson Chi-Square Sig value = 0.594 > 0.05), there are also demographic factors that have a relationship with quality of life, namely the long-suffering factor shown by the Chisquare test with the Pearson Chi-Square Sig value = 0.014 < 0.05). To break the chain of diabetes mellitus, actions are carried out for health workers to be able to anticipate, including periodic socialization to the community about the dangers of diabetes mellitus so that it can help people improve their quality of life by maintaining a healthy diet.

**Keywords:** Diabetes, Demographics, Quality

## 1. INTRODUCTION

Indonesia's results now occupy 19.5 million people diagnosed with diabetes mellitus in 2021, and are projected to reach 28.6 million in 2045. Diabetes Mellitus, another name is a sugar disease that is said *to be the silent killer* known as penny, meaning that this disease can kill slowly without realizing it, this disease will eventually become a complicating disease if the person with it is not known. As a result of this sugar disease or diabetes mellitus, it can attack various kinds of diseases including stroke, damage to the leg ulcers, blindness or also called diabetic retinopathy, the most dangerous is kidney failure which is the end of life, namely death (Lisavina J, 2018). Diabetes mellitus is one of the topics of research that investigates major health problems. The frequency of this disease has increased gradually since 2015.

Diabetes mellitus affects about 415 million people internationally, jumping 4 times from the 108 million cases mentioned in 1980. This reveals that people are reluctant to live a healthy lifestyle and engage in physical activity, resulting in a continuous increase in diabetes cases. This number will continue to rise indefinitely unless preventive measures

are implemented. The prevalence of diabetes mellitus (DM) is projected to reach 642 million by 2030, according to the IDF (2015). Various variables affect life satisfaction, including demographic issues, which is the situation of this study. Demographic aspects involve age, gender, as well as occupation, education level, marital condition, and length of illness. Diabetes mellitus usually develops in individuals who are 45 years of age or older, especially individuals over the age of 50 who are overweight, because their bodies do not more responsive to insulin.

The decline in quality of life is influenced by demographic factors, if the if this demographic is applied well, there will be an improvement in quality of life and its impact on sugar disease or diabetes mellitus will decrease. The perception of the community, especially the individual himself, will apply the quality of life based on the area where the individual lives (WHO, 2014). A healthy lifestyle will coexist with quality of life. This lifestyle is important and affects the recovery of the diabetic mellitus. Regular exercise can also help reduce sugar consumption and encourage diabetes-specific diets. Diabetic patients can also experience a decrease in quality of life due to a lack of knowledge related to measures to live healthier. The motive of this study is to observe the relationship between demographic characteristics and perceptions of diabetics (Tamara & Bayhakki, 2016).

Based on the results of the survey of visits and research, it turns out that the age of over 50 years and older is prone to experiencing sugar disease or called diabetes mellitus, most of whom have married status, and most of whom do not work, who have an elementary education, and the majority of the time they suffer from it is 5-10 years. The circumstances mentioned above are considered a serious problem because the demographic variables for patients with diabetes mellitus can lower their standard of living as well as worsen the condition. Referring to this incident, the researcher is interested in studying the Relationship of Demographic Factors with Quality of Life in Patients with Diabetes Mellitus.

## **2. METHOD**

The research uses a quantitative approach, using a cross-sectional descriptive correlational design. Descriptive correlational research investigates the relationship between 2 variables in a specific context or set of contributors. This strategy is used to determine the relationship between variables (Notoatmojo, 2015). This study uses a cross-sectional research technique, with the researcher assessing or investigating threat and

contamination variables simultaneously (1 measurement) (Hidayat, 2015). The focus of this study is to observe the relationship between demographic characteristics and quality of life in patients with diabetes mellitus.

Data collection in this study was carried out through the use of a non-probability sampling approach, namely overall sampling, where the sample length is equal to population (Sugiyono, 2015). Overall sampling is determined because according to Sugiyono (2015), if the population is below 100, the entire population must be used as a research pattern. The size of this research pattern is 47 people.

Independent variables in this study consisted of age, gender, last education, occupation, relationship status, and illness, with the quality of life of DM sufferers as the study variables. Data were collected using the WHOQOL-Bref questionnaire and the demographic issues questionnaire. The Kendall and Chi-rectangular tau tests were used to investigate the correlation between the observed variables.

### 3. RESULTS AND DISCUSSION

#### Respondent Characteristics

**Table 1.** Characteristics of respondents based on age, gender, employment factors, education, marital status, length of suffering, quality of life (n=47)

Characteristics	Frequency (f)	Peresentase (%)
<b>Age (Years)</b>		
Ages 25-50	21	45
Age 51-75	26	55
Total	47	100
<b>Gender</b>		
Man	19	40
Woman	28	60
Total	47	100
<b>Work</b>		
Work	17	36
Not Working	30	64
Total	47	100
<b>Education</b>		
Finishing Elementary School	13	28
Junior High School Graduation	6	13
Tamat SMA	10	21
Graduate Degree	7	15
No School	11	23
Total	47	100
<b>Marital Status</b>		
Unmarried	6	13
Marry	41	87
Total	47	100
<b>Long Suffering</b>		

New 1-5 Years	15	32
Medium 5-10 Years	18	38
Age 10 Years and above	14	30
Total	47	100
<b>Quality of Life</b>		
Good	35	74
Less	12	26
Total	47	100

Source: Data processed in December 2024

As per Table 1, most respondents were aged 51-75 years (26 respondents, or 55%), were female (28 respondents, or 60%), and unemployed (30 respondents, or 64%). In terms of education, most respondents have completed primary school (13, or 28%). Most were married (41 respondents, or 87%), and most had diabetes for 5-10 years (18 respondents, or 38%). In addition, most people with diabetes mellitus stated high life satisfaction (35 respondents, or 74%).

## Analysis Results

**Table 2.** Age factors with quality of life of people with Diabetes Mellitus

Variabel	N	Sig.	Correlation Coefficients
Age			
	47	0.004	0.428
Quality of Life			

Source : data processed in December 2024 (SPSS V25)

In accordance with Table 2, the statistical test for the age factor produced a significance value (sig) of 0.004, well below 0.05 and showing a large relationship. The correlation value became 0.428, indicating a moderate relationship between age and quality of life. Thus, the zero (Ho) hypothesis is rejected while the probability hypothesis (Ha) is accepted means that there is a relationship between the age factor and the quality of life of patients with Diabetes Mellitus at Hospital X.

This finding is related to the research of Miftah & Tetti (2020) which found that most of the patients with diabetes mellitus at Wanaraja Hospital in Garut Regency were 50-60 years old (49 respondents or 53.8%). Meanwhile, as many as 42 respondents (46.2%) were aged 20 to 50 years. This survey revealed that the most respondents were in the age range of 51 and 75 years". These results are in accordance with Luthfa, I (2018) who found that people in the age range of 51-75 years are more at risk of developing diabetes due to decreased immune function. According to Fatimah (2015), "the elderly are more at risk of developing diabetes mellitus because they have poor life behavior and lack of physical activity at a young age. This syndrome can lead to various

diseases as we age. Researchers assume that as we age, a person's physical abilities will decline, making them more susceptible to diseases, including diabetes mellitus.

**Table 3.** Gender factors with the quality of life of people with Diabetes Mellitus

Variabel	N	Sig.	p Value
Gender			
	47	0.022	5.218
Quality of Life			

Source : data processed in December 2024 (SPSS V25)

Based on Table 3, the statistical test for the gender factor produced a significance value (sig) of 0.022, which is below 0.05. This revealed that the zero (Ho) hypothesis was rejected, and the probability hypothesis (Ha) was accepted, which showed that there was a relationship between sex factors and the quality of life of people with Diabetes Mellitus at Hospital X.

In the household, women generally carry out the role of housekeepers, while men are responsible for the family economy. Gender is explained through the division of roles, positions, and duties between men and women, which can be determined through societal norms, traditions, ideals, and customs. Gender is one of the factors that affect lifestyle. Research conducted by Setyowati (2015) found a p-value of 0.760, which indicates a relationship between the sexes and diabetes mellitus. Women suffer from DM more often due to generally lower levels of physical activity. According to the researchers' assumptions, women have cholesterol levels that exceed those of men and display differences in daily life and lifestyle, which greatly triggers the potential risk of DM. Women also have a higher percentage of adipose tissue than men. Furthermore, the average fat percentage differs between the sexes, ranging from 15-20% of the male weight index and 20-25% for women.

**Table 4.** Facts or types of work with quality of life for people with Diabetes Mellitus

Variabel	N	Sig.	p Value
Work			
	47	0.008	7.149
Quality of Life			

Source : data processed in December 2024 (SPSS V25)

Based on Table 4, the majority of participants who experienced a decline in living standards were those who were unemployed (30 people or 64%). Statistical tests resulted in a significance price (sig) of 0.008, which is below 0.05, which reveals zero (Ho) speculation is rejected, and alternative speculation (Ha) is known, which confirms a relationship between employment factors and the quality of life of people with

### Diabetes Mellitus at Hospital X

These findings are in line with a study conducted by Syatriani.S (2019), which observed "the relationship between work and life satisfaction in DM patients, with a p-cost of 0.017 ( $< 0.05$ ). Unemployed individuals are more prone to stress than working people. Financial concerns regarding their livelihoods, treatment, and clinical costs contribute to this stress. The full-size relationship between DM incidence and job popularity arises from an imbalance between employed and unemployed employers. The most respondents are those who do not have jobs". According to the researcher's premise, job reputation has no impact on quality of life given that people who do not have a job can maintain their blood sugar levels with the help of their families, which reminds them of the best food intake for people with diabetes. Meanwhile, working people can also control their blood sugar levels as their work environment affects their lifestyle, including counteract excessive exposure to cigarette smoke and limit the intake of sugary foods, which are harmful to the control of diabetes.

**Table 5.** Educational factors with quality of life for people with Diabetes Mellitus

Variabel	N	Sig.	Korelasi Koefisien
Education			
	47	0.871	0.022
Quality of Life			

Source : data processed in December 2024 (SPSS V25)

In accordance with table 5, most of the respondents who stated that the decline in quality of life only completed elementary school, namely 13 people (28%). The results of the statistical test found a significance price of 0.871 (higher than 0.05) and a correlation coefficient of 0.022. This revealed that there was no relationship between age and quality of life, so the zero ( $H_0$ ) hypothesis was accepted and the alternative hypothesis ( $H_a$ ) was rejected which explained that there was no relationship between the last education factor and the quality of life of people with Diabetes Mellitus at Hospital X.

The consequences of this study are in line with the research of Ningtyas et al. (2013), who found "a strong association between education level and people with diabetes. Consistent with their findings, those with lower levels of education (primary college graduates) were 1.9 times more likely to have a worse quality of life than people with higher levels of education (bachelor's degrees)". According to statistics, "respondents with only a primary college education may also be affected by economic constraints, which emphasizes the need for monetary balance in obtaining an

education". Unlike now, when education was free until college, many parents of patients at the Ar-Rosyid clinic only completed standard education. Historically, only the wealthy could afford higher education, and formal education is no longer as valuable as it is now. Education refers to the formal learning process achieved in higher education.

The level of education in this study includes no formal schooling, elementary college, junior high school, high school, and higher education. Individuals with low education levels do not attend school or only finish elementary or junior high school, while those with good education complete high school and vocational school (Pratiwi S, 2020). However, to acquire knowledge and information, especially about healthy eating behaviors, does not require high education. According to the researcher's view, education and knowledge alone do not guarantee that a person is able to regulate his diet, this is determined not only by personal taste but also by nutritional needs. A high level of education is undoubtedly correlated with good job performance. Various ways can be done to maintain physical fitness and avoid diabetes, including by eating healthy foods, monitoring food intake, and exercising regularly.

**Table 6.** Facts of marital status with quality of life of people with Diabetes Mellitus

Variabel	N	<i>Sig.</i>	p Value
Marital Status			
	47	0.594	0.284
Quality of Live			

Source : data processed in December 2024 (SPSS V25)

In accordance with table 6, most of the respondents who stated a decrease in quality of life were those who were married, namely 41 people (87%). The findings of the statistical examination revealed a significance value of the Pearson Chi-square of 0.594, which is greater than 0.05, which revealed the conventional zero ( $H_0$ ) hypothesis and the alternative speculation ( $H_a$ ) was rejected which explained that there was no meaningful relationship between the marital status factor and the quality of life of people with Diabetes Mellitus at Hospital X.

Marital status refers to issues related to the legal relationship of marriage. Marriage is a commitment made by a husband and a woman to live together. Marital status provides assistance in a variety of ways, including emotional well-being, problem-solving, and improved quality of life. According to Utami (2014), "marital status does not show a broad relationship with the quality of life of people with diabetes

(p-value = 0.440). However, marriages remain of high quality because they provide social support for those with diabetes. This effect is consistent with the hypothesis of Kodriati (2004), which states that marriage blesses a person's fitness by ensuring they receive care and attention from their partner. In accordance with the premise of the researcher, marital reputation has no effect on the quality of life of people with diabetes, considering that both married people and widows/ widowers still receive assistance from their families, which allows them to maintain their lives in general.

**Table 7.** Long-term factors suffer with the quality of life of people with Diabetes Mellitus

Variabel	N	Sig.	p Value
Long Suffering			
	47	0.014	8.597
Quality of Life			

Source : data processed in December 2024 (SPSS V25)

According to table 7, most of the respondents who stated a decrease in quality of life were those who had lived with diabetes for 5-10 years, which was as many as 18 people (38%). The results of the statistical test show the value of *Pearson's significance Chi-square* is 0.014, which is below 0.05, which reveals that the zero ( $H_0$ ) hypothesis is rejected and the alternative hypothesis ( $H_a$ ) is accepted, so there is a meaningful relationship between the long-suffering factors and the quality of life of people with Diabetes Mellitus at Hospital X.

This result is an evaluation of Yusra's (2010) research which found "no significant relationship between the length of suffering from diabetes and quality of life (p-rate = 0.152)". Meanwhile, Rusli (2011) said that individuals who suffer from chronic diseases for a long period of time have more experience and knowledge on how to control their condition. According to the researcher's view, the length of suffering from diabetes affects a person's condition because people who have suffered from the disease for a long time learn to take care of themselves, maintain fitness, and avoid serious impacts.

#### 4. CONCLUSION

Based on the age of Diabetes Mellitus patients in Hospital X, the most are 51-75 years old. The gender is mostly female, and most of them do not work. The dominating education graduates are elementary school graduates, and most of them are married. Diabetes mellitus respondents at Hospital X dominate the rate of 5-10 years of suffering

whose quality of life is said to be good. There was a relationship between age, gender factors, employment factors, and long-suffering factors with the quality of life of DM patients at Hospital X. There was no relationship between education factors and marital status and quality.

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