A Self Determination Theory Guided Intervention Program for Tobacco Dependence in Adult Otolaryngology

Dr. Beth Phelps DNP, APRN, CNP

University of Illinois Chicago College of Nursing

Smoking Cessation in Adult Otolaryngology Clinic

- The purpose of this study was to evaluate the effectiveness and cost of implementing a tobacco dependence program for adult otolaryngology patients by a nurse practitioner in a clinical office setting
- A prospective non-randomized interventional design study was conducted in a single otolaryngology practice in downstate Illinois
- Inclusion criteria: adults age 18 and older, able to provide informed consent, currently smoking cigarettes, and must read, write, and speak English
- Twenty patients were enrolled in the study from January 1, 2013 thru May 30, 2013

Self Determination Theory

- Developed in 1980 by Dr. Edward L. Deci and Dr. Richard M. Ryan from the Department of Psychology at The University of Rochester
- Based on the principle that there are three basic psychological needs; competence, relatedness, and autonomy (Deci & Ryan, 2000)
- The authors believe that "humans are active, growth-oriented organisms" (p. 229) therefore; "… people will tend to pursue goals, domains, and relationships that allow or support their need satisfaction. (p. 230)
- In the context of self-determination theory, it is necessary for patients to make a conscious decision to change by internalizing new values, motivations, and behaviors
- When supporting a patient's autonomy in making a medical decision about smoking cessation; it is important to fully support the patient's choice to make decisions about their own goals and treatment plan

Dr. Daryl Sharp has identified 14 interpersonal strategies that "reflect an autonomy supportive approach to working with patients who smoke" (Sharp, Bellush, Evinger, Blackman, & Williams, 2009, p. 7).

- Frequent reflection on what the patient is saying will reinforce that there is understanding.
- The patient should be asked if they have any questions.
- Educational material needs to be offered about health risks, medications, and the quitline if the patient is interested.
- For individuals ready to quit in 6 months to one year; it is necessary to ask them in a non-threatening way why they want to wait. Not pressuring the person is important.
- At the end of the conversation it is important to agree on a time in the future to discuss their tobacco use.
- For the patient ready to quit in the next 30 days; a Quit Plan should be discussed.
- The Quit Plan helps the person think about coping skills.
- Changing their routine can be helpful. Thinking about what time of day or during what activities they are most likely to smoke or have difficulty not smoking are often helpful. Patients can then think about strategies to try when the craving arises.
- Discussion of medications such as Varenicline, Bupropion, and Nicotine Replacement therapies is necessary

Measurement Tools

- The Treatment Self-Regulation Questionnaire (TSRQ) asks 15 questions that are rated on a seven-point Likert-type scale, ranging from 1 (not at all true) to 7 (very true)
- The Perceived Competence Scale (PCS) asks 4 questions about how confident patients are that they can quit smoking .
- The Health-Care Climate Questionnaire (HCCQ) is a 6-item tool that assesses the patient's perceptions of how supportive they felt their healthcare provider was during the intervention
- The Fagerstrom Tolerance Questionnaire is widely used to measure physical dependence on nicotine.

Williams, G. C., Lynch, M. F., McGregor, H. A., Ryan, R. M., Sharp, D., & Deci, E. L. (2006a). *Validation of the "important other" climate questionnaire: Assessing autonomy support for health-related change* Retrieved from http://find.galegroup.com.proxy.cc.uic.edu/gtx/infomark.do?&contentSet=IAC-Documents&type=retrieve&tabID=T002&prodId=AONE&docId=A149984235&source=gale&srcprod=AONE&userGroupName=uic&version=1.0

Results

- Out of the 20 participants; 14 (70%) chose to make a quit attempt.
- Six were not interested in making a quit attempt.
- Three of the twenty were lost to follow up.
- Seventeen completed all three visits and questionnaires.
- Of the 14 participants choosing to make a quit attempt, each one had the option of using pharmacotherapies.
- Three participants made successful quit attempts (21.4% of the 14) and all three used different methods of cessation).
- Four of the participants successfully decreased their nicotine intake (28.5% of 14) and chose the following; counseling alone (3) and Chantix (1).

Results Continued

- Counseling with/or without medication was the only method that showed significance for impacting cessationχ^2=3.59; df 1; P=0.05.
- Due to small group size; Fisher's Exact Test was also calculated for this same test statistic showing; P=0.11.
- Chantix χ^2 0.02; df; P=0.87. Bupropion χ^2 3.28; df 1; P=0.07. Patches $\chi^2$0.04; df; 1; P=0.52. Nicotine replacement gum $\chi^2$0.93; df 1; P=0.33. Bupropion plus patches χ^2 0.93; df 1; P=0.33.
- A one-way ANOVA was used to test for differences in Fagerstrom scores among three groups (quit, decreased, and no change). Differences among groups were significant when comparing month two scores in smokers vs. those who quit smoking. $F(1,12) = 7.16$, $p = .020$.
- Patients who reported quitting or decreasing were more autonomously motivated at the initial visit than those making no changes.A one-way ANOVA was used to test for differences. F (2, 17) =6.24; P=.009. There were no statistically significant differences in Controlled Motivation or Amotivation scores over time. PCS and HCCQ scores also showed no changes over time.

Interesting Findings

- Although not significant, the average number of cigarettes consumed decreased from an average of 31.25 to 13.75 in patients decreasing intake but not quitting in the 2 months of the study. Thirty-five percent (7/20) reported either complete cessation or decrease in tobacco intake within 60 days. This is consistent with published data from the 2008 guidelines.
- The average time spent per patient discussing tobacco cessation was 5 minutes per session or 20 minutes per patient. Time was not a significant factor in determining quit rates.
- The best indicator of willingness to quit was autonomous motivation in this small sample.
- Validation of patient reported nicotine consumption by cotinine levels was not done

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