Development and Evaluation of a Diabetes-Periodontal Disease Educational Video Module

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Purpose

The connection between oral and systemic health has become exceptionally apparent in recent years, and yet, many individuals are unaware of this link. Educational video modules (EVM) serve to inform patients of the direct association between oral and overall health. The purpose of this study was to develop and evaluate the effectiveness of a diabetes-periodontal disease EVM in medical and dental health centers among patients and care providers.

Background

Diabetes ranks as the sixth major cause of death in the United States, affecting 8.3% of the population (25.8 million children and adults). Additionally, half of Americans aged 30 years or older (64.7 million individuals) have periodontitis. Research has shown that a direct association exists between periodontal disease and diabetes, each exacerbating the complications of the other. Minimizing complications of both periodontal disease and diabetes can be accomplished by raising awareness and educating patients.

In the past, most patient education material was written at a 10th grade literacy level. However, about 20% of Americans may read at lower than a 4th grade level. EVMs provide a more convenient and effective method of informing patients. Huang et al. found that knowledge increased significantly for patients that were shown an educational multimedia presentation focusing on diabetes compared to the control group that did not see the presentation. Furthermore, knowledge significantly increased between pre- and post-test in the experimental group.

Methods

An EVM focusing on periodontal disease-diabetes was developed which targeted a 5th grade literacy level to provide effective education for a wide range of patients in a rural population. The EVM was sent to three dental centers and one nutrition and diabetes center across north-central Wisconsin, to receive feedback from hygienists and nurse educators. The EVM was also shared in the waiting room via iPad to all willing patients throughout one workday at each of the centers. Patients were asked to rate their knowledge on the topic prior to seeing the EVM. After viewing, patients were asked a series of questions evaluating their reactions to the content.

The study protocol was approved by the Marshfield Clinic Research Foundation’s Institutional Review Board under 45CFR46.101 (b) (1&2), (IRB number ACH10212).
Results

Feedback was received from 43 patients from the dental centers and 10 diabetic patients from the nutrition and diabetes center. Fifteen hygienists and two nurse educators also provided feedback on these EVM. Respondents provided overall positive comments and 85% of dental and diabetic patients thought that the average patient would benefit ‘somewhat’ to ‘greatly’ from viewing it. Of hygienists and nurses, 88% ranked the EVM ‘somewhat’ (24%) to ‘very’ (65%) useful for patient education. Furthermore, 82% of hygienists and nurses said the EVM would assist them in educating patients.

Fifty-one percent of all patients reported their knowledge increased from ‘no/not much knowledge’ to ‘some/lots of knowledge’ after viewing and a total of 92% reported having ‘some/lots of knowledge’ following viewing, regardless of initial knowledge-level. Without being prompted, 21% of dental patients mentioned they or someone they know had diabetes.

Forty percent of diabetic patients reported that their knowledge level did not change after viewing the EVM and 50% thought it would be more beneficial for them if the EVM went into more detail (versus 16% of dental patients).

Seventy-seven percent of all patients thought the most effective way to implement the EVM would be in a waiting room. Many patients and hygienists thought it would be beneficial to include more information about general brushing and flossing techniques and healthy eating habits.

Conclusions

Providers found the EVM to be beneficial for patient-education, and noted they would utilize the tool in their practices. Dental patients thought the EVM was at an appropriate educational level for the average individual to benefit from. While still finding the EVM effective, diabetic patients had different opinions than dental patients. They desired more details perhaps because the EVM directly relates to their personal health.

Implementation of oral-systemic patient EVM into medical and dental clinics will be beneficial in improving awareness and knowledge to the association between oral and systemic health and ultimately help improve patient health. These EVM will serve to benefit a wide age-range of patients as well as assist healthcare providers as an educational tool.

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References


