

Double-blind, randomised, placebo-controlled trial of nicotine replacement therapy in pregnancy

Submission date 03/05/2005	Recruitment status No longer recruiting	☒ Prospectively registered ☒ Protocol
Registration date 21/06/2005	Overall study status Completed	☐ Statistical analysis plan ☒ Results
Last Edited 12/05/2016	Condition category Pregnancy and Childbirth	☐ Individual participant data

Plain English summary of protocol

Background and study aims

Women are highly motivated to stop smoking in pregnancy. Nicotine replacement therapy (NRT) is a medically-approved way to take nicotine by means other than tobacco, to help the patient stop smoking. The aim of this study is to assess the effectiveness and cost effectiveness of nicotine replacement therapy during pregnancy, and to find out whether it has any effect on children's behaviour and cognitive development at two years of age.

Who can participate?

Women who are between 12 and 24 weeks pregnant and who smoke at least five cigarettes daily

What does the study involve?

Participants are randomly allocated to receive an eight-week course of NRT patches or placebo (dummy) patches. Participants also receive individual behavioural support. Four weeks after their quit dates, women who are not smoking are issued with a second four-week supply of patches.

What are the possible benefits and risks of participating?

If NRT is demonstrated to be effective and safe in pregnancy, more pregnant smokers will use NRT whilst they are pregnant. This will increase the number of women who successfully stop smoking during pregnancy and will improve women's health. Reducing smoking during pregnancy will, in turn, lower the incidence of miscarriage, stillbirth and low birth weight. Smoking in pregnancy is also associated with childhood illness including an increased risk of asthma, sudden infant death syndrome and learning problems, so reducing smoking is likely to decrease the frequency of these problems. Finally, it is recognised that teenagers are more likely to initiate smoking if their parents smoke. Consequently, reducing smoking in pregnancy is likely to cause longer term reductions in smoking by young people.

Where is the study run from?

University of Nottingham (UK)

When is the study starting and how long is it expected to run for?
February 2006 to November 2012

Who is funding the study?
Health Technology Assessment Programme (UK)

Who is the main contact?
Sue Cooper
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Contact information

Type(s)
Scientific

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Additional identifiers

Protocol serial number
HTA 06/07/01

Study information

Scientific Title
Double-blind, randomised, placebo-controlled trial of nicotine replacement therapy in pregnancy (SNAP)

Acronym
SNAP

Study objectives

1. To compare at delivery: the effectiveness and cost effectiveness for achieving biochemically-validated smoking cessation of nicotine replacement therapy and placebo patches in pregnancy
2. To compare at two years after delivery: the effects of maternal nicotine replacement therapy and placebo patch use in pregnancy on behaviour and cognitive development in children

More details can be found at: <http://www.nets.nihr.ac.uk/projects/hta/060701>

Protocol can be found at: http://www.nets.nihr.ac.uk/__data/assets/pdf_file/0017/51290/PRO-06-07-01.pdf

Ethics approval required

Old ethics approval format

Ethics approval(s)

Oxfordshire REC A ethics committee, ID number 04/Q1604/85

Study design

Randomised controlled trial

Primary study design

Interventional

Study type(s)

Treatment

Health condition(s) or problem(s) studied

Pregnancy/Childbirth

Interventions

Treatment group:

Pregnant women will receive an eight week course of 15 mg/16 hour NRT transdermal patches. Although many studies have used longer courses, there is no evidence that these are more effective. Patches will be issued in conjunction with individual behavioural support which is an effective smoking cessation intervention in pregnancy. Four weeks after their quit dates, women who are not smoking will be issued with a second four week supply of patches.

Control group:

Women in the control arm of the trial will receive an identical placebo NRT patch and the same behavioural support as those in the treatment group.

In both control and intervention groups, participants will be blind to their group allocation.

Intervention Type

Other

Primary outcome(s)

Self-reported, prolonged and total abstinence from smoking or the use of any non-pharmacological nicotine containing substances between a quit date set within two weeks of randomisation and immediately prior to childbirth.

Prolonged abstinence cannot be comprehensively validated, but if participants report prolonged abstinence and are abstinent at both time points below, they will be considered to have a positive primary outcome:

1. Self reported smoking cessation for at least 24 hours before follow-up at one month after quit date, validated by exhaled Carbon Monoxide measurement
2. Self reported smoking cessation for at least 24 hours before hospital admission for childbirth, validated by exhaled Carbon Monoxide or salivary cotinine measurement

Key secondary outcome(s)

1. Smoking:

- 1.1. Self reported, prolonged abstinence from smoking between quit date and one month
- 1.2. Self reported, prolonged abstinence from smoking between quit date and 6 months after delivery
- 1.3. Self reported smoking cessation for previous 7 day period at 6 months after delivery (point prevalence)
- 1.4. Self reported, prolonged abstinence from smoking between quit date and 2 years after delivery
- 1.5. Self reported smoking cessation for previous 7 day period at 2 years after delivery (point prevalence)

2. Foetal loss and morbidity:

- 2.1. Foetal death and stillbirth
- 2.2. Neonatal death (i.e. from birth to 28 days)
- 2.3. Post-neonatal death (29 days to 2 years)
- 2.4. Individualised birth weight Z score (i.e. birth weight adjust for gestational age, maternal height, maternal weight at booking and ethnic group)
- 2.5. Apgar score
- 2.6. Cord blood pH
- 2.7. Gestational age at birth
- 2.8. Intraventricular haemorrhage
- 2.9. Neonatal enterocolitis
- 2.10. Neonatal convulsions
- 2.11. Congenital abnormality

3. Maternal morbidity and mortality:

- 3.1. Maternal mortality
- 3.2. Mode of delivery
- 3.3. Proteinuria
- 3.4. Hypertension in pregnancy

4. Early childhood outcomes:

- 4.1. Behaviour and development at 2 years
- 4.2. Disability at 2 years
- 4.3. Respiratory symptoms at 2 years

5. Health economic data:

- 5.1. Duration of maternal hospital admission for childbirth
- 5.2. Duration of any admission (of baby) to special care
- 5.3. Health status at 6 months (EQ5D)

Completion date

30/11/2012

Eligibility

Key inclusion criteria

- 1. Eligible women are women between 12 and 24 weeks pregnant
- 2. Report smoking at least ten cigarettes daily before pregnancy
- 3. Still currently smoke at least five cigarettes daily
- 4. An exhaled Carbon Monoxide (CO) reading above 8 ppm

Participant type(s)

Patient

Healthy volunteers allowed

No

Age group

Adult

Sex

Female

Key exclusion criteria

Women with the following contraindications to the use of NRT will be excluded:

1. Severe cardiovascular disease
2. Unstable angina
3. Cardiac arrhythmias
4. Recent cerebrovascular accident or Transient Ischaemic Attack (TIA)
5. Chronic generalised skin disorders or known sensitivity to nicotine patches
6. Chemical dependence/alcohol addiction problems
7. Women who cannot give informed consent and those with known major foetal anomalies will also be excluded

Intra-Uterine Growth Restriction (IUGR) is not an exclusion criterion.

Date of first enrolment

01/02/2006

Date of final enrolment

30/11/2012

Locations

Countries of recruitment

United Kingdom

England

Study participating centre

University of Nottingham

Nottingham

United Kingdom

NG5 1PB

Sponsor information

Organisation

University of Nottingham (UK)

ROR

<https://ror.org/01ee9ar58>

Funder(s)

Funder type

Government

Funder Name

Health Technology Assessment Programme

Alternative Name(s)

NIHR Health Technology Assessment Programme, Health Technology Assessment (HTA), HTA

Funding Body Type

Government organisation

Funding Body Subtype

National government

Location

United Kingdom

Results and Publications

Individual participant data (IPD) sharing plan**IPD sharing plan summary****Study outputs**

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article	results	01/03/2012		Yes	No
Results article	results	01/06/2014		Yes	No
Results article	results	01/08/2014		Yes	No
Results article	follow-up results	01/09/2014		Yes	No
Protocol article	protocol	03/01/2007		Yes	No