The effectiveness of tobacco intervention education for health professional students health promotion practice: a systematic review

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Citation

Review question(s)
The review objective is to examine the effectiveness of entry level programme education regarding smoking prevention and tobacco use interventions on health professional student practice in promoting client health.

The specific review question to be addressed is: what is the effect of entry level tobacco dependence education on health professional students' knowledge and skills, self-efficacy, and performance of tobacco prevention and cessation interventions?

Searches
A three-step search strategy will be used to locate published and unpublished studies. The search will include published articles, books, and relevant government documents. First, an initial limited search of MEDLINE and CINAHL will be undertaken followed by analysis of text words contained in the title and abstract, and of the index terms used to describe the articles. A second extensive search will be undertaken using all the identified keywords and index terms across all included databases, information sources, and health professional student programs. Books and book chapters will be accessed through World Cat. Thirdly, the reference lists of all identified reports and articles will be searched for additional studies that may have been missed in the electronic search. Studies identified from reference list searches will be assessed for relevance based on the study title. Web of Science will be used for citation tracking. All studies identified in the database, book and website search will be assessed for relevance to the review based on the information in the title and descriptor terms. An abstract and full report will be retrieved for studies that meet the inclusion criteria. All studies that evaluate a program or curricular activity in papers published from 1990 to 2010 will be included.

Beginning in the early 1990s, innovative, evidence-based, and comprehensive clinical practice guidelines on treating tobacco use and dependence signalled the importance and effectiveness of brief intervention counselling by a broad array of health professionals in a variety of clinical settings. Initial keywords will include, but will not be limited to, the following: (tobacco or smoking or nicotine) and (cessation or prevention or intervention or addiction or counseling or counselling) and (education or programs or curriculum or curricula or training) and (health professionals or nurses or pharmacists or dental hygienists or physicians or doctors). All of the health professional programs will be searched using the preceding rubric. No language limitations will be placed on the published electronic database searches. All databases that return English abstracts will be read and considered. Full articles written in the English and French language that meet the inclusion criteria will be retrieved. The book search and grey literature search will be limited to the English language. The databases to be searched for published studies from 1990 to 2010 will include the following: AMED; CINAHL; MEDLINE; EMBASE; Scopus; SocIndex; PsycINFO; Academic Search Premier; ERIC and Education Search Complete; Health Source- Nursing/Academic Edition; Translating Research into Practice (TRIP); Google Scholar; Web of Science; Natural Standard (alternative medicine). Journals such as Tobacco Control, Nicotine & Tobacco Research and Preventive Medicine from publishers' websites will be searched.

Grey literature includes papers, reports and government information or other documents that are not published commercially and that are inaccessible via bibliographic databases. Searches for grey literature from 1990 to 2010 will include the following: theses and dissertation abstracts databases (Theses Canada Portal and Dissertation Abstracts International); and relevant sites in The Canadian Agency for Drugs and Technologies in Health (CADTH) database.
This database has a listing of national and international health technology web sites, drug and device regulatory agencies, clinical trial registries, health economics resources, Canadian health prevalence or incidence databases, and drug formulary web sites. The Directory of Grey Literature via New York Academy of Medicine website will be reviewed. Other sources of unpublished works will include websites of the Canadian Centre on Substance Abuse, Health Canada, and the Canadian Public Health Association.

Types of study to be included
This review will include all randomised controlled trials (RCTs) that evaluate the effectiveness of educational programming on student knowledge and skills, self-efficacy and practice in tobacco use prevention and treatment for tobacco use. Evaluation means that studies must report on pre- and post-training results and will compare the findings with a control or comparison group experiencing usual care or another educational intervention. In the absence of RCTs, other research designs that minimise the risk of bias (i.e., have some form of randomisation or control) including quasi-experimental studies will be included. In the absence of experimental and quasi-experimental designs, controlled before and after studies, cohort studies (with control), case-controlled, and observational will be reviewed to create a comprehensive description of effects of educational programming. Editorials and opinion pieces regarding curricula will be excluded.

Condition or domain being studied
Effectiveness of entry level programme education regarding smoking prevention and tobacco use interventions on health professional student practice in promoting client health.

Participants/ population
The participants are health professional students undertaking the following programs of study: nursing (registered nurses, registered psychiatric nurses, advanced practice nurses, licensed practical nurses); midwifery; medicine; dentistry; dental hygiene; dental therapy; pharmacy; respiratory therapy; occupational therapy; physical therapy; speech language therapy; optometry; social work; psychology; chiropractic therapy; and naturopathic medicine. Studies that evaluate practicing healthcare providers who are not students in entry level educational programs will be excluded. Health profession student programs whose graduates can practice without qualifying for a license (non regulated disciplines) will be excluded. Programs where graduates do not have daily, direct interactions with clients will be excluded.

Advanced practice nurses and medical residents provide specialised care to patients with health concerns commonly linked to tobacco use. Studies reporting evaluations of curricula among the following post graduate medical speciality programs will be included in the review: Anesthesia; Cardiac Surgery; Cardiology; Community Medicine; Critical Care Medicine; Dermatology; Endocrinology and Metabolism; Family Medicine; General Medicine; Emergency Medicine; Medical Oncology; Nephrology; Neurology; Obstetrics /Gynaecology; Ophthalmology; Orthopaedic Surgery; Otolaryngology; Paediatrics; Plastic Surgery; Psychiatry; Radiation Oncology; Respiratory Medicine; Surgery and Vascular Surgery.

Intervention(s), exposure(s)
This review will consider all studies that report the implementation and evaluation of an entry level program, curricular activity or component in smoking prevention and treating tobacco use and dependence, and its impact on student practice in promoting client health. Comparisons of different approaches to the educational intervention (including pre- and post-training results) with usual or no training will be included. The settings will include post-secondary institutions such as universities or colleges, and will include undergraduate or pre-licensure training, postgraduate medical speciality training, and advanced practice nursing programmes at the master's level. The educational intervention and its impact on student practice must have occurred during the entry level program.

Comparator(s)/ control
Usual or no training

Outcome(s)
Primary outcomes
This systematic review will focus on the impact of curricula specific to preventing or treating tobacco use and dependence on students' health promotion practice during the course of their study. The review will offer an overview
of the effectiveness of entry level programming to prepare future health professional students to engage in the tasks of smoking prevention and tobacco use treatment with their clients. This study will not consider patient outcomes because the clinical effectiveness of treating tobacco use and dependence has been established. This review will consider studies that report on evaluations of health professional student outcomes in treating tobacco use and dependence during the course of their studies: knowledge/skills; self-efficacy (confidence); and clinical performance of tobacco prevention and cessation interventions. We anticipate that student knowledge and skills will be measured and reported as scores on exams and questionnaires. Student clinical performance may be evaluated from faculty observations and client reports. For example, data from skills checklists may be used in evaluating clinical performance. Because self-efficacy is not easily observable, student self reports of efficacy in treating tobacco use and dependence will be accepted. The self report data is expected to be reported as scores on instruments designed to assess self-efficacy in treating tobacco use.

Secondary outcomes
No details

**Data extraction, (selection and coding)**
Data will be extracted from papers included in the review using the standardised data extraction tool from JBI-MAStARI programme. All results will be subject to double data entry. The data extracted will include specific details about the interventions, populations, study methods and outcomes of significance to the review question and objectives. The following components will be extracted: population (specify type of health profession programme); location (country and university or college); language (English or French); educational intervention and nature of delivery (e.g., lecture, video, tutorial, self-study, lab practice, simulated patients); clinical settings used or opportunities for practice of skills; clinical practice guidelines used; culture or gender specific approach; focus on adults or youth; year(s) offered in programme; duration (hours of content throughout program, length of entire program); study design; study methods (method of randomisation, blinding); and student learning outcomes -knowledge/skills, self-efficacy, and behavioural performance in tobacco use prevention and tobacco cessation counselling.

**Risk of bias (quality) assessment**
Papers selected for retrieval will be assessed by two independent reviewers for methodological quality prior to inclusion in the review using standardised critical appraisal tools from the Joanna Briggs Institute Meta Analysis of Statistics Assessment and Review Instrument (JBI-MAStARI). Any disagreements that arise between the reviewers will be resolved through discussion or with a third reviewer.

**Strategy for data synthesis**
Where possible, quantitative results will be pooled in statistical meta-analysis using the Joanna Briggs Institute Meta Analysis of Statistics Assessment and Review Instrument (JBI-MAStARI). Odds ratio (for categorical data) and weighted mean differences (for continuous data) and their 95% confidence intervals will be calculated for analysis. Heterogeneity will be assessed using the standard Chi-square. Where statistical pooling is not possible, a narrative summary based on the data extracted will be presented relevant to the specified outcomes.

**Analysis of subgroups or subsets**
No details

**Contact details for further information**
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Subject indexing assigned by CRD

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