Patient Education

Full Project

Description

The World Health Organization defines patient education as “any combination of learning experiences designed to help individuals improve their health, by increasing their knowledge or influencing their attitudes.”[1] This combination of learning experiences consists primarily of providing verbal and written material to the patient to improve their motivation to maintain oral health and prevent complications from dental treatment received. Patient education offers an understanding of good oral health, the disease process and instruction about behaviors and hygiene activities to assist the patient. Providing patient education can result in improved long term oral health which can lead to better outcomes with the use of preventive dentistry and dental services. Patients who have a strong understanding of their disease process are much more likely to control their disease and not have repeated setbacks.[2]

Motivational interviewing (MI), a technique developed by clinical psychologists Drs. William R. Miller and Steven Rollnick, is defined as a “directive, client-centered counseling style for eliciting behavior change by helping clients to explore and resolve ambivalence.” Thus it is more focused and goal-directed than simply imparting health information.[3]

Application in Office or at Home

Oral health information for prevention or maintenance of restorative procedures can be disseminated in a number of formats such as one-to-one instruction, through oral or written instructions such as pamphlets, and the internet, or through various multimedia formats such as self-instructional DVDs that patients can watch at home or in the office. Direction one-to-one instruction is the most intensive method of patient education.

One format that is being used as an approach to promoting and improving patients’ oral health as well as improving adherence to treatment regimens is “motivational

interviewing" (MI). This technique has been developed by clinical psychologists, William Miller and Steven Rollnick, and is defined as a "directive, client-centered counseling style for eliciting behavior change by helping clients to explore and resolve ambivalence."[3] Thus, it is more focused and goal-directed than simply imparting health information.[3] Behavior change is motivated by the individual rather than by the health provider. MI has been effectively used in substance abuse treatment, smoking cessation, weight loss, diabetes treatment, and prescription adherence and follow-up.[4] MI is a learning experience that can lead patients to specific outcomes such as reduced dental disease. Several studies have demonstrated reductions in early childhood caries incidence when using MI with parents.[5-7]

Effectiveness

A pilot study was conducted among a convenience sample of second-year dental hygiene students to test the effectiveness of coaching to improve students' skills in adhering to MI techniques.[8] To assess the students' MI techniques during a patient education session, the first session was audiotaped and analyzed to provide feedback and additional coaching. This was then followed by a second audiotaped session. The use of the coaching sessions resulted in improving the students' skills in MI, and outcomes improved.

Third-year dental students received brief training on MI theory and techniques that were to be applied with patients. Students then provided self-report papers in which they documented the MI-related techniques used during the patient encounter.[9] The papers were assessed for the students' ability to appropriately identify the intervention to the patient's stage of readiness to change. This exercise assisted the students in improving their interviewing techniques.

A Cochrane review assessed the impact of interventions that were based on psychological models and theoretically-based framework to improve patients' adherence to oral hygiene instruction. Four randomized controlled trials were identified, but the

quality of the studies lacked rigor in research design methodology. The Cochrane review concluded that psychological interventions such as motivational interviewing may be effective, however more studies, including randomized trials, are needed to adequately assess approaches in behavior changes to improve oral hygiene related behaviors.[10] Other systematic reviews for the effective of oral health behavior models found that motivational interviewing was an effective method for changing behaviors in clinical settings.[11,12]

MI has been shown to be effective in promoting preventive behaviors in mothers of young children at high risk for caries. [5-7] In one study children in the MI group showed a significant reduction in caries incidence as compared to children in a control group whose mothers did not receive MI. The results of this study show that MI has a protective effect with regard to the development of early childhood caries. [5]

Motivational interviewing may be effective in adult caries prevention, however more studies including randomized trials are needed to adequately assess approaches in behavior changes to improve oral hygiene-related behaviors.[13]

Post-Treatment Patient Education: During a one-year period all patients enrolled received the usual procedure for periodontal maintenance visits, but patients who were considered to be irregular compliers (missed one or more scheduled visits) and non-compliers (abandoned therapy or never returned to the program) received additional information to improve compliance such as reminders of follow-up visits, patient education about periodontal disease, reasons for maintenance, and the consequences of not adhering to the program. As a result there was an increase in the compliance to the maintenance program.[14] In another study, a randomized controlled trial was used to evaluate an individually tailored patient education program for periodontal health. The motivational interviewing was compared with a standard oral health education program in patients with non-surgical periodontal therapies with a one-year follow-up period. The study results showed that the tailored patient education programs were preferred to the standard patient education format.[15] -Accordingly, a number of studies have now reported that increased patient compliance to supportive periodontal treatment was likely due to patient education activities carried out in the dental office to improve compliance.

These patient education efforts included activities such as documenting the patients' compliance in their records, informing patients of resulting outcomes in the event of not complying and identifying potential noncompliers before initiating periodontal therapy.[16]

Cost

Patient education materials for dental office use will likely consist of some combination of the following materials: pamphlets; CDs and or DVDs, and age-appropriate books and games. In the United States, the average cost of an educational DVD is approximately $75, with pamphlets or other patient-oriented material costing between $1 and $2. An average U.S. solo practitioner with 2,500 patients would likely spend approximately between 1 percent and 2 percent of gross income on patient education materials annually. This will vary across countries.

An additional cost is the time spent by the provider (dentist or hygienist) in providing the education. A reasonable estimate of time spent on patient education is 2 percent to 5 percent of the appointment time. Therefore, a reasonable approach to estimating the cost in terms of provider time is to determine the average number of appointment hours per provider and the provider's average hourly salary and then calculate an annual cost of provider time for patient education.[17-18] The provider can be a dentist, hygienist, assistant, community health worker, nurse etc., so the salary will be the variable which that most predicts the cost. To improve patient outcomes, most dental care providers will require training in motivational interviewing techniques. This training will take some time and should be included in the cost of implementing a well-planned patient education program. However, a well-designed combination of patient education experiences is likely to improve the treatment outcomes of patients who are motivated to improve their oral health.

References

1. World Health Organization. "Health Topics" http://www.who.int/topics/health_education/en/ accessed February 2011.

2. Jernigan, K. "The Importance of Patient Education: Knowledge Has Many Different Benefits", June 5, 2009. http://www.suite101.com/content/the-importance-of-patient-education-a123056 accessed February 2011.

3. Rollnick S, Miller WR. "What is MI?" Motivational Interviewing (Resources for clinicians, researchers, and trainers), May 2001. http://motivationalinterview.org/clinical/whatismi.html accessed February 2011.

4. Rubak S, Sandbaek A, Lauritzen T, Christensen B. Motivational interviewing: a systematic review and meta-analysis. Br J Gen Pract. 2005 April ;55(513):395-12.

5. Philip Weinstein, Rosamund Harrison and Tonya Benton. Motivating mothers to prevent caries:Confirming the beneficial effect of counseling; *J Am Dent Assoc* 2006;137:789-793.

6. Harrison, Rosamund; Benton, Tonya; Everson-Stewart, Siobhan; Weinstein, Phil. Effect of Motivational Interviewing on Rates of Early Childhood Caries: A Randomized Trial. *Pediatric Dentistry*, Volume 29, Number 1, January / February 2007 , pp. 16-22(7).

7. Freudenthal JJ, Bowen DM. Jan 1. Motivational interviewing to decrease parental risk-related behaviors for early childhood caries. *J Dent Hyg.* 2010 Winter;84(1):29-34.

8. Croffoot C, Krust Bray K, Black MA, Koerber A. Evaluating the effects of coaching to improve motivational interviewing skills of dental hygiene students. *Dent Hyg*. 2010; 84(2):57-64.

9. Hinz JG. Teaching dental students motivational interviewing techniques: analysis of a third-year class assignment. *J Dent Educ.* 2010 December; 74(12):1351-6.

10. Renz A, Ide M, Newton T, Robinson P, Smith D. Psychological interventions to improve adherence to oral hygiene instructions in adults with periodontal diseases. *Cochrane Database of Systematic Reviews* 2007, Issue 2. Art. No.: CD005097. DOI: 10.1002/14651858.CD005097.

11. Martins RK, McNeil DW. Review of Motivational Interviewing in promoting health behaviors. *Clin Psychol Rev*. 2009 Jun;29(4):283-93. Epub 2009 Feb 23.

12. Yevlahova D, Satur J. Models for individual oral health promotion and their effectiveness: a systematic review. *Aust Dent J*. 2009 September; 54(3):190-7.

13. Burke BL, Arkowitz H, Menchola M. The efficacy of motivational interviewing: a meta-analysis of controlled clinical trials. *J Consult Clin Psychol* 2003; 71: 843-61.

14. De Carvalho VF, Okuda OS, Bernado CC, Pannuti CM, Georgetti MA, DeMicheli G, Pustiglioni FE. Compliance improvement in periodontal maintenance. *J Appl Oral Sci.* 2010 June; 18(3):215-9.

15. Jonsson B, Ohrn K, Lindberg P, Oscarson N. Evaluation of an individually tailored oral health educational programme on periodontal health. *J Clin Periodontol.* 2010 October; 37(10):912-9.

16. Wilson TG Jr, Hale S, Temple R. The results of efforts to improve compliance with supportive periodontal treatment in a private practice. *J Periodontol.* 1993 April; 64(4):311-4.

17. “Hourly Rate Snapshot for Dental Hygienist Jobs”. http://www.payscale.com/research/US/Job=Dental_Hygienist/Hourly_Rate access ed February 2011.

18. “Dental Hygiene Salary”. http://www.healthcaresalaryonline.com/dental-hygienist-salary.html accessed February 2001.