

The Role of Social Support on Coping Stress in Type-2 Diabetes Mellitus Patients with Gangrene Complications

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Abstract

This study aims to identify how the type of coping stress strategy for the type-2 diabetes mellitus patients, who experienced gangrene complication. Coping stress strategy is an efforts strategy to overcome feelings of stress due to illness. Coping stress strategy in this study is divided into two types, namely problem-solving effort, and emotion-focused coping. The method used in this study was a qualitative approach by taking three people with type-2 diabetes mellitus and complications of gangrene as participants. The method used for selecting the participants was a purposive approach. The data were collected using structured interviews and field notes. The data was analyzed by using thematic analysis with a theory-driven approach. The result shows that the three participants had a coping stress strategy to heal their stress while experiencing diabetes and gangrene complication. Patients were able to cope well with stress control routine, change their eating patterns, look for information on diabetes mellitus, and exercise regularly. Patients also got supports from professionals, family, and friends. Coping stress strategy techniques for each different subject depend on their surroundings. This study found that there is three dominant coping stress strategy chosen by the patients which are the planful problem solving and the seeking social support that belongs to the problem-solving effort section, and the positive appraisal section that belongs to the emotion-focused coping section. However, three patients also performed stress diversion, called escape/avoidance, to cope with their stress.

Keywords: coping stress strategies, type-2 diabetes mellitus patients, gangrene complication.

Introduction

Diabetes mellitus is one of the chronic diseases that have an increased number of patients and become a major public health problem worldwide^[1]. According to the World Health Organization, in 2010 the number of people with diabetes mellitus in the world has reached 271 million^[2]. In 2010, Indonesia was at the 4th rank globally with 8 million diabetes patients^[3]. Diabetes mellitus is differentiated into type 1 and type 2^[4].

Type-2 diabetes mellitus causes helpless feeling to its patient, a feeling that appears because he/she cannot change his/her future anymore. This feeling arises based on many causes, such as uncertain health condition, added with recovery and recurrence and also physical regression^[5]. Psychologically, when the patient knew

that they had diabetes mellitus, there would be concern inside his/her mind about what they will face later. This will lead them to stress stage. The emotions of denying, obsessed, anger, and frustration become the main reasons that eventually can cause stressfulness. This condition will give a negative impact on his/her body^[4].

Rustini describes that diabetes mellitus type 2 patient that experience gangrene complication has go through changes in his/her life behaviour, start from dietary habit, physical exercise, blood sugar control, gangrenous wounds treatment, etc that will happen throughout life with patience and in order to make his/her condition stable. Furthermore, patient will suffer physical regression. Gangrenous wounds condition will get worse and rot^[6].

Anggraeni and Cahyanti stated that one way to cope with psychological stress that diabetes mellitus patient had is by using a management strategy done by the patient. With this stress management strategy, people with diabetes mellitus, especially those who experience gangrenous complications, will be able to develop their own experiences about their disease including emotional and cognitive aspects which will ultimately help them to decide which stress management strategy is suitable for him/her to handle the stress^[7].

Stress management strategy is a process to resolve many demands both internally and externally, which exceed capacity from the patient. The stress management strategy refers to various efforts, both mental and behavioral, to master, tolerate, reduce, or minimize a stressful situation or event^[8]. A study conducted by Vázquez *et al.* about stress management strategy showed that optimistic individuals performed problem-solving effort directly in dealing with stressful events and problems associated with their health which in the end will affect their self-care and healing process in the future^[9]. Rohmah *et al.* on her research on coping mechanisms said that a good combination of both stress management strategies, namely problem-solving effort, and emotion-focused coping, would provide good results in improving the life quality of people with diabetes mellitus. Understanding of how to regulate diet, treatment, and self-acceptance, as well as the social support from family and surrounding is a strategy of the diabetics which makes their life better^[10].

Until today, research about psychological stress condition of a diabetic patient who suffers gangrene complication is still rarely found. Whereas, the data compiled by Rustini shows that the percentage of diabetic patients with gangrene complication has reached 50% of the total number of people with diabetes^[6]. Therefore, it is important to make a research to find what type from the stress management strategy that the type-2 diabetes mellitus patients with gangrene complication use.

Materials and Method

This study is a qualitative research with an intrinsic case study. Through a case study approach, the researcher could get a bold and integrated understanding of a special case. The special case was related to the individual. The type of case study used for stress management strategy research on type 2 diabetes mellitus patient with gangrene complication was intrinsic case stud. This type

was used to fully understand the case without making new concepts or theories or any generalizations^[11].

The participants were appointed purposively, which means the selection of participants was based on meeting certain criteria. The participants were typed 2 diabetes mellitus patients who have gangrene complication. Participants were gone through a screening test using an instrument by Sarafino. This instrument would help to find which participants have the lowest stress level, that later would be interviewed on how they use their stress management strategies that make them survive until now. The participant criteria in this study were type-2 diabetes mellitus patients who experience gangrenous complications, 40-60 years old, have diabetes mellitus and gangrenous complications for more than 5 years, and passed the screening test. The data was collected using interview and field notes. The interview was guided by general guidelines. These general guidelines were used to remind the interviewer about the questions, and as a checklist for whether the aspects discussed and asked was relevant or not. This research used thematic analysis. Thematic analysis is an information coding process which produces topic lists, topic models and related qualification^[12].

Results

In this research, there were various reactions from diabetes mellitus patient with gangrene complication, for example; shocked, disappointed, and depressed because his/her incomplete feet, pulling themselves from society and becoming helpless. We also found that this disease not only caused patients to lose physically but also psychologically. A patient who has stress experience because of this disease can also be found in this research. Initially, after suffering from gangrene complications and having to be amputated, diabetics could not accept the condition and often felt anxious about their current physical limitations. On their attempts to accept the reality they used stress management strategy in the form of confrontative coping. They did a lot of confrontative coping efforts such as not wanting to be taken to the hospital, lying to cover up their actual foot and physical condition to the doctor, and also not wanting to be amputated. Because of that, one of the patients had to go through longer treatment because he/she refused to get amputated.

Diabetics also need support from people around them. Social support is one of the indicators of the

stress management strategy from the problem-solving dimension, called seeking social support. Social support from the surroundings is very much needed to motivate the patients in order to recover. Without it, they might not survive until now. The types of social support that are received and needed by each person with diabetes are actually the same, but they also depend on the individual character and the environment. Patients with diabetes mellitus who have a supportive family would tend to ask help from their children and their partners, while patients who are closer to their friends would tend to ask support from friends. Patients admitted that social support from people around them has enhanced their spirits during their treatment. Diabetics with gangrene complication also have long-term plans to maintain their condition, focusing on how to heal the wound, to prevent stress, and to stay healthy. This step is included in a stress management strategy, specifically belongs to the problem-solving effort dimension, and called planful problem-solving. The action of planful problem solving performed by the patient, in this case, was shown by doing treatment and taking medication regularly. The other actions were shown by running diabetic diets to maintain blood sugar levels, fasting, consulting to a doctor, and treating the wounds regularly. These patients also learned about their disease in order to understand what to do with it.

In this study, diabetics with gangrenous complications also had a stress management strategy in the form of self-control to deal with stress due to their illness. It was found that self-control performed by the patients by not telling their problem if they could solve it themselves. They tried to sort out what things need to be told and what to be handled by their own. The next stress management strategy that these patients used was distancing. It was found that the distancing was performed by not to overly think about their illness and not to mourn about it. Patients tried to prevent stress by assuming that everything has its time.

In this study, it was found that diabetics with gangrene also carried out stress management strategies in the form of positive appraisal. The positive appraisal done by the patients was by being grateful to be able to survive until now and trying to find a positive meaning behind their situation. Patients also had an inspiration that makes them optimistic to be recovered. They had goals and had known what was important in their lives, for example, patients were eager to be healthy because they wanted to see their children succeeded and grew

up. Patients also tried to get closer to God by increasing worship and pray. They felt relieved after poured out all his heart during their prayers. It helped him/her to be calmer and less stressful in living his/her life. These positive appraisals helped the patients to relax and get optimal treatment. These patients have also done stress coping strategies in the form of accepting responsibility. In this study, the action of accepting responsibility was shown by acknowledging their diet mistakes which have led them to experience diabetes mellitus and gangrenous complications.

Discussion

Even though they have good planning to maintain their condition, diabetics with gangrene complication have also been in a condition where he/she is truly saturated with all the medical routines he/she has been doing. This is a stress diversion called escape/avoidance. In this study, it was found that the patients tried to divert stress by imagining a condition where he/she was not a person with diabetes mellitus. As explained above the patient was an active person, with the current situation sometimes they really wanted to feel normal like before. The patient also forgot to eat the diet that was suggested, even though he/she knew that the food was not good for his/her health. The stress management strategy in this study used the basic strategy described by Taylor. Stress management strategies are divided into 2 types, namely problem-solving effort, and emotion-focused coping that will be done by everyone when experiencing a stressful experience. In this study, diabetics with gangrene condition used both stress management strategies to manage their stress. Problem-solving effort is an attempt to do something constructive to overcome a situation that creates social stress, including an adverse, dangerous or challenging event faced by an individual. Meanwhile, emotion-focused coping is an attempt to regulate the emotions felt by individuals while facing social stressful event. In this study, we found that there were three biggest stress management strategies performed by the three patients. In the problem-solving effort section, there were the planful problem-solving actions and the seeking social support actions. While in the emotion-focused coping section, there were positive appraisal actions. These means that the three patients focused on their plans to solve the problem, their steps to overcome the wound condition so that they could prevent stress condition. After that, the three patients surrendered entirely to God. All of them agreed to surrender themselves and looked for the positive

meaning behind their current situation. They were aware of their priorities at the moment and not focusing on their sadness. The third is a stress management strategy that will not succeed without the support of people around the patient^[8]. This support makes the patient strong and eager to go through the day as well as motivates them to be healthy and healed. This support comes from family, neighbors, friends, and people closest to the patients, including medical personnel.

Conclusion

Diabetes mellitus is not only caused by genetic factors. All the three patients in this study, despite having the genetic factors, they also did not maintain their diet well. It was this diet that eventually led them to have diabetes mellitus and gangrene complications. The three patients showed different performance on handling stress using stress management strategies. There were three biggest stress management strategies performed in this study: the planful problem solving and the seeking social support which belongs to the problem-solving effort section, and the positive appraisal section which belongs to the emotion-focused coping section. The strategies focused on how they plan to solve the problem, what steps they must take to overcome the wound condition, and then surrender entirely to God. All three patients looked for the positive meaning behind their current situation and were aware of their priorities at that moment. Then, those strategies would not succeed without the support of people around the patient. This support made the patient strong and motivate them to heal. The support came from family, neighbors, friends, and people closest to the patients, including medical personnel. There was a difference regarding which was the most dominant stress management strategy used by each patient. The difference is caused by how the environmental conditions where the patient live.

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