

## Conference Paper

# Relationship between Sexual Needs and the Quality of Life of Diabetes Mellitus Patients

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**Abstract**

Diabetes mellitus is a chronic disease that can cause serious complications and has a major impact on the quality of life experienced by sufferers. One of the effects of diabetes mellitus is a change in sexual identity and a person's physical ability to carry out sexual activities. This study aims to determine the relationship between sexual needs fulfilment and quality of life experienced by Diabetes Mellitus patients. This research is a non-experimental quantitative study using a cross-sectional study approach, the population in this study were 49 diabetes Mellitus patients treated at the Labuang Baji Hospital. Data was collected using a questionnaire, sexual needs in women were assessed using the FSFI (Female Sexual Function Index) questionnaire and in men using the IIEF (International Index of Erectile Functions) while the quality of life was assessed using DQOL (Diabetes Quality Of Life). 57.7% of respondents felt their sexual needs were not met, and the quality of life of patients with diabetes mellitus 46.9% is poor. There is a relationship between sexual fulfilment and quality of life in diabetes mellitus patients at the Makassar Labuang Baji Hospital, Indonesia.

**Keywords:** diabetes mellitus, sexual needs, quality of life

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## 1. Introduction

Diabetes mellitus (DM) is a degenerative disease that requires proper and serious handling efforts. Diabetes mellitus is a metabolic disease that plays a very important role in sexual identity and one's physical ability to carry out sexual activities [3]. Sexual dysfunction (sexual dysfunction) in men and women is often found as an advanced complication of diabetes mellitus [4]. The incidence of sexual dysfunction has the potential to be experienced by women with diabetes mellitus around the world as experienced by women in Turkey (48.3%), Ghana (72.8%), Nigeria (63%), and Indonesia (66.2%) [5]. A study in Indonesia found that there were 91 female respondents (56.14%) with diabetes who experienced sexual dysfunction and had a lower quality of life than men (47.05%) [20].

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Other studies have also shown that the incidence of sexual dysfunction in DM patients is higher in women and men [20]. Previous studies also showed results where in 86 samples of DM patients in Indonesia, about 75% of female patients experienced sexual dysfunction (40% poor sexual function and 35% moderate sexual function) so that it had an impact on the quality of life of those who tended to interact less or limit their interactions with people. others [6].

Sexual satisfaction has a relationship with quality of life [6]. Quality of life is an individual's perception of his position in life, concerning local cultural and value systems and is related to his ideals, expectations, and views, which are multidimensional measurements not limited to the physical and psychological effects of treatment [1]. Sexual activity is a dimension that has a positive influence on the quality of life. So, if the sexual needs are fulfilled and enjoyable, the patient's quality of life will not be disturbed, and vice versa [7]. *The World Health Organization Quality Of Life (WHOQoL)* formulate four dimensions of quality of life, namely the physical dimension, psychological dimension, social dimension, and environmental dimension. The social dimension is one aspect that has a major influence on the quality of human life. because the social dimension regulates personal relationships, sexual activity, and social relations between humans [1].

In Indonesia, the problem of sexual needs is often neglected from a diagnostic perspective, although it can affect the lives of DM patients both physically and psychologically. Apart from the fact that this incident is less complained about by patients, this condition is also difficult to be assessed diagnostically. This is also related to cultural factors, especially barriers due to embarrassment to express it because it is considered taboo to be discussed. Research on sexuality in DM patients is still relatively few. So far, sexual needs, sex education, assessment of early signs, and management of sexual problems have not been considered in the intervention of diabetes patients [6]. Sexual activity is a dimension that has a positive influence on the quality of life. So, if their sexual needs are fulfilled and pleasant, the patient's quality of life can be better, on the other hand, if their sexual needs are not met, it will have an impact on the quality of life that is not good [7]. Therefore, it is very important to know about fulfilling the sexual needs of DM sufferers the effect on their daily quality of life. The purpose of this study was to determine the extent of the relationship between meeting sexual needs and the quality of life for Diabetes Mellitus (DM) patients.

## 2. Methods and Materials

## 2.1. Methods

This research is non-correlational quantitative research (relationship/association) which uses the Cross-Sectional approach which is carried out at the internal medicine polyclinic and inpatients at the Labuang Baji Makassar Hospital from 24 December 2019 to 16 January 2020. The population in this study were DM sufferers. Inpatient and outpatient care in September 2019, namely 56 people, with a sample size of 49 respondents obtained by the Nonprobability Sampling technique with the purposive sampling method or judgment sampling. Inclusion criteria for respondents with diabetes mellitus who are outpatient and inpatient, aged 18 to 59 years, married and still have a life partner, willing to be respondents

## 2.2. Materials

Data collection tools in this study consisted of demographic data including age, sex, latest education, occupation, duration of suffering from diabetes, complications, and nutritional status (BMI), the sexual function for female using FSFI (Female Sexual Function Index) questionnaire was developed by Rosen et al [16]. The questionnaire consists of 6 domains 19 questions, FSFI validation test that has been translated in Indonesia language needs to be done to obtain questionnaires that are completely valid and reliable and it can be used in the population of Indonesian meetings. Sexual function for male using IIEF (International Index of Erectile Functions) questionnaire was developed by Rosen et al [17], The questionnaire consists of 5 domains 15 questions. The Indonesian version of the IIEF-15 is valid and reliable to be used as both a clinical diagnostic tool and an instrument for further studies focusing on male sexual dysfunction in Indonesia. The quality of life measurement using DQOL (Diabetes Quality Of Life) questionnaire. DQOL was introduced in the Diabetes Control and Complications Trial Research Group, the questionnaire consists of 46 questions, The Indonesian version of DQOL-BCI is a valid and reliable instrument to assess health related quality of life on people with diabetes type 2. Data analysis used in this study was univariate analysis to determine the frequency distribution of respondent characteristics and bivariate analysis using the Chi-Square test to see the relationship between sexual fulfillment and quality of life of patients with Diabetes mellitus.

## 3. Results

### 3.1. Univariate analysis

Table 1. shows that most of the respondents are in the older person range (30, 61.2%), with an average history of public high school education (20, 40.8%). More work as housewives (23, 46.9%), this is related to female respondents (26, 53.1%) more than male (23, 46.9%). Most of the respondents had a history of suffering from diabetes for less than 5 years (30, 38.8%), and other diseases (34, 30.6%). The nutritional status of respondents is mostly at the obesity stage (32, 30.6%).

Table 2 shows that the fulfillment of the most sexual needs of DM patients is in the unmet category (27.57.7%) and sexual needs are met (22.42.3%)

### 3.2. Bivariate analysis

The results of the analysis found that there was a significant relationship between the fulfillment of sexual needs and the quality of life of DM patients ( $p = 0.000$ ). Where, respondents whose sexual needs are met have a better quality of life (20, 40.8%), and those who are not met have a poor quality of life (bad) (21, 42.9%). Based on gender, both male (10, 43.5%) and female (10, 34.6%) respondents whose sexual needs are met have a good quality of life ( $p < 0.05$ ). Meanwhile, those whose sexual needs were

not met, both male (10, 43.5%) and female (11, 42.3%) respondents had a poor quality of life (bad). More details can be seen in Table 3.

## 4. Discussion

### 4.1. Fulfillment the sexual needs of DM patients

Based on the findings in this study, it can be denied that the fulfillment of sexual needs in respondents with DM is mostly in the unfulfilled category based on their sexual function. This research is by the theory [8] which states that diabetes mellitus will slowly destroy endothelial cells and blood vessels so that the supply and regulation of the organs and endothelial cells of erectile tissue is disrupted and this is when erectile disorders and lubrication occur. According to the assumption of researchers that the occurrence of disturbances in one part can affect other parts, likewise if there are erection disturbance and lubrication in the body's sexual function, it will disrupt the overall sexual function of a person. The sexual function that is less than optimal will not be able to meet sexual needs properly as if the sexual function is good.

TABLE 1: Characteristics of respondents

No	Variable	Frequency (n=49)	Percent (%)
1	<b>Gender</b>		
	Male	23	46.9
	Female	26	53.1
2	<b>Age (Year)</b>		
	Early adulthood ( < 35)	4	8,2
	Late adulthood (36 -45)	15	30,6
	Older person (46 – 59)	30	61,2
3	<b>Education</b>		
	Elementary school	5	10,2
	Junior high school	11	22,4
	Senior high school	20	40,8
	College	13	26,5
4	<b>Occupation</b>		
	Housewives	23	46.9
	Government employees	8	16.3
	Employees/Staff	5	10.2
	General employees	13	26.5
5	<b>Long time suffering from DM</b>		
	< 5 years		
	> 6 years	30	61,2
		19	38,8
6	<b>Other disease</b>		
	Yes	34	69,4
	Not	15	30,6
7	<b>Nutritional status (BMI)</b>		
	Overweight	3	6,1
	Obesity	13	26,5
	Normal	32	65,3
	Underweight	1	2,0

It can be seen that the results of this study found more women whose sexual needs were not fulfilled due to poor sexual function compared to men, it's just that so far women rarely complain about it. The respondent's sexual activity was also identified from the patient's desire for sexual intercourse. The results of this study indicate that male respondents generally have a strong desire to have no desire to have sexual intercourse, while women experience a decreased desire to have sexual intercourse. Patients who experience sexual problems, it is found that the average patient who consulted this problem is still very low [7].

TABLE 2: Fulfillment the sexual needs and quality of life of diabetes mellitus patients

Sexual needs		
Sexual needs	f (n)	(%)
Fulfilled	22	42.3
Not fulfilled	27	57.7
<b>Total</b>	<b>49</b>	<b>100</b>
Quality of life		
Quality of life for patients	f (n)	%
Good	26	53.1
Poor	23	46.9
<b>Total</b>	<b>49</b>	<b>100</b>

TABLE 3: The relationship between sexual fulfillment and quality of life for respondent with DM

Sexual needs fulfillment	Quality of life						
	Quality of life				Total		p value
	Good		Poor		n	%	
	n	%	n	%	n	%	0,000
Fulfillment	20	40.8	2	4.1	22	44.9	
Not-fulfillment	6	12.2	21	42.9	27	55.1	
<b>Total</b>	<b>26</b>	<b>53</b>	<b>23</b>	<b>47</b>	<b>49</b>	<b>100</b>	
Sexual needs fulfillment	Quality of life (Male respondents)						
	Quality of life				Total		p value
	Good		Poor		n	%	
Fulfillment	10	43.5	1	4.3	11	47.8	<b>0,000</b>
Not-fulfillment	2	8.7	10	43,5	12	52.2	
<b>Total</b>	<b>12</b>	<b>52.2</b>	<b>11</b>	<b>47.8</b>	<b>23</b>	<b>100</b>	
Sexual needs fulfillment	Quality of life (Female respondents)						
	Quality of life				Total		p value
	Good		Poor		n	%	
Fulfillment	10	34.6	1	7.7	11	42.3	<b>0,001</b>
Not-fulfillment	4	15.4	11	42.3	15	57.7	
<b>Total</b>	<b>14</b>	<b>50</b>	<b>12</b>	<b>50</b>	<b>26</b>	<b>100</b>	

## 4.2. Quality of life for DM patients

Based on the research that has been done, it was found that the Quality of Life of patients with diabetes mellitus at the Labuang Baji Makassar Hospital which has the highest distribution is Good Quality Life. This research is in line with previous research that found in the factors that affect the quality of life, found as many as 60 respondents (67.4%) quality of life and the lowest distribution is the poor quality of life as many as 29

respondents (32.6%) [9]. Even though this is similar to the research conducted by the other research in the analysis of factors that affect the quality of life, the results of the study stated that the average quality of life for type 2 diabetes mellitus patients was 58.60, which is quite good [10].

Diabetes mellitus and its treatment and complications can affect the quality of life of patients, quality of life is very important for diabetes patients and health care providers. Factors that can affect the quality of life of DM patients are age, gender, education level, length of suffering, and complications of DM. In this study, the highest age was found, namely the elderly (46-59 years) as many as 30 (61.2%). According to the theory about type 2 diabetes is the type of diabetes that has the most number, which is around 90-95% of all people with diabetes and mostly experienced by adults over 40 years. Meanwhile, according to gender, in this study, 26 women were dominated by (53.1%) [11].

The education level of some respondents is in the high category, namely high school as many as 30 respondents (40.8%). In a theoretical review, the relationship between education and diabetes and quality of life is explained where education is an important factor for DM patients to understand and manage themselves [12]. Through education could increase self-efficacy, self-care, attention or focus, awareness as well as the effect of improving quality of life after get out of the hospital [13].

In terms of occupation, most respondents in this study were IRT (housewives) as many as 23 people (40.3%). The longest-suffering from diabetes in this study was 30 people (61.2%) who suffered from <5 years. In this study, 34 respondents (69.4%) had diseases other than diabetes. This shows that more than half of the respondents have other diseases and this results in a poor quality of life.

### **4.3. The relationship between sexual needs and the quality of life of DM patients**

The results of the data analysis of the relationship between sexual fulfillment in both women and men with the quality of life of DM patients statistically using the Chi-Square test, the results obtained were 0 cells (0.0%) with an expected count <5 and a significant value of Pearson Chi-Square  $p = 0.000$  which means  $p\text{-value} < \alpha (0.05)$ . Meanwhile, the  $p\text{-value}$  for women  $p = 0.001$  and for men  $p = 0.000$ , the  $p\text{-value}$  is  $< \alpha (0.05)$ . So it can be concluded that the hypothesis is accepted, namely that there is a relationship between sexual needs fulfillment and quality of life in diabetes mellitus patients at Labuang Baji Hospital Makassar. It appears from the  $p\text{-value}$  obtained from this study

that the relationship between sexual need fulfillment and quality of life in diabetes mellitus patients is more related to men than women.

Fulfillment of sexual needs that are increasingly fulfilled can improve the quality of life in patients with Diabetes Mellitus in Makassar Labuang Baji Hospital and conversely the more unmet sexual needs can reduce the quality of life. The results of this study are by the theory which says that sexual activity is a normal human activity, and a lack of sexual activity can reduce the quality of life and can also affect the dynamic quality of the relationship with a partner [14]. In line with previous research in New York with the results research showing that individuals with diabetes are generally less satisfied with their previous and current lives, and they are less satisfied with sexuality and passion, compared to individuals who do not suffer from the disease [15].

In this study, the results showed that there were 6 respondents (12.2%) whose sexual needs were not fulfilled but had a good quality of life and there were 2 respondents (4.1%) whose sexual needs were met but had a poor quality of life. This can be due to the fulfillment of basic needs divided into 5 (five), namely safety needs, economic needs, spiritual needs, innovation needs, and sex needs). So that one can be fulfilled and the other unfulfilled, it can cause changes in the quality of life for each individual.

The quality of life of Diabetes Mellitus patients at Makassar Baji Hospital can be influenced by various factors such as age, gender, education level, length of suffering from diabetes, and the presence or absence of complications. However, the fulfillment of sexual needs is no less important in taking a role as a part of improving the quality of life of diabetes mellitus patients. The results of the study prove that the presence of good sexual fulfillment factors can improve the quality of life for Diabetes Mellitus patients.

## 5. Conclusion

The fulfillment of the sexual needs of DM patients is mostly in the unmet category based on their sexual function. More than half of the respondents have a good quality of life. There is a relationship between the fulfillment of sexual needs and the quality of life in DM patients at Labuang Baji Makassar Hospital.

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## Conflict of Interest

The authors have no conflict of interest to declare.

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