



## EFFECTIVENESS OF NURSE-LED SMOKING CESSATION PROGRAMS

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### Abstract

Approximately 50% of smokers succumb to diseases directly caused by smoking. Cessation of smoking may mitigate these issues. Smoking cessation therapies include a range of methods aimed at assisting smokers in effectively quitting. Research indicates that hospitalization is a valuable chance for nurses to assist patients in quitting smoking due to the implementation of No Smoking policies. The objective of this research was to elucidate the role of nurses in the design and execution of nursing interventions pertaining to smoking cessation. A comprehensive literature review was conducted using various databases including Web of Knowledge, ProQuest, Medscape, MedlinePlus, Ovid SID, Magiran, PubMed, and Science Direct. The search covered the period from 1990 to 2015 and focused on the following keywords: role of nursing in smoking cessation, nursing intervention in smoking cessation, smoking cessation, smoking quitting, and interventions planned by nurses. The majority of research used various approaches, such as manuals, booklets, brochures, training materials, and printed instructional materials, as well as audio and video files. Several research included nicotine replacement strategies, including the use of nicotine skin patches, nicotine chewing gum, or bupropion. In addition, 17 investigations were undertaken by telephone to follow up with patients after they were discharged from the hospital. Nurses' interventions for smoking cessation are crucial in facilitating effective smoking cessation among patients. Nurses may use a range of interventions based on the patient's specific state and diagnosis of various illnesses.

**Keywords:** nursing in smoking cessation, nursing intervention, smoking cessation, smoking quitting, nurses, review.

### 1. Introduction

Smoking is a method by which individuals are susceptible to a range of illnesses, including several types of cancer, which may eventually lead to death. Smoking is a known cause of cancer and several health issues. According to multiple sources (Centers for Disease Control and Prevention 2010; Edwards 2004; Health and Services 2012), 87% of lung cancers



are directly linked to smoking. The number of fatalities and impairments caused by smoking is rising on a daily basis (Rice & Stead 2008; Rice et al. 2013). According to statistics, around 50% of smokers succumb to diseases caused by smoking (Patient Trusted Medical Information and Support 2015). Smoking causes the death of 440,000 individuals in the United States every year (Fung et al. 2005; Meenan et al. 1998; Newhouse et al. 2011, Whyte et al. 2006). World Health Organization data indicates that smoking is responsible for one death every 8 seconds worldwide. Furthermore, as stated in a study by the World Health Organization, smoking is responsible for more than 3 million fatalities per year. According to estimates, the number of persons affected is projected to increase to 6 million each year by 2012 and then to 8 million by 2030 (Chaney & Sheriff 2012; Peto et al. 1996; WHO 2011, 2015; Wipfli 2012).

## **2. Smoking cessation therapies**

Cessation of smoking is advantageous for smokers of all ages and levels of tobacco use (Canv 2012). Smoking cessation therapies include a range of methods aimed at assisting smokers in effectively quitting. The consultation processes include several methods for quitting smoking, including individual or group sessions, use of nicotine replacements, hypnotism, acupuncture, behavioral programs, and the use of drugs such as tricyclic antidepressants. Utilizing a mix of these strategies often yields more results than relying on a single process alone. The optimal approach to stop smoking include prioritizing self-care and seeking guidance and support from a healthcare practitioner. Healthcare professionals, such as doctors, dentists, nurses, and others, may provide valuable assistance to smokers by offering support and encouragement (Centers for Disease Control and Prevention 2015; Fiore et al. 2008; Schwartz 1992).

Meanwhile, nurses may be much more efficient as the primary caregivers due to their extended duration of patient interaction (Sarna 2014). Moreover, research indicates that being hospitalized might provide a valuable chance to cease smoking, since smoking is prohibited by rules and the importance of nursing in this matter is emphasized (Newhouse et al. 2011).

Nurses play a vital role in urging smokers to stop. While nurses may not have extensive time for counseling patients on smoking cessation, they may nevertheless be influential by just recommending that patients stop smoking (Borrello 2010; Chaney & Sheriff 2012). Given that smoking is widely acknowledged as a significant risk factor for the development of several illnesses, and that stopping smoking may effectively decrease or eliminate associated health issues, three key concerns arise: Can hospitals provide an appropriate environment for those who are motivated to stop smoking and give them with the necessary support to effectively quit smoking? Can hospitals be prioritized above other health or counseling centers located elsewhere? Based on past research on the beneficial influence of nurses' complete involvement in patient care, is it more successful to implement smoking cessation programs via targeted nursing interventions?

Several studies have examined the effects of nursing interventions on smoking cessation. These studies suggest that nurses play a significant role in helping patients quit smoking and influencing their decision to quit (Rice & Stead 2008; Sarna 2014). The studies included various methods such as manuals, pamphlets, brochures, printed educational materials, audio files, video

files, and recommendations to prevent relapse. Several studies utilized nicotine replacement methods, including nicotine skin patches (Canga et al. 2000; Chouinard & Robichaud-ekstrand 2005; Lee et al. 2013, 2015; Quist-paulsen & Gallefoss 2003; Simon et al. 1997), nicotine chewing (Chouinard & Robichaud-ekstrand 2005; Quist-paulsen & Gallefoss 2003; Ratner et al. 2004; Simon et al. 1997; Taylor et al. 1990), and the medication bupropion (Lee et al. 2015; Meysman et al. 2010; Ratner et al. 2004; Simon et al. 1997). The last follow-up visits conducted by nurses took place either at the patient's home (Chouinard & Robichaud-ekstrand 2005; Ratner et al. 2004), at an outpatient clinic (Griebel et al. 1998), or in the hospital (Canga et al. 2000; Gies 2005; Quist-paulsen & Gallefoss 2003; Simon et al. 1997; Smith et al. 2011; Taylor et al. 1990).

Based on the analysis of all the research, smoking cessation was initiated during the hospitalization period. While the majority of patient volunteers were enlisted and encouraged to stop smoking, several studies suggest that smoking cessation therapies should be provided to all patients, coupled with motivating strategies like positive reinforcement (Bolman et al. 2002). They think that the rate of smoking cessation tends to be greater in these circumstances. Volunteers who are motivated to stop smoking after leaving the hospital tend to consider the first advice given during nurse consultations, which might potentially inspire them to quit smoking. On the other hand, those who lack motivation to quit smoking may not give much thought to these recommendations.

The salient aspect of these studies was that patient inclusion criteria were based on smoking status, and follow-up data was collected by self-reporting. Two studies requested a close relative to provide information on the patient's smoking status (Miller et al., 1997; Taylor et al., 1990). However, most studies employed safer methods than relying on patients' self-report. These methods included measuring the level of carbon monoxide in exhaled air (Gies 2005; Lee et al. 2013, 2015; Meysman et al. 2010; Taylor et al. 1990; Wakefield et al. 2004), measuring the levels of cotinine in saliva (Simon et al. 1997; Smith et al. 2011), cotinine measured in serum (Taylor et al. 1990), or nicotine metabolites in urine (Canga et al. 2000; Chouinard & Robichaud-ekstrand 2005; Hanssen et al. 2009; Quist-paulsen & Gallefoss 2003; Simon et al. 1997; Wakefield et al. 2004).

A constraint of the current research was the limited range and availability of electronic databases at the institution. Another constraint was the incorporation of research only authored in the English language. Furthermore, this analysis did not include other studies conducted using other methodologies, such as analytic review. However, it is worth noting that randomized clinical trials are considered the most dependable and highly recommended kind of evidence. This search revealed that it was the first systematic study conducted in Iran on the involvement of nurses in smoking cessation therapies.

Although there have been many studies on the role of nurses in helping people stop smoking and demonstrating their capacity to develop and carry out interventions, it is still necessary to give further training for nurses and acquaint them with the particular guidelines for this crucial function. Despite being seen as crucial and powerful members of the medical team,

nurses are ineffective in their approach to treating smokers using a range of tactics. Performing evidence-based practices is essential in order to enhance nurses' familiarity with approaches for reducing illness consequences.

### 3. Summary

Nurses, being the primary caregivers in hospitals, possess the skills and expertise to effectively design and execute strategies aimed at helping individuals stop smoking. Therefore, it may be inferred that the provision of smoking cessation counseling by nurses during hospitalization is crucial in facilitating smoking cessation. According to the findings, it is more effective to have nurse consultation in addition to other treatments like pamphlets, brochures, or instructional films. This helps with reviewing information and offering positive reinforcement approaches. To ensure the continuation of the smoking cessation process, it is advisable for a nurse to do a minimum of six telephone follow-ups with patients, particularly during the first weeks after their departure from the hospital.

A smoking cessation program is suggested to be developed, which will focus on effectively using smoking cessation strategies based on the client's specific characteristics such as length of smoking, annual intake, education level, and family situations. This guide should include side interventions such as books, brochures, videos, audio files, as well as positive reinforcement treatment and nicotine replacement therapy. The selection of these interventions should be based on the specific needs and preferences of the clients.

Moreover, it is crucial to do research on the efficacy of consulting and engaging in group discussions with the individual closest to the patient in order to assess the cost-effectiveness of therapeutic activities. A previously overlooked aspect in prior research was the significance of the primary caregiver's involvement in the patient's care. However, the involvement of supportive coworkers may also play a crucial role in assisting the patients and achieving more accurate cessation reports. Additional research should be undertaken to ascertain the efficacy of other approaches, including consultation and group discussion. The current research establishes recommendations and practical treatments that are highly suggested for nurses to assist patients in successfully quitting smoking.

### References

1. Bolman, C., De Vries, H. & Van Breukelen, G. (2002) Evaluation of a nurse-managed minimal-contact smoking cessation intervention for cardiac inpatients. *Health Education Research*, 17, 99–116.
2. Borrello, S. (2010) Help your patients with smoking cessation. *Nursing Made Incredibly Easy*, 8, 56.
3. Canga, N., et al. (2000) Intervention study for smoking cessation in diabetic patients: a randomized controlled trial in both clinical and primary care settings. *Diabetes Care*, 23, 1455–1460.

4. Canv (2012) Quit smoking. Available at: [www.canv.org](http://www.canv.org) (accessed 29 March 2014).
5. Centers for Disease Control and Prevention (2010) *How Tobacco Smoke Causes Disease: The Biology and Behavioral Basis for Smoking-attributable Disease: A Report of the Surgeon General*. Centers for Disease Control and Prevention, Atlanta, GA.
6. Centers for Disease Control and Prevention (2015) The Guide to Community Preventive Services: Reducing Tobacco Use and Second hand Smoke Exposure [Online]. Available at: <https://www.thecommunityguide.org/tobacco/index.html> (accessed 21 May 2015).
7. Chaney, S.E. & Sheriff, S. (2012) Evidence-based treatments for smoking cessation. *The Nurse Practitioner*, 37, 24–31.
8. Chouinard, M.-C. & Robichaud-ekstrand, S. (2005) The effectiveness of a nursing inpatient smoking cessation program in individuals with cardiovascular disease. *Nursing Research*, 54, 243–254.
9. Edwards, R. (2004) The problem of tobacco smoking. *BMJ*, 328, 217–219.
10. Fiore, M., et al. (2008) *Treating Tobacco Use and Dependence: 2008 Update*. Rockville, MD, US Department of Health and Human Services.
11. Fung, P., et al. (2005) Effectiveness of hospital-based smoking cessation. *CHEST Journal*, 128, 216–223.
12. Gies, C.E. (2005) *Evaluating effectiveness of an inpatient nurse-directed smoking cessation program in a small community hospital*. (Doctoral dissertation, University of Toledo).
13. Griebel, B., Wewers, M.E. & Baker, C.A. (1998) The effectiveness of a nurse-managed minimal smoking-cessation intervention among hospitalized patients with cancer. *Oncology Nursing Forum*, 25, 897–902.
14. Hanssen, T.A., Nordrehaug, J.E., Eide, G.E. & Hanestad, B.R. (2009) Does a telephone follow-up intervention for patients discharged with acute myocardial infarction have long-term effects on health-related quality of life? A randomised controlled trial. *Journal of Clinical Nursing*, 18, 1334–1345.
15. Health and Services (2012) The health consequences of smoking: a report of the Surgeon General. Available at: [http://www.cdc.gov/tobacco/data\\_statistics/sgr/2012](http://www.cdc.gov/tobacco/data_statistics/sgr/2012) (accessed 17 January 2013).
16. Johnson, J.L., Budz, B., Mackay, M. & Miller, C. (1999) Evaluation of a nurse-delivered smoking cessation intervention for hospitalized patients with cardiac disease. *Heart and Lung: The Journal of Acute and Critical Care*, 28, 55–64.

17. Krumholz, H.M., et al. (1993) Cost-effectiveness of a smoking cessation program after myocardial infarction. *Journal of the American College of Cardiology*, 22, 1697–1702.
18. Lee, S.M., et al. (2013) The effectiveness of a perioperative smoking cessation program: a randomized clinical trial. *Anesthesia and Analgesia*, 117, 605–613.
19. Lee, S.M., et al. (2015) Long-term quit rates after a perioperative smoking cessation randomized controlled trial. *Anesthesia and Analgesia*, 120, 582–587.
20. Meenan, R., et al. (1998) Cost-effectiveness of a hospital-based smoking cessation intervention. *Medical Care*, 36, 670–678.
21. Meysman, M., Boudrez, H., Nackaerts, K., Dieriks, B., Indemans, R. & Vermeire, P. (2010) Smoking cessation rates after a nurse-led inpatient smoking cessation intervention. *Journal of Smoking Cessation*. 5, 69–76.
22. Miller, N.H., Smith, P.M., DeBusk, R.F., Sobel, D.S. & Taylor, C.B. (1997) Smoking cessation in hospitalized patients: results of a randomized trial. *Archives of Internal Medicine*, 157, 409–415.
23. Newhouse, R., Dennison, C.R., Liang, Y., Morlock, L., Frick, K.D. & Pronovost, P. (2011) Smoking-cessation counselling by nurses: Description and predictors in rural hospitals. *American Nurse Today*, 6, 1–10.
24. Patient Trusted Medical Information and Support (2015) Smoking-the facts. Health Information. Available at: [www.patient.co.uk](http://www.patient.co.uk) (accessed 17 April 2015).
25. Peto, R., et al. (1996) Mortality from smoking worldwide. *British Medical Bulletin*, 52, 12–21.
26. Quist-paulsen, P. & Gallefoss, F. (2003) Randomised controlled trial of smoking cessation intervention after admission for coronary heart disease. *BMJ*, 327, 1254.
27. Ratner, P.A., et al. (2004) Efficacy of a smoking-cessation intervention for elective-surgical patients. *Research in Nursing and Health*, 27, 148–161.
28. Rice, V.H. & Stead, L.F. (2008) Nursing interventions for smoking cessation. *Cochrane Database of Systematic Reviews*, 1, 1–59.
29. Rice, V.H., Hartmann-boyce, J. & Stead, L.F. (2013) Nursing interventions for smoking cessation. *The Cochrane Library*, 8, 1–88.
30. Sarna, L. (2014) Smoking Cessation in Nursing [Online]. Available at: [mdquit.org/providers/nurses](http://mdquit.org/providers/nurses) (accessed 05 March 2014).



31. Schwartz, J.L. (1992) Methods of smoking cessation. *The Medical Clinics of North America*, 76, 451–476.
32. Simon, J.A., Solkowitz, S.N., Carmody, T.P. & Browner, W.S. (1997) Smoking cessation after surgery: a randomized trial. *Archives of Internal Medicine*, 157, 1371–1376.
33. Smith, P.M., Corso, L., Brown, K.S. & Cameron, R. (2011) Nurse case-managed tobacco cessation interventions for general hospital patients: Results of a randomized clinical trial. *CJNR (Canadian Journal of Nursing Research)*, 43, 98–117.
34. Taylor, C.B., Houston-miller, N., Killen, J.D. & Debusk, R.F. (1990) Smoking cessation after acute myocardial infarction: effects of a nurse-managed intervention. *Annals of Internal Medicine*, 113, 118–123.
35. U.S. National Library of Medicine (2014) Quitting smoking. Available at: [www.nlm.nih.gov/quitting](http://www.nlm.nih.gov/quitting) (accessed 1 may 2014).
36. Wakefield, M., Olver, I., Whitford, H. & Rosenfeld, E. (2004) Motivational interviewing as a smoking cessation intervention for patients with cancer: randomized controlled trial. *Nursing Research*, 53, 396–405.
37. Wewers, M., Bowen, J., Stanislaw, A. & Desimone, V. (1993) A nurse-delivered smoking cessation intervention among hospitalized postoperative patients—influence of a smoking-related diagnosis: a pilot study. *Heart and Lung: The Journal of Critical Care*, 23, 151–156.
38. WHO (2011) WHO Report on the Global Tobacco Epidemic. Available at: [http://apps.who.int/iris/bitstream/10665/44616/1/9789240687813\\_eng.pdf](http://apps.who.int/iris/bitstream/10665/44616/1/9789240687813_eng.pdf) (accessed 07 April 2015).
39. WHO (2015) WHO report on the global tobacco epidemic. Available at: [http://www.who.int/tobacco/global\\_report/2015/en](http://www.who.int/tobacco/global_report/2015/en) (accessed 01 April 2015).
40. Whyte, R.E., Watson, H.E. & McIntosh, J. (2006) Nurses' opportunistic interventions with patients in relation to smoking. *Journal of Advanced Nursing*, 55, 568–577.
41. Wipfli, H. (2012) The Tobacco Atlas. *American Journal of Epidemiology*, 176, 1193–1193.