

CADTH Reference List

Behaviourally Based Interventions for Tobacco Smoking Prevention in Children and Adolescents

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Key Message

Two systematic reviews and 4 randomized controlled trials were identified about the clinical effectiveness of behaviourally based interventions that are primary care–feasible or primary care–referable for tobacco smoking prevention in children and adolescents.

Research Question

What is the clinical effectiveness of behaviourally based interventions that are primary care–feasible or primary care–referable for tobacco smoking prevention in children and adolescents?

Methods

Literature Search Methods

A limited literature search was conducted by an information specialist on key resources including MEDLINE, the Cochrane Database of Systematic Reviews, the International HTA Database, the websites of Canadian and major international health technology agencies, as well as a focused internet search. The search strategy comprised both controlled vocabulary, such as the National Library of Medicine's MeSH (Medical Subject Headings), and keywords. The main search concepts were tobacco products, tobacco use prevention, and children/adolescents. CADTH-developed search filters were applied to limit retrieval to health technology assessments, systematic reviews, meta-analyses, indirect treatment comparisons, and randomized controlled trials or controlled clinical trials. If possible, retrieval was limited to the human population. The search was completed on May 12, 2022, and limited to English-language documents published since January 1, 2015. Internet links were provided, if available.

Selection Criteria

One reviewer screened the literature search results (titles and abstracts) and selected publications according to the inclusion criteria presented in [Table 1](#). Full texts of study publications were not reviewed.

Results

Two systematic reviews^{1,2} and 4 randomized controlled trials³⁻⁶ were identified about the clinical effectiveness of behaviourally based interventions that are primary care–feasible or primary care–referable for tobacco smoking prevention in children and adolescents. No relevant health technology assessments were identified.

Table 1: Selection Criteria

Criteria	Description
Population	Children and adolescents (< 18 years of age)
Intervention	Behaviourally based interventions (e.g., education, counselling) that are primary care–feasible or primary care–referable
Comparator	No intervention (i.e., usual care, attention control, wait list)
Outcomes	Clinical effectiveness (e.g., incidence of tobacco smoking, safety [e.g., adverse events])
Study designs	Health technology assessments, systematic reviews, randomized controlled trials

Additional references of potential interest that did not meet the inclusion criteria are provided in [Appendix 1](#).

References

Health Technology Assessments

No literature identified.

Systematic Reviews

1. Thomas RE, Baker PRA, Thomas BC. Family-Based Interventions in Preventing Children and Adolescents from Using Tobacco: A Systematic Review and Meta-Analysis. *Acad Pediatr*. 2016; 16(5): 419-429. [PubMed](#)
2. Thomas RE, Baker PR, Thomas BC, Lorenzetti DL. Family-based programmes for preventing smoking by children and adolescents. *Cochrane Database Syst Rev*. 2015; (2): CD004493. [PubMed](#)

Randomized Controlled Trials

3. Chen YF, Yu T, Brody GH. Parenting Intervention at Age 11 and Cotinine Levels at Age 20 Among African American Youth. *Pediatrics*. 2017; 140(1):e20164162. [PubMed](#)
4. Nadasan V, Foley KL, Penzes M, et al. The Short-term Effects of ASPIRA: A Web-based, Multimedia Smoking Prevention Program for Adolescents in Romania: A Cluster Randomized Trial. *Nicotine Tob Res*. 2017; 19(8): 908-915. [PubMed](#)
5. Cremers HP, Mercken L, Candel M, de Vries H, Oenema A. A Web-based, computer-tailored smoking prevention program to prevent children from starting to smoke after transferring to secondary school: randomized controlled trial. *J Med Internet Res*. 2015; 17(3): e59. [PubMed](#)
6. Redding CA, Prochaska JO, Armstrong K, et al. Randomized trial outcomes of a TTM-tailored condom use and smoking intervention in urban adolescent females. *Health Educ Res*. 2015; 30(1): 162-78. [PubMed](#)

Appendix 1: References of Potential Interest

Note this appendix has not been copy-edited.

Systematic Reviews

Alternative Population: Age up to 25 Years

7. Selph S, Patnode C, Bailey SR, Pappas M, Stoner R, Chou R. Primary Care-Relevant Interventions for Tobacco and Nicotine Use Prevention and Cessation in Children and Adolescents: Updated Evidence Report and Systematic Review for the US Preventive Services Task Force. *JAMA*. 2020; 323(16): 1599-1608. [PubMed](#)

Unclear Comparator

8. Duncan LR, Pearson ES, Maddison R. Smoking prevention in children and adolescents: A systematic review of individualized interventions. *Patient Educ Couns*. 2018; 101(3): 375-388. [PubMed](#)
9. Brown N, Lockett T, Davidson PM, DiGiacomo M. Family-focussed interventions to reduce harm from smoking in primary school-aged children: A systematic review of evaluative studies. *Prev Med*. 2017; 101(8): 117-125. [PubMed](#)
10. Peirson L, Ali MU, Kenny M, Raina P, Sherifali D. Interventions for prevention and treatment of tobacco smoking in school-aged children and adolescents: A systematic review and meta-analysis. *Prev Med*. 2016; 85(4): 20-31. [PubMed](#)

Alternative Population: Age up to 24 Years; Unclear Comparator

11. Park E, Drake E. Systematic review: internet-based program for youth smoking prevention and cessation. *J Nurs Scholarsh*. 2015; 47(1): 43-50. [PubMed](#)

Unclear if Primary Care Feasible or Referable; Unclear Comparator

12. Corepal R, Tully MA, Kee F, Miller SJ, Hunter RF. Behavioural incentive interventions for health behaviour change in young people (5-18years old): A systematic review and meta-analysis. *Prev Med*. 2018; 110(5): 55-66. [PubMed](#)

Randomized Controlled Trials

Unclear if Primary Care Feasible or Referable

13. Beeres D, Arno E, Pulkki-Brannstrom AM, Nilsson M, Galanti MR. Evaluation of the Swedish school-based program "tobacco-free DUO" in a cluster randomized controlled trial (TOPAS study). Results at 2-year follow-up. *Prev Med*. 2022; 155(2): 106944. [PubMed](#)
14. Conner M, Grogan S, West R, et al. Effectiveness and cost-effectiveness of repeated implementation intention formation on adolescent smoking initiation: A cluster randomized controlled trial. *J Consult Clin Psychol*. 2019; 87(5): 422-432. [PubMed](#)
15. Brinker TJ, Owczarek AD, Seeger W, et al. A Medical Student-Delivered Smoking Prevention Program, Education Against Tobacco, for Secondary Schools in Germany: Randomized Controlled Trial. *J Med Internet Res*. 2017; 19(6): e199. [PubMed](#)

Unclear Comparator

16. Bashirian S, Barati M, Karami M, Hamzeh B, Ezati E. Effectiveness of E-Learning Program in Preventing WP Smoking in Adolescent Females in West of Iran by Applying Prototype-Willingness Model: A Randomized Controlled Trial. *J Res Health Sci*. 2020; 20(4): e00497. [PubMed](#)

Alternative Comparator: Various Prevention Interventions

17. Otto MW, Rosenfield D, Gorlin El, et al. Targeting cognitive and emotional regulatory skills for smoking prevention in low-SES youth: A randomized trial of mindfulness and working memory interventions. *Addict Behav*. 2020; 104(): 106262. [PubMed](#)