

The Effectiveness of Video-Based Diabetic Foot Wound Care Education in Post Hospitalization Patients as an Effort to Increase Patient Knowledge: Systematic Review

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Abstract

Introduction : Wound is a damage to the integrity of the skin that can occur when the skin is exposed to temperature or pH, chemicals, friction, pressure trauma and radiation. Video learning is a learning method that uses recorded videos to assist in the learning process. Using this method, it can provide a stimulus to three important parts of learning, namely emotional, intellectual and psychomotoric. Methods: A systematic review approach is used to systematically evaluate the results of studies that assess the effectiveness of using the video method in providing education on diabetic foot care. Conclusion: From the results of a review of the five articles, it can be concluded that the educational video method can significantly increase patient knowledge in treating diabetic foot wounds.

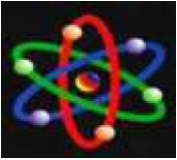
Keywords: Educational Videos , Diabetic Foot Wounds , Self Care

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INTRODUCTION

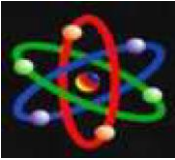
Diabetic foot ulcers are one of the chronic complications of diabetes mellitus in the form of wounds on the surface of the skin of the feet of diabetics accompanied by inner tissue damage or tissue death, either with or without infection, which is associated with the presence of neuropathy and or peripheral arterial disease in patients with diabetes mellitus. (Alexiadou and Doupis, 2012). Diabetic ulcer is a complication of diabetes mellitus that occurs due to poor glycemic control, neuropathy, peripheral vascular disease, and poor foot care. It is estimated that the number of people with diabetes mellitus globally is 537 million people. According to a report by the International Diabetes Federation (IDF) that the prevalence of diabetic foot ulcers is 9.1 million to 26.1 million sufferers each year. In Indonesia, diabetic foot wounds are the most common cause of hospitalization, namely 80%. The prevalence of diabetic foot wounds in Indonesia is around 15%, with an amputation rate of 30%, and a mortality rate of 32%. Nurses have an important role in preventing recurrent diabetic foot ulcers. It is important to know and identify the risk factors for diabetic foot ulcers in preventing recurrent diabetic foot ulcers. Video media has a function as a learning medium, namely the function of attention, affective function, cognitive function and compensatory function (Arsyad 2003). The function of attention is that video media can attract attention and direct the audience's concentration on video material. The affective function is that video media is able to arouse the emotions and attitudes of the audience. Cognitive function can accelerate the achievement of learning objectives to understand and remember

messages or information contained in pictures or symbols. Meanwhile, the compensatory function is to provide context to audiences whose abilities are weak in organizing and recalling the information that has been obtained. Thus video media can help the audience, namely students who are weak and slow to grasp a message, to easily accept and understand the innovations conveyed, this is because video is able to combine visual (image) with audio (sound).

RESEARCH METHODS

A systematic review approach using the Joanna Briggs Institute (JBI) framework was used to systematically evaluate the results of studies assessing the effectiveness of video-based diabetic foot wound care education as an effort to increase patient knowledge. A detailed systematic search was conducted to find research articles on the effectiveness of video-based diabetic foot wound care education as an effort to increase patient knowledge of quasi-experimental research designs. The search was conducted on three databases, namely SinceDirect, Scopus, and goggle scholar using the keywords video education, diabetic foot, self-efficacy and related MeSH terms. The inclusion criteria for selecting articles in this study were determined according to the PICOS approach which consisted of: (1) Population: adult patients with diabetic foot ulcers; (2) Intervention or comparison: educational videos or written education; (3) The output or outcome is the patient's knowledge status; and (4) English quasi-experimental research designs published between 2011 and 2022. Articles that did not meet the above inclusion criteria were not included in the





review. Important information about study results from all articles was filtered to highlight criteria such as country of study, study design, study population (number, age, sex), interventions and controls, outcomes, and results. The selected articles were then assessed for their quality using a quasi-experimental instrument issued by JBI.

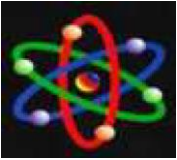
RESULTS

The initial search yielded a total of 194 articles which, after being selected based on title, year of publication, duplication, and type of article, left 20 articles. After a detailed assessment of the full text, 5 articles were obtained that met the inclusion criteria where these five articles also met the requirements when a critical appraisal was carried out so that all were included in the review. Detailed

characteristics and quality of the studies reviewed are presented in the table. Of the five articles that were screened, all were published within the last ten years with most of the research conducted in Turkey (50%). Based on the research design used, of the five articles there were 2 RCT articles, 2 quasi-experimental articles and 1 scoping review article. All articles used video interventions where 4 articles gave this exercise to the intervention group. four articles divided respondents into the intervention group (KI) and the control group (KK). The video duration ranged from 10 minutes and was conducted for 2 months. The number of samples in the selected articles ranged from 20 to 130 people with ages ranging from 20 to 80 years and the sexes of the majority were women. Based on the research output, 5 articles focused on the effect of video on knowledge.

1	Sherry et al (2011)	America	RCTs	30	54,3	N/A	N/A	N/A	Videos	Written material	53.3 % written material is read
											88.2% of videos were watched 1-3 times while in the hospital
2	Murtaza et al (2018)	Canada	Scoping review	62 articles	N/A	N/A	N/A	N/A	Videos	Written material	Out of a total of 62 studies included in this review, 38 (61%) studies reported significant differences between the intervention group (video





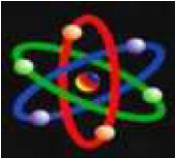
										or interactive education) and the control group (i.e., standard education	
3	Somayyeh et all (2021)	Iran	Clinical trials conducted	90 people	20- 80 yrs	20- 80 yrs	N/A	N/A	The video plays for 45 minutes	Face to face for 45 minutes	Comparison of Pre and Self-Care Test Scores
4	Mahboubeh et all (2021)	Iran	experimental controlled study	105 people	51.14 ± 5.05	50.06 ± 5.62	Q :27 (77.1)	Q : 26 (74.3)	The video plays for 30 minutes	Receiving no intervention	Variation in average self- efficacy scores before and 3 months after intervention in the video recording method: 8.26 ± 5.30 while in the control group 2.54 ± 1.77
5	Berna et all (2020)	Türkiye	experimental controlled study	130 people	49.5 ± 17.4	54.7 ± 13.6	47.7% are women	50.8% are women	Using a mobile app for foot care	Standard care education	the animation- supported M-DFCE and 4.6 (1.6-5) 1 month after receiving education

Table 1. Previous systematic review

The main purpose of this review is to update a previous systematic review which discussed the effect of video-based education on increasing the knowledge of patients with diabetic foot wounds. With the provision of video-based education, it will greatly assist patients in remembering

the learning material provided because video-based education is much easier to remember and understand for patients of all ages.





CONCLUSION

This systematic review concluded that video-based education can significantly improve patient knowledge. Video-based education makes patients quickly remember and understand the education provided compared to oral or written-based education.

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