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[Intervention Review]

Healthcare financing systems for increasing the use of tobacco dependence treatment

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ABSTRACT

Background

Tobacco smoking is the leading preventable cause of death worldwide, which makes it essential to stimulate smoking cessation. The financial cost of smoking cessation treatment can act as a barrier to those seeking support. We hypothesised that provision of financial assistance for people trying to quit smoking, or reimbursement of their care providers, could lead to an increased rate of successful quit attempts. This is an update of the original 2005 review.

Objectives

The primary objective of this review was to assess the impact of reducing the costs for tobacco smokers or healthcare providers for using or providing smoking cessation treatment through healthcare financing interventions on abstinence from smoking. The secondary objectives were to examine the effects of different levels of financial support on the use or prescription of smoking cessation treatment, or both, and on the number of smokers making a quit attempt (quitting smoking for at least 24 hours). We also assessed the cost effectiveness of different financial interventions, and analysed the costs per additional quitter, or per quality-adjusted life year (QALY) gained.

Search methods

We searched the Cochrane Tobacco Addiction Group Specialised Register in September 2016.

Selection criteria

We considered randomised controlled trials (RCTs), controlled trials and interrupted time series studies involving financial benefit interventions to smokers or their healthcare providers, or both.

Data collection and analysis

Two reviewers independently extracted data and assessed the quality of the included studies. We calculated risk ratios (RR) for individual studies on an intention-to-treat basis and performed meta-analysis using a random-effects model.

Main results

In the current update, we have added six new relevant studies, resulting in a total of 17 studies included in this review involving financial interventions directed at smokers or healthcare providers, or both.

Full financial interventions directed at smokers had a favourable effect on abstinence at six months or longer when compared to no intervention (RR 1.77, 95% CI 1.37 to 2.28, I^2 = 33%, 9333 participants). There was no evidence that full coverage interventions increased smoking abstinence compared to partial coverage interventions (RR 1.02, 95% CI 0.71 to 1.48, I^2 = 64%, 5914 participants), but partial coverage interventions were more effective in increasing abstinence than no intervention (RR 1.27 95% CI 1.02 to 1.59, I^2 = 21%, 7108 participants). The economic evaluation showed costs per additional quitter ranging from USD 97 to USD 7646 for the comparison of full coverage with partial or no coverage.

There was no clear evidence of an effect on smoking cessation when we pooled two trials of financial incentives directed at healthcare providers (RR 1.16, CI 0.98 to 1.37, I^2 = 0%, 2311 participants).

Full financial interventions increased the number of participants making a quit attempt when compared to no interventions (RR 1.11, 95% CI 1.04 to 1.17, I^2 = 15%, 9065 participants). There was insufficient evidence to show whether partial financial interventions increased quit attempts compared to no interventions (RR 1.13, 95% CI 0.98 to 1.31, I^2 = 88%, 6944 participants).

Full financial interventions increased the use of smoking cessation treatment compared to no interventions with regard to various pharmacological and behavioural treatments: nicotine replacement therapy (NRT): RR 1.79, 95% CI 1.54 to 2.09, I^2 = 35%, 9455 participants; bupropion: RR 3.22, 95% CI 1.41 to 7.34, I^2 = 71%, 6321 participants; behavioural therapy: RR 1.77, 95% CI 1.19 to 2.65, I^2 = 75%, 9215 participants.

There was evidence that partial coverage compared to no coverage reported a small positive effect on the use of bupropion (RR 1.15, 95% CI 1.03 to 1.29, I^2 = 0%, 6765 participants). Interventions directed at healthcare providers increased the use of behavioural therapy (RR 1.69, 95% CI 1.01 to 2.86, I^2 = 85%, 25820 participants), but not the use of NRT and/or bupropion (RR 0.94, 95% CI 0.76 to 1.18, I^2 = 6%, 2311 participants).

We assessed the quality of the evidence for the main outcome, abstinence from smoking, as moderate. In most studies participants were not blinded to the different study arms and researchers were not blinded to the allocated interventions. Furthermore, there was not always sufficient information on attrition rates. We detected some imprecision but we judged this to be of minor consequence on the outcomes of this study.

Authors' conclusions

Full financial interventions directed at smokers when compared to no financial interventions increase the proportion of smokers who attempt to quit, use smoking cessation treatments, and succeed in quitting. There was no clear and consistent evidence of an effect on smoking cessation from financial incentives directed at healthcare providers. We are only moderately confident in the effect estimate because there was some risk of bias due to a lack of blinding in participants and researchers, and insufficient information on attrition rates.

PLAIN LANGUAGE SUMMARY

Do interventions that reduce the cost of smoking cessation treatment increase quit rates, quit attempts or use of treatments?

Background

Interventions that reduce or cover the costs of smoking cessation medication and behavioural support could help smokers quit. We reviewed the evidence about the effects of financial interventions directed at smokers and healthcare providers on medication use, quit attempts and successful quitting.

Study characteristics

We searched all relevant studies that involved financial interventions directed at smokers and healthcare providers. For smokers, the aim of the healthcare financing interventions had to be to encourage the use of smoking cessation treatment or making successful quit attempts. For interventions directed at healthcare providers, the intervention had to stimulate the healthcare provider to assist people with quitting smoking, for example by prescribing smoking cessation treatment.

Key results

For the update of this review, we searched studies on the effect of financial interventions on smoking cessation treatment and success in September 2016. We found six new relevant studies, resulting in a total of 17 studies.

We found 15 studies directed at smokers. Covering all the costs of smoking cessation treatment for smokers (free treatment) when compared to providing no financial benefits increased the number of smokers who attempted to quit (4 studies, 9065 participants), used smoking cessation treatments (7 studies, 9455 participants), and succeeded in quitting (6 studies, 9333 participants).

We found three studies directed at healthcare providers. The two studies that investigated the effect of a financial intervention on quit success (2311 participants) did not clearly show an increase in quit rates. Financial interventions directed at healthcare providers also did not have an effect on the use of smoking cessation medication (2 studies, 2311 participants). However, financial interventions did increase the number of smokers who used smoking cessation counselling (3 studies, 25,820 participants).

Information on the costs of the intervention was available for eight studies (33,488 participants). The economic evaluation of the individual studies showed that although the absolute differences in quitting were small, the costs per person successfully quitting were low or moderate.

Quality of the evidence

We concluded that financial interventions directed at smokers increase the proportion of smokers who attempt to quit, use smoking cessation treatments, and succeed in quitting. We did not detect a clear effect on smoking cessation from financial incentives directed at healthcare providers. This review has some limitations that affect how confident we can be in the conclusions. The included studies varied substantially in quality and in methods and design, which makes it difficult to compare results.