

Development of Social Assessment to Diabetic Foot Ulcer Patients

Gusti Jhoni Putra¹, Cau Kim Jiu², Kharisma Pratama³, Syahid Amrullah¹

¹Departement of Medical Surgical Nursing, STIK Muhammadiyah Pontianak

²Departement of Community of Nursing, STIK Muhammadiyah Pontianak

³Department of Basic Science of Nursing, STIK Muhammadiyah Pontianak

gustijhoni@stikmuhptk.ac.id

Abstract.

Objective: One of the purpose in diabetic nursing care is to Improve the quality of life of patients with diabetic foot ulcer (DFU). Some aspects must be considered in patients with DFU, the aspects include in Social Aspects, that are Support of Family, Environment, Self Esteem and Economy. This is because of the support, activity and relationship influence on physiological and quality of life. Unavailability of sosial assessment to DFU can affect in determining the appropriate diagnosis and intervention. The purpose of this research is to develop the social support in wound assessment instrument for patients with DFU. **Method:** This research method was mixed method with sequential exploratory approach. There were 9 participants for qualitative methods and 103 respondents for quantitative methods. Validity test were by Pearson product moment with test retest approach, reliability test was by Cronbach alpha. Aiken's V was used to Content validity index test for 2 experts. **Result:** Nine themes emerged from the qualitative methods for social support. 35 items measuring instrument obtained a valid (0,372-0,843 > 0,235) and reliable results (Cronbach alpha 0,959 and 0,976). Result of content validity index is valid by 0,67-0,83. **Conclusion:** This study found 9 themes for social support, and the development of family support in wound assessment for diabetic foot ulcer patient that consist of 35 items is valid and reliable.

1. Introduction

The incidence of DFU in DM patients continues to increase and steal the attention of many parties to develop the latest innovations related to wound care. The aim of developing this innovation and technology is to accelerate the wound healing process so that patients can achieve optimal quality of life. Based on several factors that influence the healing of DFS, the development of innovation can be directed at physical, social, environmental, lifestyle management, nutrition, family support, interpersonal relationships, immunity, and psychosocial support ^[1].

The comfort theory of Kolcaba explains one of the four aspects of patient comfort, namely the social aspect. Based on its taxonomic structure Kolcaba developed an instrument to measure patient comfort, namely the General Comfort Questionnaire which aims to improve the quality of life

of patients through the theory of comfort^[2]. The convenience of sociocultural aspects includes the patient's social development in the form of self-concept, interpersonal, intrapersonal, and social environment. Disorders in social interactions will interfere with the patient's psychology and result in physiological healing of the wound^[3]. The high family support will affect the increase in self-esteem and patient social interaction so that patients will feel comfortable. The comfort felt by patients must be a priority and concern for nurses, in addition to physical, mental and environmental comfort, it also needs to be considered from its social aspects^[4].

A minimum attention from the family is needed to increase self-confidence and social interaction in DM patients^[5]. Every individuals spend a lot of time with family and society compared to the health team, 99% of time will be spent in families, workplaces and communities so that the roles and support of family and community are very influential in healing patients. Family and social support that is not optimal will cause stress to the patient. The stress response caused by disturbances in self-concept and individual social interaction will affect the work of several hormones, as said in the journal National Institutes of Health that including glucocorticoids, catecholamines, oxytocin, vasopressin, and cytokinin production, which results in wound healing itself^[6]. One's health is very influential on social support which will ultimately affect the work of the heart, neuroendocrine and patient immunity ^[23].

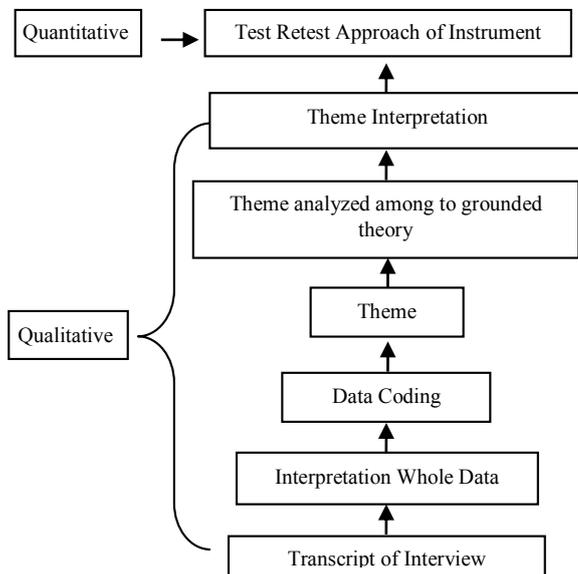
The results of the preliminary study by randomly interviewing several patients who experienced DFU, obtained data that 90% of them experience the risk of interference in interacting with others after experiencing injuries, such as feeling ashamed of data at work, following social activities around the place stay, and feel burdensome to family finances, and at the Kitamura clinic itself there are no special social assessment tools available for wounded patients. Seeing this phenomenon, the authors are interested in developing a social aspect injury assessment instrument with the kolcaba theory approach at the Kitamura Pontianak clinic, so that it can finally be determined psychosocial interventions that are specific and appropriate to the patient's needs so that the optimal quality of life of the patient will be achieved.

Method that used in this study is a mix method with sequential exploratory design. This design combines sequential qualitative and quantitative research methods, qualitative methods to find hypotheses, and to explore research topics by observing participants at the research site, followed by quantitative methods to test hypotheses found in previous stages in the wider population^[7].

Sample of this study was DFU patients at Pontianak's Kitamura Clinic. In the qualitative phase, the number of participants was 9 people, at the quantitative stage the number of respondents was 103 people. This research was conducted at the Kitamura Pontianak Clinic.

Quantitative questionnaires refer to the variables studied, namely the social aspects of the Kolcaba theory (self-concept, family support, environmental and economic support). Quantitative questionnaires tested for validity and reliability were obtained from the findings at the qualitative phase. The interview results were tested for validity with Aiken's V approach and obtained from valid and reliable results with a range of values between 0-1. Processing and analysis of qualitative data using the Creswell model. Analysis of validity and reliability of assessment instruments using the test-retest approach using the Pearson Product Moment formula. Processing and analysis of qualitative data using the Creswell model, followed by analysis at the quantitative, the course of the research is listed in the following figure.

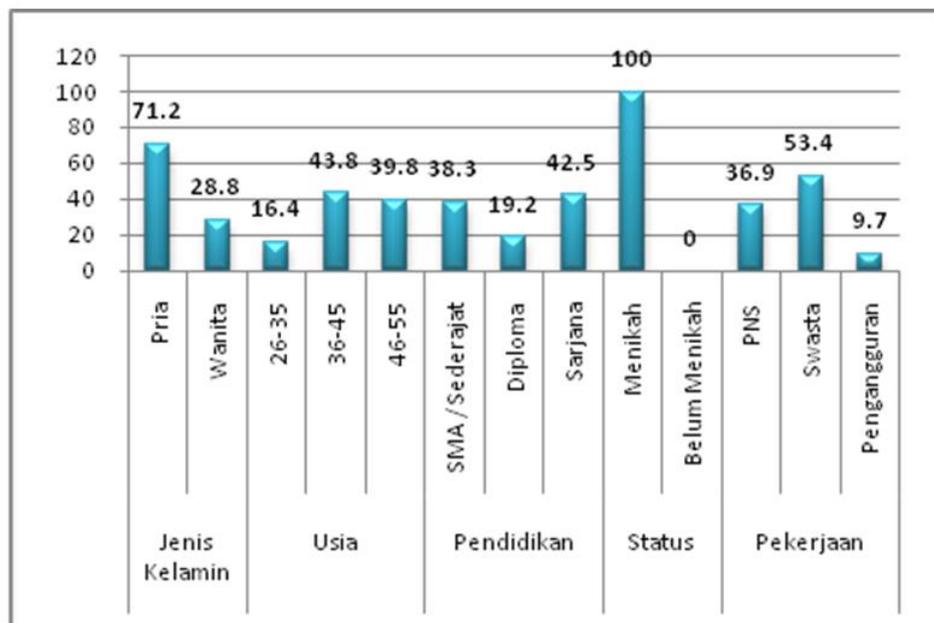
Picture 1. Research Stages



2. Result

2.1 Characteristic of Respondent

Picture 2. Characteristics of Respondents based on Gender, Age, Education, Marital Status and Occupation



2.2 Interview Result

2.2.1 DFU Patient Family Support

Family support of DFU patients found the theme of good quality support and comprehensive care from family members, efforts to obtain information needed to increase knowledge sourced from technology through family and health workers, supportive attitudes and expressions of empathy from the family can encourage high motivation to running the treatment process, and the family as a safe and comfortable place to express the emotions of patients with diabetic foot ulcer.

2.2.2 Environment Support of DFU Patient

Support for the DFU postal environment found the theme of activities and routines of social activities in the community, which was followed even though there were obstacles in their activities, and the attitude of the community was positive and supportive and ready to accept the patient's condition.

2.2.3 Self-Concept of DFU Patients

The self-concept of DFU patients with the theme of adaptive individual coping can improve perception and good self-actualization of appearance, identity and body function, as well as experience and benefits of wound care increasing motivation and self-confidence of patients with diabetic foot wounds.

2.2.4 Economic Support for DFU Patients

Economic Support for DFU patients found the theme of providing and managing finances for additional purposes in the treatment of patient foot ulcers.

Based on the analysis results obtained 9 (nine) themes. Where, all these findings were compiled into a social support model for patients with DFU at the Pontianak Kitamura clinic.

Table 1. Qualitative Theme Finding

Family Support	Quality of Support
	Attempts to obtain information
	A supportive attitude and an expression of empathy
	Family as a safe and comfort place to express emotional
Environment Support	Activities and routines of social activities in the community
	A positive attitude, support and accept the patient's condition by society
Self Concept	Adaptive individual coping
	Wound care experiences and benefits
Economic Support	Family financial management

From the findings of the theme, then an instrument for assessing social aspects of wounds was developed. The instrument was developed from the themes obtained at the qualitative stage which were then combined with the General Comfort Questionnaire (GQC) from the collegial nursing theory (Comfort theory). Furthermore, the results of the theme analysis and GQC are translated into statement and question items with a total of 38 item questions After the draft of the instrument is complete, then the validity test is carried out with the time series test retest approach, 35 items are declared valid, as evidenced by the results of $r_{count} > r_{table}$ and the value of $Sig. \leq \alpha$ (α)

3. Discussion

3.1 Family Support

3.1.1 Quality of Support

Patients with DFU at Clinic Kitamura Pontianak receive good quality family support, a form of support provided by family members in the form of providing and facilitating transportation for care, financial assistance for medical expenses, and providing time for listening and advise on patient health. The quality of good support and comprehensive care of the family is the basis of the support that should be provided to patients with DFU ^[9]

Support and care provided by the family in a comprehensive manner aims to facilitate the patient in doing all activities related to the problems faced. In this case the patient's limitations in the use of facilities and infrastructure, as well as the need for moral and material support in the treatment process. Family is expected to be responsible for the needs of each various family members, including the need for treatment. With a comprehensive care and good support to patients with diabetic foot injuries is expected can improve health and motivation of patients in their treatment to improve health status and good impact on quality of life^[9,10].

Family support can be in the form of a full family assistance in providing help, money, or providing time to serve and listen to the sick family in conveying their feelings. Patient will recover faster if the family helps him solve the problem effectively through his or her support.

3.1.2 Attempts to obtain information

In an effort to improve patient knowledge, family members are expected to be more active in finding and providing information about the disease and the risks. Information provided can make patients feel highly valued. From the results of the analysis, the family plays an active role in fulfilling the patient's information needs, the family attempts to provide the information needed by the patient^[11].

It is thus important that this information aid effort aims to improve the motivation and motivation of the patient in order to improve the health status optimally. Directly provided information support, of course, can reduce the burden of the family and certainly the burden for the patient itself, with information obtained, the patient will know the development of the disease, what complications and risks are likely to occur, so that patients will be motivated to keep abreast of routine care^[12].

Searching information about diabetic injuries is more frequently accessed via the internet. It is undeniable that the use of technology today is an individual need, the role of family and health personnel is needed to direct patients in finding health-related information. Accurate sources of information and appropriate media use include support that can be provided to patients to improve knowledge about diseases and treatment procedures during the treatment. More than 80% of patients with diabetes and its complications have insufficient knowledge and skills in managing the disease. Support information required can be information related to conditions and how to treat it ^[13].

3.1.3 A supportive attitude and an expression of empathy

The supportive responses, attitudes and expressions of empathy from the family in the treatment process make the patient feel happy and valuable. The patient's perceived appreciation will have a positive impact to their. Support in the form of positive attitudes and phrases from the family may affect the activity in carrying out their activities, Motivation and confidence of the patient comes from the family. In other words, patients who get high quality family support will have a high motivation in running the treatment process.

Other benefits, this family support can also improve the psychosocial status, and the patient's self-esteem, because the patient is considered still useful and exist for the family, from this situation the patient is expected to establish healthy behavior in an effort to improve health status^[14, 15]

Family support is expected to be consistent to the patient, given the long process of healing diabetic ulcers. If the attitudes demonstrated by family members are unstable, of course, can be felt by the patient, the unexpected negative impact is that the patient feels that the support provided by the family is a burden for the family in caring for the patient, and certainly influences the patient's motivation^[15]

The family serves as a source of energy that determines happiness, the family as a place to socialize in giving advice, suggestions, information and criticism. The decreasing family support along with the length of the healing process will have an effect on the patient's motivation in the healing process ^[16]

3.1.4 Family as a safe and comfort place to express emotional

Family is the closest person and a comfortable place for every individual. Family can increase the morale and motivation that affects the psychological and mental status, so that the patient can manage his emotional. Patients with DFU who are unable to manage emotionally are at risk of falling under stress. Stress or depression provides negative implications for wound care management and patient quality of life. Negative family support is one of the causes of depression ^[16]

Psychological stress can clinically affect wound healing and the workings of some hormones. Influential hormones include cortisol, glucocorticoids, ketocalamine, oxytocin, vasopressin, and citokinin which can lead to wound hypoxia. As is known cortisol increased due to stress will affect the increase of glucose through gluconeogenesis, protein and fat metabolism. In addition, cortisol can also affect the absorption of blood glucose levels and will affect the patient's immune system. Impacts that occur both physically and psychologically in patients will certainly greatly affect the quality of life and diabetic wound healing on the patient's feet^[17,18]

Support of the family, of course, it helps the patient to be able to maintain psychological health and improve his self concept. DFU patients who are in the family environment and are noticed by members of their family emotionally will be able to generate feelings of security and comfort, so that the patient is sure that the family cares and cares about him, this will certainly be very beneficial for the healing process of patients with DFU ^[18].

3.2 Environment Support

Patients with diabetic ulcers will get boredom regarding the schedule of treatment and care, therefore to overcome this need action on psychological factors so as to create a good quality of life. The participation of patients in socializing, physical exercise and filling positive free time in the community is a form of active participation for the successful management of diabetic foot ulcers

3.2.1 Activities and routines of social activities in the community

The results of the analysis of social support related to changes and barriers to activity show that there are changes and obstacles after a diabetic foot injury occurs, these obstacles include being more careful in activities, not being as free as the condition before being sick, and being physically weak after being sick. This is due to the long duration of wound healing (long proliferation phase). From the results of the interview, the participants stated that this would not be a barrier to maintaining routine activities in the community, so that the patient's quality of life was well maintained. Social interaction will be greatly influenced by one's self-image. Because when someone sees himself as good, that person will not feel ashamed or inferior in social interactions.

DFU sufferers with long duration do not always have a poor quality of life. This is due to the positive adaptation mechanism of these patients. This positive adaptation behavior refers to the coping mechanism which is oriented towards its role and function in society. Patients suffering from diabetic wounds with long duration are able to adapt to the environment if they are able to regulate emotional distress and can provide self-protection against stress.

3.2.2 A positive attitude, support and accept the patient's condition by society

The community shows an adaptive attitude to accept the patient's condition, this is of course a good support system for patients, social support for DFU sufferers obtained from family members, friends, relatives and health workers is an external source that can provide assistance to patients in overcoming and face his illness. An attitude of support and acceptance of the patient's condition is one form of positive support given by society to patients, so that patients feel cared for, valued, respected, and recognized for their existence. Social support that comes from close people such as spouses, family, friends, nurses and doctors has a big role for individuals in overcoming their illness.

Social support is not just in the form of assistance or acceptance and good relationships, but what is important is how the patient's perception of the meaning of help, attitude and relationship. Social relationships can aid psychological relationships, reinforce healthy living practices and aid recovery when patients can benefit from the support they get from the social environment. It is hoped that patients can experience real benefits from this form of support for their recovery.

The relationship between social support and self-acceptance in diabetes mellitus sufferers shows that social support has a positive correlation with self-acceptance of diabetes mellitus sufferers. The higher the social support the sufferer receives, the higher his self-acceptance^[15]

3.3 Self Concept

3.3.1 Adaptive individual coping

Based on interviews, patients with diabetic foot ulcers have individual coping that is adaptive to their self-image, so that changes in the patient's body function and shape do not interfere with the patient's self-image and activities in society. This adaptive response includes adaptive responses to current conditions, jobs, deficiencies, and to changing roles. The patient's self-concept in the role is also recognized by the patient that there is no change, either in the role in the family or in society and the workplace. From the patient's statement above, it can be concluded that individual perceptions and coping on the patient's self-image and body image are good.

Based on the results of this study, the researcher argues that the perceptions and coping of adaptive individuals depend on changes in body function caused by diabetic ulcers which make the patient unable to perform his own functions as a complete individual such as walking, working or doing homework. If the patient sees this as a positive thing, then the patient has a positive body image and self-image.

Body image or body concept (the concept of a body or body image) is a person's idea of his appearance in front of others. Body image is the basic foundation of the entire human personality. If you have a positive way of thinking, you will be able to accept changes in your physical appearance, but if you think negatively, you will be less accepting or rejecting your appearance, which will affect your self-concept ^[14,15]

3.3.2 Wound care experiences and benefits

The impact of long diabetic ulcer wounds on the survival of the quality of life of an individual, apart from requiring a lot of money and time, also affects the patient's psychology. Apart from psychological management, the type of dressing is also one of the things that supports fast wound healing. The old way of treating wounds, commonly known as conventional methods, is currently developing methods for treating wounds by paying attention to moisture balance or in other words, moisture.

The method of wound care, which is better known as the principle of moisture balance, takes into account the type of dressing that is applied to the wound. Wound care with a moist concept that is carried out routinely will accelerate the reduction of wounds and accelerate the process of granulation and reepithelial tissue formation, moisture in the wound environment will accelerate the wound healing process. Another benefit felt by patients with this modern wound care method is that it reduces pain during dressing changes and makes it easier to remove the gauze that was applied in the previous treatment.

Based on the results of interviews with patients regarding the benefits of routine wound care, there were several benefits that were felt by patients, namely the wound was cleaner, drier, odorless, tidier, and reduced pain. This benefit increases the patient's motivation to continue to carry out routine care, because the patient feels positive benefits from the treatment carried out, another impact that can be felt by the patient is high self-confidence when socializing with the wound that is neatly covered by the dressing used.

3.4 Economic Support

Income is a very determining factor in finding health facilities, in this case, the treatment of patients with diabetic foot ulcers. Low income factors and increased family needs can be the cause of the lengthy recovery time because the family is unable to fulfill the treatment procedure considering that treatment is long and tends to be expensive.

3.4.1 Family financial management

The source of medical expenses comes from the family and the patient's own income, this means that the family provides assistance for the patient care process. In addition, the maintenance costs and daily needs of the family are well managed. This means that the family has an important role in providing motivation, system support, and skills in managing finances. Financial preparation that is the main concern of patients with diabetes and ulcers is medical planning and family finances^[16].

Participants stated that the costs used for treatment and medication tend to be expensive. Financial resources and support from families are needed at this time, because inconsistent financial support can affect motivation in care and treatment for patients with DFU. This will result in the length of the treatment, so that treatment time and costs will also be more ^[17].

Health insurance indirectly affects patients to carry out care management, financial limitations will limit patients to seek information, care and treatment for themselves. Regarding the support system, in this case health insurance, it turns out that so far some of the participants claim to have used the health insurance provided at their place of work, especially for treatment and care, with this health insurance patients claim to be more helped and reduce costs, considering that diabetic foot ulcers are a disease which is very dependent on medication and routine care.

4. Summary

Based on the results of this study, it can be concluded that patients with diabetic foot ulcers need to get comprehensive support, both from their family and the community. The form of attention given comprehensively is in the form of attention in emotional, financial, and instrumental aspects (infrastructure), economic support provided by family and health insurance as well as a source of motivation for patients in carrying out the treatment process.

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