

## Original Research Article

# Perception of type 2 diabetes mellitus clients on applications in Bima Regional General Hospital

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### ABSTRACT

**Background:** Repeat hospitalization is a process for a patient who needs to return to hospital as a result of inability to control and take care of their disease. The objective of study is to gather deeper understanding about the meaning experience of repeat hospitalization process among diabetes mellitus type 2 patients. The study is qualitative research within phenomenology method by using deep interview instruments. In this study, the research seeks the experience of diabetes mellitus type 2 patients who are being treated with repeat hospitalization process.

**Methods:** The study applies descriptive phenomenology approach. By using the method, the subject could be explored, analyzed, and explained directly about their experience of repeat hospitalization. The size of sample, in descriptive study, is essential in order to reveal the saturation data. The participants collecting procedure is using the snowball sampling technique.

**Results:** The age of participants are ranging from 40-79 years old. The level of education among participants are varies, from elementary schools to senior high schools. The occupation type are housewife, farmers or merchants. The participants' income is ranging between 750.000-2.000.000 rupiah/month.

**Conclusions:** The result reveals four findings among 10 participants: 1) the characteristics of participants 2) the lack of knowledge from diabetes mellitus (DM) management, 3) quality of service, 4) hope of recovery.

**Keywords:** Repeat hospitalization, Type 2 diabetes, Service quality, Hope

### INTRODUCTION

The diabetes mellitus (DM) prevalence of Indonesia is about 1.5%, the highest rate occurs in Yogyakarta region for about 2.6%. Meanwhile, West Nusa Tenggara has 0.9% as equal as South Sumatra and Bengkulu, the lowest rate is found in Lampung for about 1.7%. The highest prevalence of DM in West Nusa Tenggara is found in Mataram city for about 1.7. Meanwhile, Bima city is the second highest rate with 1.4%.<sup>1</sup>

The study aims to gather deeper meaning about the perception of diabetes mellitus type 2 toward repeat hospitalization of general hospital in city of Bima.

### METHODS

The study uses qualitative method within phenomenology approach. Phenomenology is an approach that can be used to examine the experience of someone toward particular phenomena.<sup>2</sup> In this study, the research seeks the experience of diabetes mellitus type 2 patients who are being treated with repeat hospitalization process. Phenomenology is research strategy that identify the experience of someone toward particular phenomena.<sup>3</sup>

Descriptive phenomenology is applied on the study. By using the method, the subject could be explored, analyzed, and explained directly about their experience of

repeat hospitalization. According to Dukes, he stated that the small size of samples, around 1-10 informants, is desired for phenomenology research.<sup>4</sup> The participant collecting technique is using snowball. The setting of study takes place in General Hospital of Bima NTB, the research starts on 4<sup>th</sup> September to 2<sup>nd</sup> October 2018.

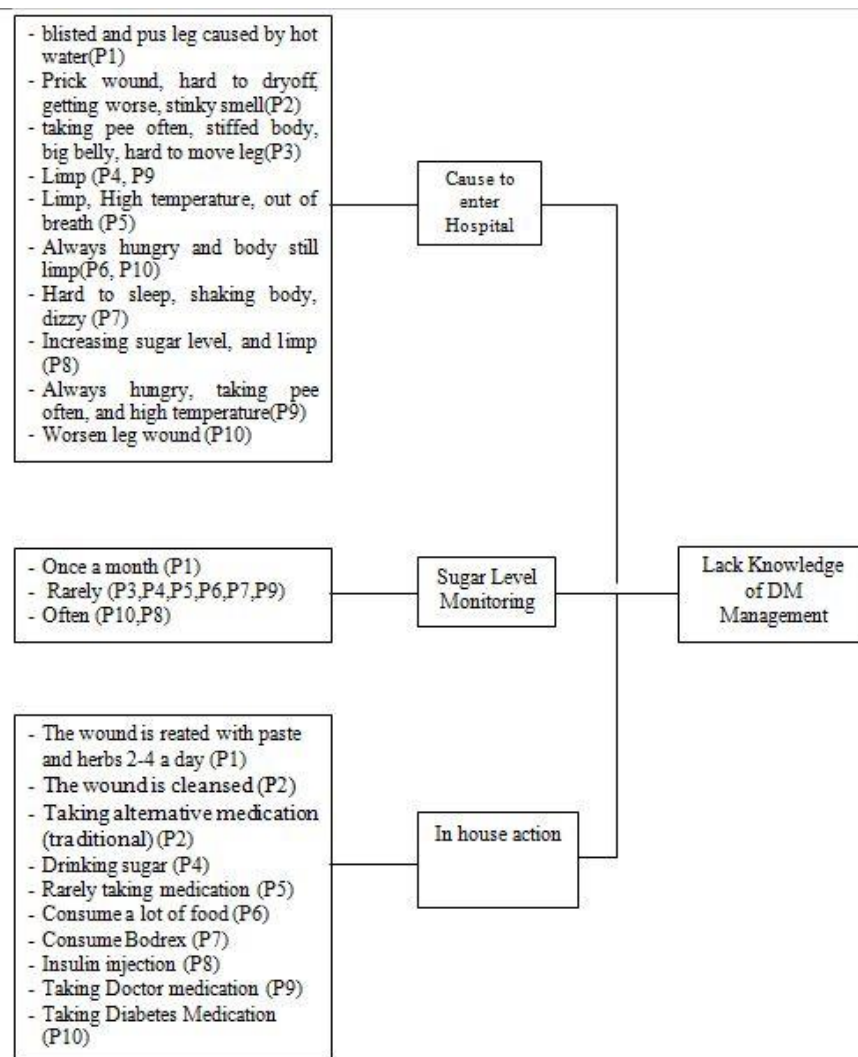
**RESULTS**

The study is conducted to retrieve deep understanding about the perception of diabetes mellitus type 2 clients whilst having repeated hospitalization in general hospital of Bima, NTB. This part will consist of participant’s characteristics and theme analysis which is collected

from participant’s perspective about the perception of diabetes mellitus type 2 toward repeat hospitalization.

**Participant’s characteristics**

The participants in this study consist of ten people which mostly dominated by female subject. The age of participants are ranging from 40-79 years old. The level of education among participants are varies, from elementary schools to senior high schools. The occupation type are housewife, farmers or merchants. The participants’ income is ranging between 750.000-2.000.000 rupiah/month. All participants are already married and moeslem.



**Figure 1: Theme 1-the lack of knowledge of DM.**

**Thematic analysis**

The thematic analysis is directly written right after the result of interview is retrieved, then the verbatim transcript is conducted, the next step is to separate every deep questions and labelled with a code until its theme is decided. The identified themes are analyzed and it reveals three themes which are: (1) The lack of knowledge of

DM, (2) service quality, (3) desire to recover from the disease.

**Theme 1: lack of knowledge of DM**

This theme will focus on the cause of participants who enter the hospital and the participant management while taking DM medication before going to general hospital.

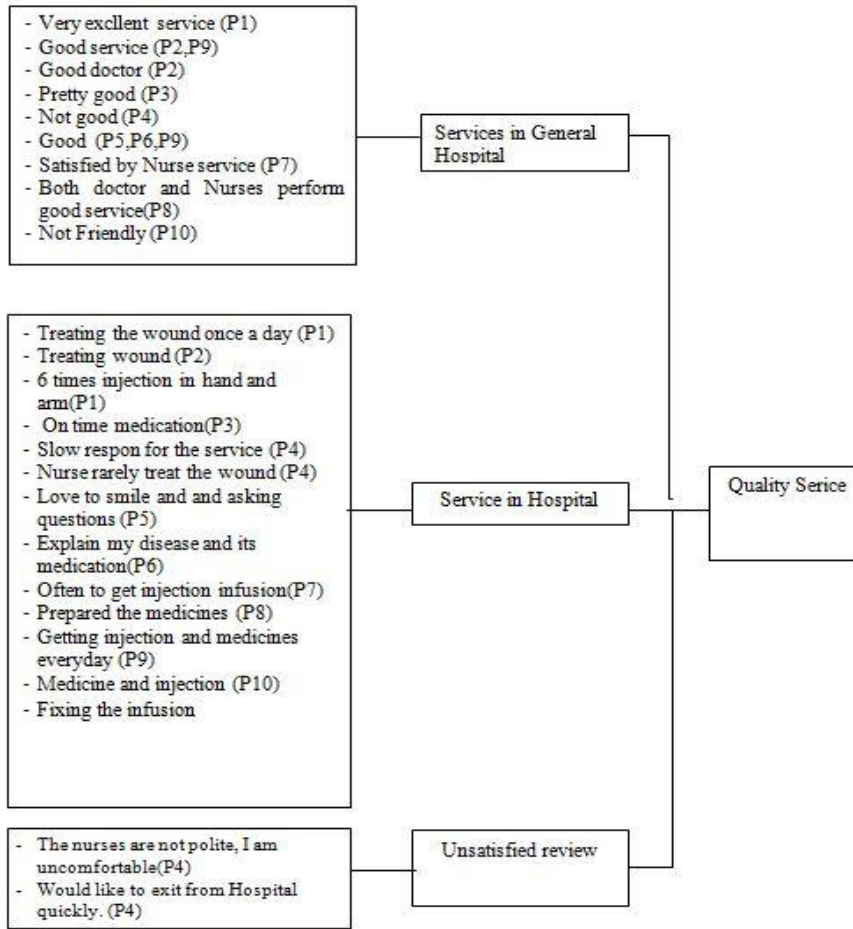


Figure 2: Theme 2-service quality.

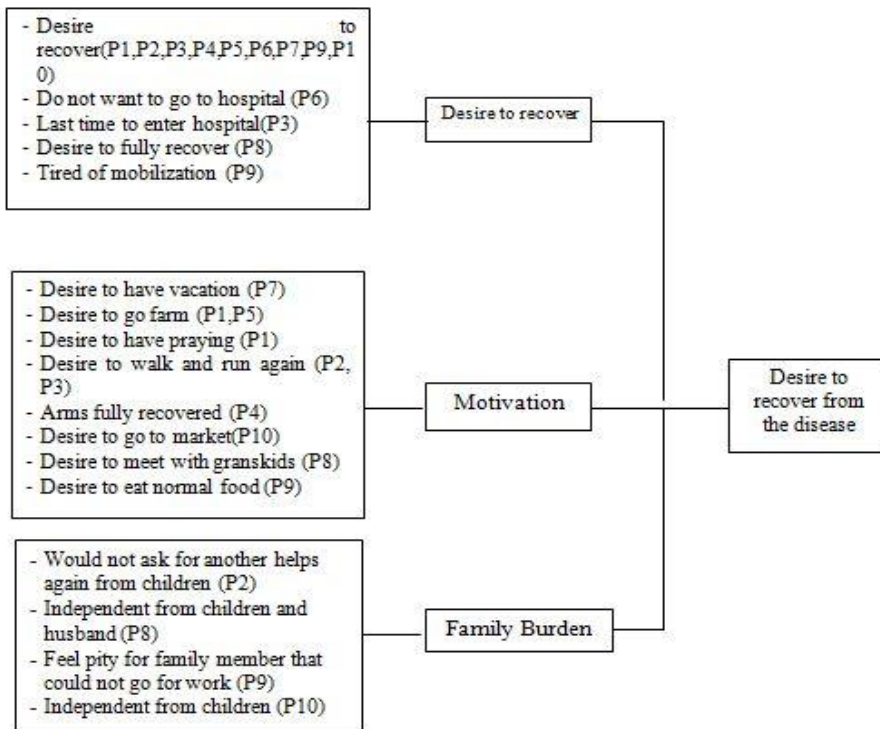


Figure 3: Theme 3-desire to recover from disease.

### *Theme 2: service quality*

This theme will focus on the service quality in general hospital, both that come from nurses and doctors in charge.

### *Theme 3: desire to recover from disease*

## **DISCUSSION**

The participants of the study are 10 patients which are mostly female, it is supported by the result study conducted by Asper, she stated that female is more fragile to have repeat hospitalization (50.6%).<sup>5</sup> The age of participants is ranging from 40 to 79 years old. The aging effect after age of 30 affects anatomic, physiologic, and biochemical change. The change is started from cell level; it continues into tissue level and goes to organ level eventually that could affect the function of homeostatic.<sup>6</sup>

The education level of participants are varies, from elementary to high school level. The occupations of participants are housewife, farmer, and trader. The monthly income of the participants is ranging from IDR 750.000–2.000.000. The marital status of all participants is married and Islam is their religion. There are three themes of the study, which are described in following sections.

### ***Theme 1: lack of knowledge of management***

This theme would try to explain about the knowledge of participants toward the DM management independently. Knowledge is the product of learning; this could occur after the subject analyses a particular object. Knowledge is an important domain to determine somebody's action.<sup>7</sup> The knowledge of participants about DM and its therapy play important role to control the blood sugar rate. The appropriate consumption of carbon and fibre could help to control the blood sugar in normal level.

According to the result study of Witasari, there is a relationship between knowledge level and blood sugar level.<sup>8,9</sup> Meanwhile, the result of study by Senuk the result reveals that the level of knowledge will determine the dignity in sugar diet, the value shows  $p=0.023$  which is lesser than 0.05.<sup>10</sup> The result is supporting the deep interview with participants who stated that they feel hungry and limp often, it automatically tempts them to eat in order to overcome their sudden hunger and limp. Eventually, the blood sugar level is increasing as the patient refuse to control it. In one hand, the lack of knowledge from participants to treat DM wound that lead the wound turn worse.

### *The reason to go to hospital*

There are lot of reasons for participant when enter the hospital such as getting burn damage from hot water that causes scalded foot that produces pus, getting stab wound

which is hardly recovered and become worse, most of participants stated that they feel hunger in abnormal way that increase their appetite (polyphagia). For diabetes mellitus type 2 patients, the problem lies in their insulin; the sugar absorption to body is greatly decreased that causes in energy deficit.<sup>11</sup>

The decreasing glycogenesis process is occurred among DM patient, it makes glucose unable to be stored as glycogen in liver, the process of free fat acid degradation causes deficit in fat inventory. The effect of glycogenesis and lipolysis affects the patient to feel limped.<sup>12</sup> That is why, most of the patients experience sudden limp which is a clinical manifestation from DM.

### *Blood sugar monitoring*

Most of the participants refused to control their blood sugar because of several reasons such as the economic situation and the distance of the hospital. By monitoring the blood sugar level independently, it is expected for people with diabetes to control their therapy optimally. Numerous researches stated that patients of diabetes type 1 and 2 who watch over their glucose will stay at normal blood sugar rate, it is identified by the microvascular complication incidents such as diabetic retinopathy, nephropathy, and neuropathy. That is why, the patients is suggested to control their blood sugar level as low as possible to reach normal level.<sup>13</sup>

Based on Wibisono et al research, one of the themes revealed during study is the factor in controlling blood sugar which are family support, self-motivation in order to keep struggling toward the condition.<sup>14</sup> Meanwhile, the research conducted by Rahmani et al, there is a connection between blood sugar monitoring, medication, and the stability of blood sugar level.<sup>15</sup> It supports the result found in this study; most patients are not regularly monitoring their blood sugar that cause unstable condition in blood.

### *In-house action*

Before going into hospital, the patients are doing some actions in their house or early action such as taking herbal medication, traditional medicine, even treating their wound with tooth paste. It shows the lack of knowledge to treat DM. thus, the enlightenment from officers is very important to educate them.

### ***Theme 2: service quality***

As the quality of service would affect the recovery of the patient, one of the services comes from human resource in hospital who determines the quality of the service provided by hospital. It is a common matter because nurse is part of paramedic staff that directly takes care of the patients. Nurse has responsibility and authority to take the nursery actions in order to help the patients to recover.

Service quality has a function to help patients before they determine their decision of various choices, in providing quality for the patients and the output accepted by hospital. The service quality must be started from patients' need and ends with patients' satisfactory.

Meliana et al stated that in order to build emotional relationship between patient and nurse, it takes warmth, truthful, empathy, and unconditioning positive regard.<sup>16</sup> Mind mapping, emotional condition, skills, and stable atmosphere are required to achieve the goal. Those are important aspects, because when the nurse interacts with patient and their family, they will display worry, grieve, complaint, and all other sudden patient defense mechanisms as a result of their sick condition. In such situation, the nurse is expected to overcome the problems by taking the point of view from the patients, understand their condition with every psychology manifest.

Study conducted by Munawaroh et al stated that the ability of empathy will result in high prosocial intention of the nurse.<sup>17</sup> In other words, if the nurse is able to feel patient's feeling, the nurse will treat the patients in no time and it will give positive atmosphere for the patient.

#### *The service*

The very basic essence of hospital is the fulfillment of need and demand from the patients who pledge their hope to the hospital they choose. They think that hospital is the only way to give them medical service to help them recover from the pain they suffer. They demand for quick and nice service, the satisfactory of the patient will rely on the quality of the service they receive.

Service is all action of the staff in order to fulfill the customer's demand. A good quality of service is determined by the fact whether it answers the demand or not by using the perception of the patients when they receive the service (the satisfactory and duration level). The satisfactory level begins as the patients first come to hospital until they leave.

#### *The action*

The action given to patient is insulin and OHA (Oral hypoglycaemic agents) injection, the OHA is expected to trigger insulin secretion, and insulin injection is used to stimulate amino acid into cells and increase synthase protein. Insulin increase fat inventory and prevent overuse of fat as energy. Insulin will stimulate the glucose to cells to be used as new source of energy and it will help glycogen to be stored in muscles and heart. Endogen insulin is produced by pancreas while exogen insulin is the product of pharmacy.<sup>18</sup>

The patients who are fail to control their blood sugar, after improving their life style, need pharmacotherapy intervention in order to prevent the complication result of diabetes.<sup>19</sup> According to its method, OHA has four

different types: the insulin secretion trigger such as sulfonylurea and glinide, insulin sensitivity such as biguanide and thiazolidinedione, gluconeogenesis prevention such as metformin, and glucose absorption prevention such as glucosidase alpha.<sup>19</sup>

The result of study conducted by, stated that the behavior of taking medication is affected by Indonesian culture that prefer traditional medicine such as Jamu and herbs.<sup>2</sup> Unfortunately, not all of herbs are already scientifically approved in lowering blood sugar. Poor education level makes them believe that they will be 100% recovered without taking insulin or OHA medication. In fact, such disease will never be gone and must be controlled for the rest of life.

The failure to control glycemia on DM patient after improving their life style, need pharmacology intervention in order to prevent the complication caused by diabetes.<sup>12</sup> The factor to take medication is affected by the individual condition, disease, and consumed medicine, paramedics, environment, and motivation to stay alive.<sup>20</sup>

#### *The unenjoyable service*

According to study conducted by Zaniarti et al, the quality of service received by the patient will affect their satisfactory.<sup>21,22</sup> One of the participants stated that the service she received is not good, it will affect the satisfactory level of patient, complain, protest, agony, and writing bad review are the products of unsatisfied toward the service received during at hospital, it will damage the face of hospital at once. Other patients will tend to choose another hospital if the services given to patients are not well delivered.

#### ***Theme 3: desire to recover from disease***

It is the last theme which is derived from result of deep interview, there are several categories revealed from the interview, they are the desire to recover, motivation, the unwillingness to become family's burden. Their hope is to recover from the situation, to play with grandchildren, and not become a burden for family. The participants also stated that they are tired to go to hospital many times; it affects their occupation that they cannot work in the same condition ever again.

#### *Desire to recover*

All participants want to recover from DM, the blood sugar level will be controlled if they follow 5 pillars of DM management which are diet, work out, routine blood sugar monitoring, OHA and insulin therapy as instructed by doctor and follow enlightenment action for DM management. The main problem in diabetes mellitus management is the lack of knowledge about DM among patients and lack of motivation for regular blood sugar check.

### Motivation

Motivation is the energy to move the soul and body to do an action. All participants have different motivations. One of the motivations of participants is to be able to work again, to go out of town and even play with grandchildren. Based on research from Rachrnawati (2006), in TB patients is social support that directly gives a positive influence or can increase the motivation of TB patients to recover.<sup>23,24</sup> While the results of research from Ernawati, the results show the dimensions of need (0.989), belief (0.989) able to describe internal motivation, the dimensions of appreciation (0.925), self-esteem (0.800) able to describe external motivation.<sup>18,24</sup> Dimensions of diet, physical activity, routine checks, drug consumption, foot care can describe diabetes self-management. This is in line with the results of the study found that in one participant has the motivation to recover according to the needs for example, can go to the fields, can pray or can walk and stand like normal people.

### Family's burden

Some participants are refused to be a burden for family, participant 10 does not want her children to go to hospital for countless times to control her blood sugar, while participants 2 do not want his children to clean his wound continuously..

### CONCLUSION

The result of study displays the experience of diabetes mellitus type 2 patients toward repeat hospitalization. There are four conclusions regarding the discussion of the research. First, the characteristics of participants, among 10 people. The education level is from elementary to high school level. The occupations are housewife, farmer, and trader. Their monthly income is ranging from IDR 750.000–2.000.000. All participants are married and their religion is Islam. Second, the level of knowledge among participants toward DM management is still lack of accessible information. It makes the rate of knowledge among people is still low. Third, the quality of service received by participants during hospitalization is not in good review. As news spread very fast among patient, one patient stated that she does not received good service; it will make other patients tend to choose another hospital. Fourth, the desire to recover from the disease stated by participants is important, the burden and motivation that patient felt during medication is two factors that led them to recover faster as their will to continue to live is getting higher. In conclusion, those four points cover the research finding of diabetes mellitus type two clients in general hospital of Bima.

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