

Financial incentives help pregnant women to quit smoking

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Pregnant women are more likely to stop smoking if financial incentives are offered as part of a treatment plan, finds a trial from France published in *The BMJ* today.



The results show that rewarding women for their smoking <u>abstinence</u> with vouchers throughout their pregnancy was associated with an increase in continuous abstinence rate compared with no vouchers.

Stopping smoking is crucial to a healthier mother and baby, yet evidence suggests that less than half of women who are daily smokers successfully quit during pregnancy. Previous studies of financial incentives have shown promising results, but have not yet been put into practice.

So a team of researchers in France decided to assess the effectiveness of progressively higher financial incentives dependent on continuous smoking abstinence on stopping smoking and <u>birth outcomes</u> among pregnant smokers.

Their findings are based on 460 pregnant smokers (average age 29 years) at 18 maternity wards in France who were randomly assigned to either a financial incentives group (231 women) or a control group (229 women) when they were less than 18 weeks into their pregnancy.

During six 10 minute face-to-face visits, all participants were encouraged to set a quit date; given motivational counselling; and supported to prevent relapse.

Participants in the control group received a €20 (£17; \$23) voucher at the end of each visit, but abstinence was not rewarded, so the maximum amount a participant could earn was €120 after six visits.

However, those in the financial incentives group could earn additional vouchers dependent on abstinence (confirmed by measuring by the amount of carbon monoxide on the participant's breath at each visit). So if participants were abstinent during six consecutive visits, they could earn up to €520 in vouchers.



A range of potentially <u>important factors</u>, such as age, ethnicity, income, and use of nicotine replacement therapy were taken into account and other (secondary) measures were recorded at each visit, including time to relapse, nicotine withdrawal symptoms, <u>blood pressure</u>, and alcohol and cannabis use in the past 30 days.

Secondary measures in newborns were also recorded, including gestational age at birth (in weeks), <u>birth weight</u>, head circumference, Apgar score at five minutes, and poor outcome (a combined measure of transfer to the neonatal unit, birth defects, convulsions, or perinatal death).

On average, participants in the financial incentives group smoked 163 fewer cigarettes than those in the control group.

The continuous abstinence rate was significantly higher in the financial incentives group (16%, 38 out of 231) than in the control group (7%, 17 out of 229) and, visit by visit, abstinence rate was 4 times more likely in the intervention than in the control group

Time to relapse occurred significantly later and craving for tobacco was lower in the financial incentives group than in the control group. No difference was found for nicotine withdrawal symptoms, blood pressure, or cannabis or alcohol use.

Financial incentives were also associated with a 7% reduction in the risk of a poor neonatal outcome: 4 babies (2%) in the financial incentives group and 18 babies (9%) in the control group.

Further analyses suggested that babies in the financial incentives group were around twice as likely to have birth weights of 2500 g or more than in the <u>control group</u>, although the researchers say these results should be interpreted with caution.



This was a high quality, well-designed trial with a relatively large number of participants, but the researchers point to some limitations including the lack of mother and baby follow-up after delivery and the lack of involvement of partners in the intervention who smoked.

Nevertheless, they say their results suggest that financial incentives progressively rewarding smoking abstinence "could be implemented in the routine healthcare of pregnant smokers."

Future studies "should assess the long term effectiveness of <u>financial</u> <u>incentives</u> on smoking abstinence after delivery," they conclude.

This study adds to growing evidence that the time is right to start including incentives as part of standard practice to support smoking cessation during pregnancy, say researchers in a linked editorial.

They argue that implementation should be pursued in parallel with ongoing and future research and point to the need for integration of incentives in national best practice guidelines alongside appropriate ethical and cultural considerations.

"Doing so will also play an important role in reducing health inequalities at their earliest origin," they conclude.

More information: Financial incentives for smoking cessation in pregnancy: multicentre randomised controlled trial, *BMJ* (2021). www.bmj.com/content/375/bmj-2021-065217

Editorial: www.bmj.com/content/375/bmj.n2889

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