Diabetes Self Management Education (Dsme) through Calendar Media Increase of Foot Care Adherence of Type 2 Diabetes Mellitus (Dm) Clients

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Keywords: Diabetes Self Management Education, foot care adherence, DM, calendar.

Abstract: Foot problem is often the most common cause of DM clients to be hospitalized. The most common cause of DM foot problem is a sensory neuropathy resulting diabetic ulcers. Nurse as educator should educate the clients for the purpose of increasing foot care adherence. One form of education that can be given to type 2 DM clients is Diabetes Self-Management Education (DSME) through the calendar media. The purpose of this study was to analyze the effect of Diabetes Self-Management Education (DSME) through calendar media on foot care adherence of type 2 DM clients. Method: This study was a quasi-experimental pretest-posttest research with two-group design and used purposive sampling technique. Forty (40) respondents were divided into treatment and control groups. Samples were taken from the population of type 2 DM clients who followed the Prolanis program at Muhammadiyah Clinic of Lamongan who met the sample criteria. The independent variable was DSME through calendar media and dependent variable was of foot care adherence, instrument using Nottingham Assessment of Functional Footcare (NAFF) and observation sheet using Wilcoxon Rank and Mann Whitney. Result: The result showed that there was a significant increase of adherence level with ρ value = 0.000 using Mann Whitney test after receiving DSME intervention through calendar media. Discussion: DSME interventions through calendar media can increase foot care adherence because every DSME session explains DM as well as its management and every calendar sheet contains a message for daily foot care. Suggestions for further research to examine DSME through calendar media on changes in blood sugar level and HBA1c DM type 2 clients.

1 INTRODUCTION

Diabetes Mellitus (DM) clients who have elevated glucose levels will lead to advanced glycation end products (AGEs) (Xing et al., 2016), with increasing AGEs becoming free radicals that cause arteriosclerosis that will lead to various vascular complications such as neuropathy, nephropathy, retinopathy, coronary heart disease, and stroke. Arteriosclerosis leads to the flow of blood and nutrients that are discharged into the disrupted tissues that will lead to bruising, cold feet, easily injured, infection in the legs is also difficult to recover. In addition to arteriosclerosis, DM clients also experience neuropathy that causes the feet cannot feel the heat, pain, tingling. Therefore, the client will not be able to feel the wound, neuropathy will also weaken the leg muscles so that change the movement and shape of the foot, changes in pressure on the feet will gradually trigger injury (Tandra, 2013).

Problems on the feet become the most common cause DM clients are forced to undergo hospitalization at the hospital (Tandra, 2013). Foot ulcers are one of the most common problems affecting about 5% of diabetic clients each year. After ulceration of the skin, 33% of ulcers do not heal and up to 28% can result in amputation. The most common cause of DM leg problems is sensory neuropathy (Shearman, 2016). The consequences of this peripheral neuropathy (10-60%) will cause diabetic ulcers (Brownrigg et al., 2011). Based on a preliminary study at the Muhammadiyah Lamongan Treatment Center on September 15, 2017 from 10 DM type 2 clients following Indonesian Government Chronic Disease management program (PROLANIS), 10 clients (100%) experienced low adherence to foot care.
Strategies that can be used to prevent the occurrence of ulcers and further complications in type 2 DM clients include client education, multidisciplinary management, rigorous monitoring, and prevention of foot care (Brownrigg et al., 2011). One form of education that can be given to DM type 2 clients is Diabetes Self Management Education (DSME). According to Funell (2011) DSME is a process that facilitates knowledge, skills and self-care capabilities (self-care behavior) that is needed by diabetes clients. This is supported by the Orem DSME theory aims to improve the self-care agency, While the self-care agency can change any time influenced by predisposing factors such as knowledge, the role of nurses as Nursing Agency helps to maximize the ability of self-care implementation on DM type 2 clients through education in the form of DSME by using media. One of the educational media is with the calendar media that clients and family can expect to see every day about how self-care DM. A calendar medium containing material on DM can be used as a guide or a client’s knowledge guide on diabetes mellitus management. Calendars can be viewed daily by clients, so DM clients do not have to feel difficulty in implementing the DM program. According to Inarto (2013), the information conveyed through the calendar can be read repeatedly because the calendar will be used for 12 months so that the calendar can be used as a medium to get a response to the information submitted.

2 METHOD

The method used in this research was Quasy Experiment with the design of pre-post test control group design. The study was conducted at Muhammadiyah Lamongan Treatment Center on October 30 – November 30, 2017.

The population of the study were DM type 2 clients at Muhammadiyah treatment center that was 110 people. Sampling was done by using purposive sampling technique. The total sample size were 40 patients, divided into 20 clients as control groups and 20 clients as treatment groups. The independent variable was DSME with calendar media, and the dependent variable is foot care compliance.

The instruments used in this study were DSME calendar and NAFF (Nottingham Assessment of functional Footcare) questionnaire and observation sheet. Data were analyzed using Wilcoxon Signed Rank Test and Mann Whitney U Test with significance level ≤0.05. This research has passed the ethics review and been certified Ethical Approval with No 538-KEPK taken by the Faculty of Nursing, Universitas Airlangga.

3 RESULT

Table 1 explained that in the treatment group, all respondents in the pre test were included in the category of dutifully performing foot care with mean values of 44.20 and SD 7.84. Data of post-test distribution in treatment group showed that 19 people (95%) experienced an increase in compliance level of respondents' foot care, which showed that almost all respondents were obedient in foot care as well as an increase in mean value of 39.35. Pre-test in the control group showed that all respondents were in the category well-dutiful in performing foot care with a mean value of 46.3, while the control group's post test data showed that almost all respondents were obedient in foot care as well as an increase in mean value of 39.35. Pre-test in the control group showed that all respondents were in the category well-dutiful in performing foot care with a mean value of 46.3, while the control group's post test data showed that almost all respondents were obedient in foot care as well as an increase in mean value of 39.35. Pre-test in the control group showed that all respondents were in the category well-dutiful in performing foot care with a mean value of 46.3, while the control group's post test data showed that almost all respondents were obedient in foot care as well as an increase in mean value of 39.35. Pre-test in the control group showed that all respondents were in the category well-dutiful in performing foot care with a mean value of 46.3, while the control group's post test data showed that almost all respondents were obedient in foot care as well as an increase in mean value of 39.35.
4 DISCUSSION

DSME actions through calendar media increase the unity of DM type 2 clients in performing foot care.

DSME calendar media interventions conducted in the treatment group consisted of 4 sessions, intervention in the form of counseling and training skills with demonstrations such as the third session that is teaching foot care, by teaching the correct foot care skills DM clients can manage the disease properly so that the Self Care Agency increased. This also fits the understanding According to Funnell (2011) DSME is an ongoing process undertaken to facilitate the knowledge, skills, and abilities of DM clients to perform self-care.

In the control group, health counseling was conducted through a pro-active program every once a month, with the theme of DM. The health counseling has not been focused on a specific DM management material such as foot care so that the respondents are not aware of the importance and the proper way of foot care, as well as the effect of apabia foot care is not done regularly.

Based on the research results of Central DuPage Hospital (2003) in Kusnanto (2017) DSME is divided into four sessions. Each session is held for ± 60 minutes with the topic of each session different. Before the first phase, it is preceded by the initial meeting and at the end of the follow-up activities of each session. Respondents will more easily understand the explanations given by researchers because the material presented indirectly the overall material about DM but gradual and more specific discussion. In the material control group presented directly the whole material about DM from basic concept to its management so that the ability to recall information by the respondent is minimal. Gradual health education in the provision of materials will improve client knowledge that affects the compliance of foot care.

According to Norris (2002) DSME interventions can increase the knowledge of DM clients and their families about DM and its management as well as improve the psychosocial status of DM clients and their families with regard to beliefs and attitudes toward treatment and coping mechanisms. In the intervention treatment group given not only focused on the client but also to the family. DSME uses both direct and indirect counseling methods by encouraging the participation and cooperation of DM clients and their families. The family is part of the closest and inseparable client. With such support will lead to trust DM clients in managing the disease. Families will be able to remind clients if the family also understands about DM and its management. In the health counseling control group conducted only followed by the client alone without any assistance from the family so that families in participating in the management of DM become less optimal. The family plays an important role in the success of DSME because with family involvement the client can control the DM management independently.

Calender can be a good medium to get the reader's response to messages or information submitted and can be read repeatedly because the calendar is used for 12 months (Intarto, 2013). Everyday clients and family can view this calendar so they always read over and over again how to manage DM like foot care. Families can also remind each time the client must perform foot care by looking at the calendar. In addition to the material about DM and the management of this calendar also contains the schedule of physical exercise and blood glucose examination as well. In this calendar there is also writing to do foot care every day. The media used for health education are increasingly being seen by the respondents, the higher the success rate that will be achieved is the compliance of foot care.

According to Edgar Dale (1994) in Nursalam and Effendi (2008) using print media involving images of the target ability to recall the given information of (30%). Calendar is part of the print media, in this calendar is explained about DSME materials starting from session 1 to session 4, the treatment group can look back on this calendar after it is explained by the researcher so that it can recall again to what has been described.

5 CONCLUSION

Conclusion: Diabetes Self Management Education (DSME) through calendar media can improve compliance for foot care for DM type 2 clients because each DSME session describes DM and management, family involvement, and every calendar sheet there is a message for daily foot maintenance that can be repeated at any time.

Recommendation: In further research it is suggested to examine DSME through calendar media to changes in blood sugar values and HBA1c DM type 2 clients.
REFERENCES


