Evidence Assessment: Summary of a Systematic Review

Who is this summary for?
For Doctors and Health Personnel, Administrators and Managers of health facilities, Community Health Workers and partners involved in youth health care.

Tobacco cessation interventions for young people

Key findings

- There is limited evidence that either behavioural support or smoking cessation medication increases the proportion of young people that stop smoking in the long-term.
- Medications such as nicotine replacement and bupropion were not successful with adolescents, and some adverse events were reported, although these events were generally mild.

Background

Most tobacco control programmes for adolescents are based on prevention of uptake, but teenage smoking is still common. It is unclear if interventions that are effective for adults can also help adolescents to quit smoking. This is an update of a Cochrane Review first published in 2006.

Questions

What is the effectiveness of strategies to help young people to stop smoking tobacco?

Tobacco cessation interventions for young people in Cameroon: The Global Youth Tobacco Survey (GYTS) which was designed by the Center for Disease Control and Prevention and the World Health Organization estimated the worldwide burden of tobacco use among youth. The results of this survey which included school children from 131 countries showed a global prevalence of 8.9 % for current smoking students. In Cameroon, a country without any tobacco control legislation, the prevalence of smoking is relatively low. The GYTS reported a cigarette smoking prevalence of 5.7 % among college students aged 13–15 years.[1]

[1] Mbatchou Ngahane BH, Atangana Ekobo H, Kuaban C. *Prevalence and determinants of cigarette smoking among college students: a cross-sectional study in Douala, Cameroon*. Archives of Public Health. 2015;73:47. doi:10.1186/s13690-015-0100-1.

Table 1: SUMMARY OF THE SYSTEMATIC REVIEW

	What the review authors searched for	What the review authors found
Studies	Eligible study designs are randomized controlled trials, including: 1. individually randomized controlled trials, that is, trials in which individuals were randomized to either the intervention or the control arm of the experiment, or randomized to receive different interventions; 2. cluster-randomized controlled trials, that is, trials that have as the unit of randomization a school, group or organization level, or where clusters of professionals or groups of professionals are implementing interventions.	This update contains 41 studies (26 individually randomized and 15 cluster-randomized)
Participants	Participants were young people, aged under 20 years, who were regular, current tobacco smokers.	Young people, aged under 20 years, who were regular, current tobacco smokers

Interventions	Interventions could be specifically designed to meet the needs of young people aged under 20 years, or could also be applicable to adults. Interventions could range from simple ones such as pharmacotherapy, targeting individual young people, through strategic programmes targeting people or organizations associated with young people (for example, their families or schools), to complex programmes targeting the community in which young people study or live, provided the study reported outcomes related to the individual smoker.
	To be included, all interventions had to be aimed at helping young people to stop smoking tobacco. We included cessation programmes and strategies that also targeted relapse. We included programmes or strategies that targeted psycho-social determinants (for example, enhancing self-efficacy for refusing tobacco), or that focused on developing life skills in order to stay abstinent, if the study design was appropriate.
		• Behavioural interventions
		• Pharmacological interventions
		  ○ Nicotine replacement therapy
		  ○ Bupropion
		  ○ Nicotine patch + bupropion
		• Project EX interventions
		  ○ clinic-based smoking cessation programme

Controls	Interventions in the control arm of the study could be one of the following: 1. no intervention; 2. delayed intervention beyond the last date of data acquisition including follow-up; 3. information on stopping smoking either delivered to individuals in control groups or as literature 4. general tobacco education given to all participants in trial. We also included studies that compared two different cessation interventions or combinations of interventions. We have not included primary prevention strategies or programmes aimed solely at relapse prevention.	• Behavioural interventions versus control, grouped by delivery mode • Behavioural interventions versus control, grouped by theoretical basis • Nicotine replacement therapy vs placebo • Bupropion vs placebo • Nicotine patch + bupropion vs nicotine patch + placebo
Outcomes	**Primary outcomes** The primary outcome of interest was change in smoking behaviour (being a smoker at baseline and becoming an ex-smoker at follow up) at six months' follow-up or longer.	• The gold standard outcome of continuous abstinence was used by three studies • Other continuous measures included "prolonged abstinence", • and "sustained cessation", defined as two sequential reports of seven-day point prevalence abstinence at four months and eight months from the start of the intervention Point prevalence measures were in the majority and these ranged from cessation for one day to 30-day cessation. • Another common outcome measure was seven-day point prevalence abstinence.
Date of the most recent search: June 2017		
Limitations: This is a good quality systematic review**, AMSTAR = 10/11**		
Citation: Fanshawe TR, Halliwell W, Lindson N, Aveyard P, Livingstone-Banks J, Hartmann-Boyce J. **Tobacco cessation interventions for young people**. Cochrane Database of Systematic Reviews 2017, Issue 11. Art. No.: CD003289. DOI: 10.1002/14651858.CD003289.pub6.		

Table 2: Additionnal Summary of findings

Pharmacological interventions compared to placebo for smoking cessation in young people					
Patient or population: young people **Setting:** schools, community **Intervention**: pharmacological interventions **Comparison**: placebo					
Comparisons and outcomes	**Illustrative comparative risks*(95%CI)**		**Relative effect (95%CI)**	**No. of participants (studies)**	**Quality of the evidence (GRADE)**
	Risk with placebo	Risk with pharmacological interventions			
NRT vs placebo Smoking cessation assessed with: biochem ical verif ication Follow-up: range 6 months to 12 months	Study population 59 per 1000	66 per 1000 (28 to 153)	RR 1.11 (0.48 to 2.58)	385 (2 RCTs)	Very low
NRT vs placebo Adverse events assessed with: participant report Follow-up: range 6 months to 12 months	No serious adverse events reported. NRT associated with increase in some m ild adverse events: sore throat; hiccups; erythema; pruritus; shoulder/ arm pain; headache; cough; abnormal dream s; and muscle pain. In the patch studies, successful quitters in NRT group reported a lower level of insomnia than those in the control group			385 (2 RCTs)	Very low
Bupropion vs placebo Smoking cessation assessed with: biochem ical validation Follow-up: 26 weeks	Study population 58 per 1000	87 per 1000 (32 to 234)	RR 1.49 (0.55 to 4.02)	207 (1 RCT)	Very low
Bupropion vs placebo Adverse events assessed with: participant report Follow-up: 26 weeks	2 serious adverse events resulting in hospitalization among intervention participants: anticholinergic crisis after ingesting Datura innoxia; intentional overdose on study medication and other substances. High level of m ild adverse events reported in both groups (headache, cough, throat symptom s, sleep disturbance and nausea each reported by more than 10% of participants). 8 participants discontinued bupropion because of adverse events			207 (1 RCT)	Very low
Nicotine patch + bupropion vs nicotine patch + placebo Smoking cessation assessed with: biochemical validation Follow-up: 6 months	Study population 74 per 1000	78 per 1000 (30 to 199)	RR 1.05 (0.41 to 2.69)	211 (1 RCT)	Very low
Nicotine patch + bupropion vs nicotine patch + placebo Smoking cessation assessed with: biochem ical validation Follow-up: 6 months	No serious adverse events reported. Nausea most commonly reported adverse event			211 (1 RCT)	Very low
* The risk in the intervention group (and its 95% conf idence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI). CI: conf idence interval; NRT: nicotine replacement therapy; RR: risk ratio					

Applicability

The majority of trials were based in North America - one in Canada and 28 in the USA. Of the remainder, one took place in the UK, two in Denmark, one in Switzerland, one in the Netherlands, three in Spain, one in Russia, one in Turkey, one in Australia and one in Taiwan. Despite adolescent smoking rates being substantially higher in lowerand middle-income countries (LMICs). Therefore, further studies conducted in LMICs would be particularly useful.

Conclusions

There remains little evidence on effectiveness of pharmacotherapies in this age group and we judge effect estimates very likely to change should further research become available. Consequently, there is not sufficient evidence to recommend widespread implementation of any one model or to recommend provision of a particular service to support young people to stop smoking.

Prepared by

M. Vouking, C.D. Evina, L. Mbuagbaw, P. Ongolo Zogo: Centre for the Development of Best Practices in Health, Yaoundé, Cameroon.

Décember 2017

Contact:

Email: camer.cdbpsh@gmail.com

Web site: www.cdbph.org

Phone number: +237 242 08 19 19