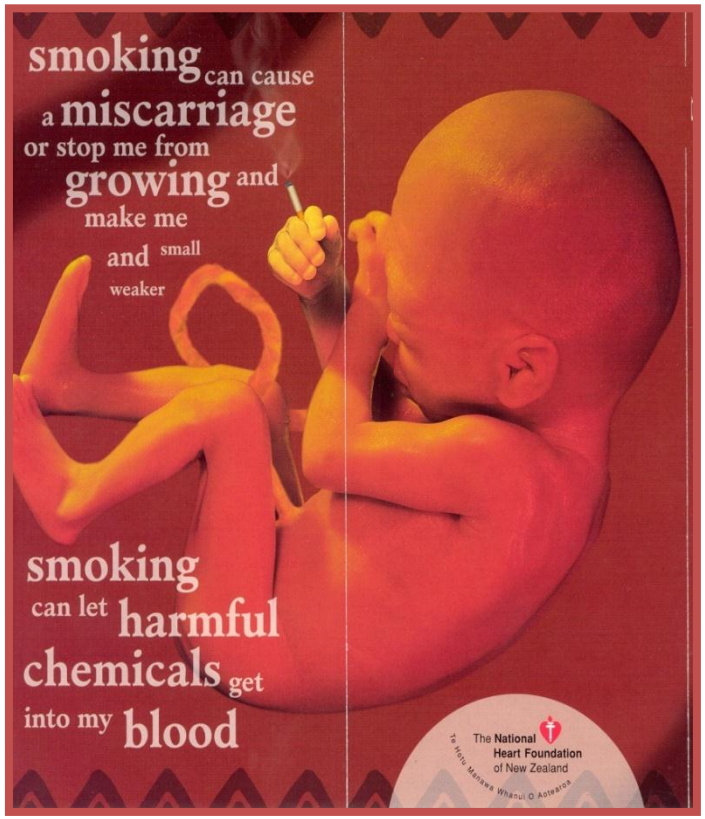
Smoking in Pregnancy



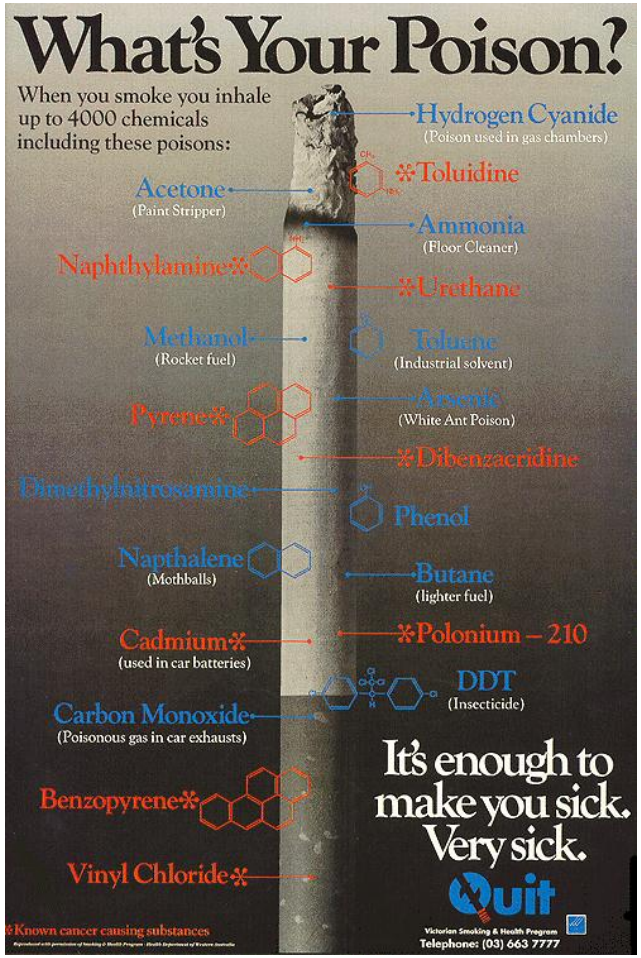
Dr Deralie Flower

June 2011

IS BAD FOR YOUR BABY.

The End.

Smoking in pregnancy



- Nicotine is not the main problem,
- BUT….
- It CAN be part of the solution

Smoking and reproductive outcomes

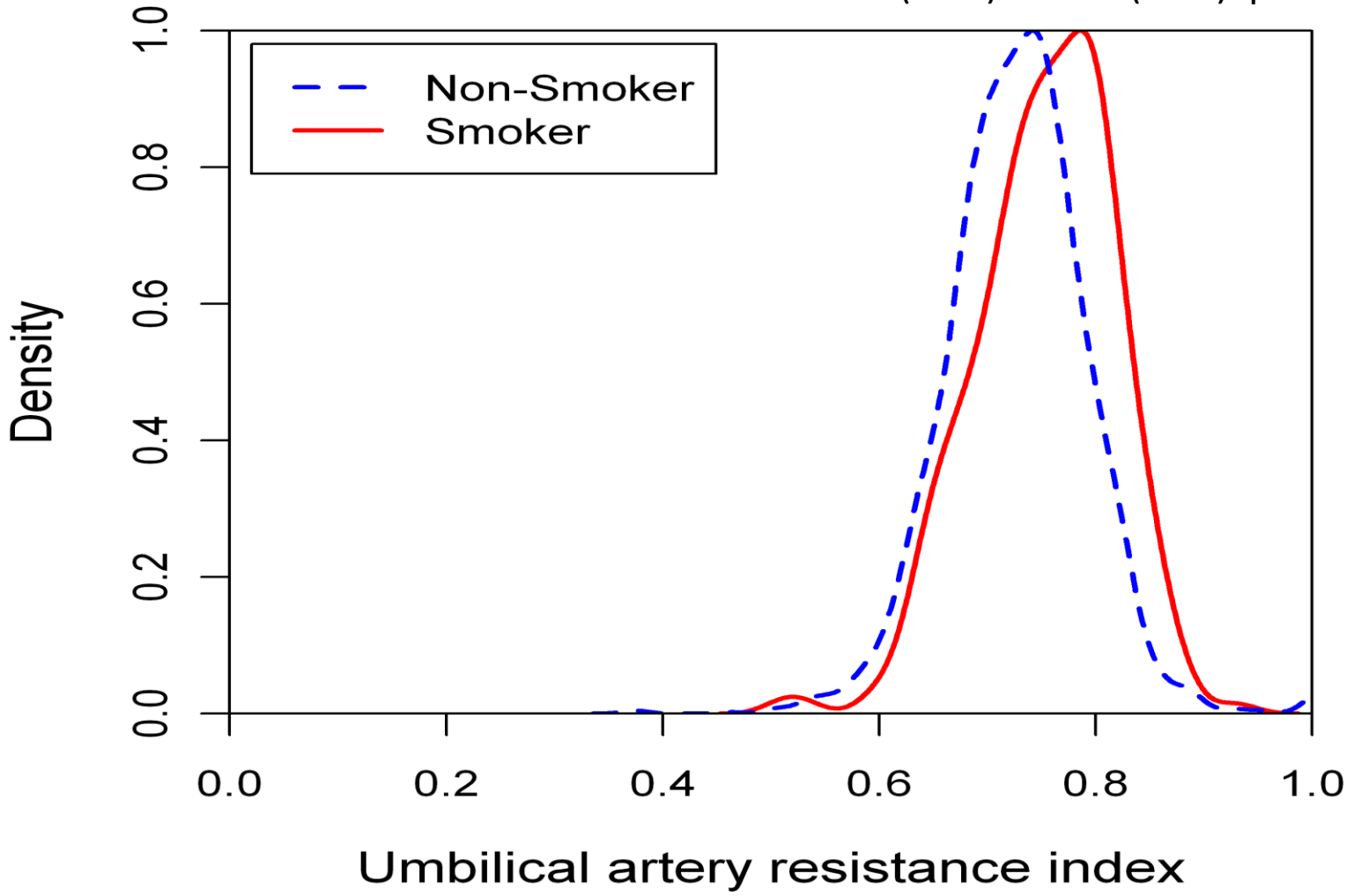
• Infertility	↑ 25%
• Miscarriage	↑ 25%
• Ectopic pregnancy	↑ 90%
• Cleft lip	↑ 35%
• Abruption & placenta praevia	↑ 60%
• Preterm birth	↑ 70%
• SGA	↑ 100-200%
• Stillbirth	↑ 100%
• Preeclampsia	↓ 30%

Smoking and pregnancy complications

- Effects are dose dependent
- Risks are reversed by stopping smoking
- Smoking is THE single most avoidable risk factor for pregnancy complications
- Smoking cessation is probably THE most important intervention in antenatal care in NZ

Distribution of umbilical RI at 20wks: smokers vs non-smokers

0.73(0.06) vs 0.75(0.06) p<0.0001



NZ Smoking in Pregnancy Data

MMPO 2004-7, n=61,000 births

	Smokes at booking(14-16w)	Smokes 4-6wks postpartum
European	15.7%	9.5%
Maori	**45.3%**	**29.1%**
Pacific	16.4%	7.5%
Asian	1.7%	0.9%
Age <20	**43%**	**26%**

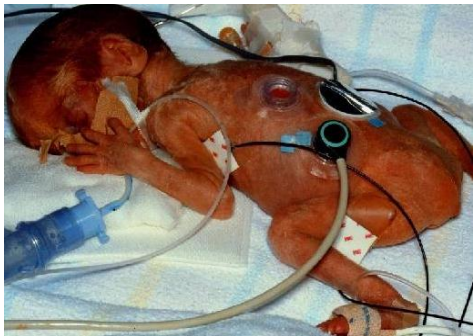
Smoke free outcomes MOH 2008

Pregnancy Outcomes- SPTB

	Non smoker	Ceased by 15 weeks	*P*-value#	Current smoker	*P*- value*
SPTB	88 (4.4%)	10 (3.8%)	0.66	25 (10%)	0.006
Gestation at birth	39.5 (2.3)	39.7 (2.4)	0.80	38.6 (3.6)	<0.001
PPROM	33 (1.7%)	3(1.2%)	0.47	9 (3.6%)	0.07

non smoker vs ceased smoker

*current smoker vs ceased smoker



Pregnancy Outcomes- SGA

	Non smoker	Ceased by 15 weeks	*P*-value#	Current smoker	*P*- value*
SGA	195 (9.8%)	27 (10.3%)	0.80	42 (16.7%)	0.03
Birthweight	3409 (592)	3479 (560)	0.09	3139 (751)	<0.001
Customised Centile	48.9 (28.7)	49.3 (28.5)	0.88	41.3 (29.7)	0.002

non smoker vs ceased smoker

*current smoker vs ceased smoker

Conclusions

Ceased Smokers vs Non smokers

- Women who cease smoking by 15 weeks have rates of SPTB and SGA the same as non-smokers
- Also no difference in
  - birthweight
  - gestation at delivery
  - rate of uncomplicated pregnancy

Conclusions

Ceased Smokers vs Non smokers

- This suggests the adverse effects of smoking on SPTB and SGA may be preventable if smoking is ceased early in pregnancy
- These data have considerable public health implications
- Maternity care providers should strive to assist pregnant smokers to become smoke-free early in pregnancy, by 15 weeks’

Conclusions

Current smokers vs Ceased Smokers

- Continued smokers had a 3x ↑risk of SPTB
- Continued smokers also had > rates of SGA babies than ceased smokers

BMJ 27 March 2009

RESEARCH

Spontaneous preterm birth and small for gestational age infants in women who stop smoking early in pregnancy: prospective cohort study

Lesley M E McCowan, associate professor of obstetrics and gynaecology,[1] Gustaaf A Dekker, professor of obstetrics and gynaecology,[2] Eliza Chan, research fellow,[1] Alistair Stewart, statistician,[3] Lucy C Chappell, senior lecturer in maternal and fetal medicine,[4] Misty Hunter, medical student,[1] Rona Moss-Morris, professor of health psychology,[5] Robyn A North, professor in obstetric medicine[6] On behalf of the SCOPE consortium

Smoking and risks for the offspring

- SUDI
- Deaths from childhood respiratory illnesses
- Respiratory infections & asthma
- Glue ear
- Reduced height
- Obesity
- Hypertension

Maternal smoking in pregnancy: a lifelong legacy for the offspring – as children and adults

‘Natural history’ of smoking behaviour in pregnancy

- About 25-33% of women who smoke stop smoking completely in pregnancy (with no intervention)
- Of those who continue to smoke, about half reduce the amount they smoke whilst pregnant
- Factors associated with quitting
  - Education level, financial security, stable relationship
  - First pregnancy
  - Morning sickness
  - Early bookers
  - Non-smoking partner

Smoking cessation in pregnancy in NZ

- Survey of GPs and midwives published in 2007 by Auckland Tobacco Control research centre, University of Auckland
- GPs significantly more likely than midwives to
  - ask about smoking at the first antenatal visit (92% vs 82%)
  - advise women who smoke to stop completely (71% vs 11%)
  - report that they usually discuss smoking with a pregnant woman who is known to smoke at *every* visit (69% vs 47%)
  - refer pregnant women to Quitline
  - recommend evidence-based smoking cessation methods
- No difference in likelihood of recommending NRT (about 50% in both groups)

NRT Treatment in pregnancy

4 trials, 1131 women

- ↓ smoking with NRT : RR 0.94 (0.89, 1.0)
- Only 2 trials reported pregnancy outcome
  - NRT group 200-300g heavier at birth
  - one trial Nicotine gum ↓ preterm birth
- More high quality studies needed
- Large UK RCT of NRT in pregnancy-(SNAP) is planned

Lumley et al Cochrane Review 2007,

Oncken, RCT nicotine gum: O+G 2008;112;859-67

Nicotine Replacement Therapy in Pregnancy

- One cigarette delivers about 1mg nicotine
- Patches
  - A 21 mg patch worn for 16 h/day still only delivers half the nicotine of 30 cigs/d
- Theoretical concern about effect of nicotine on uterine arteries
- Advise
  - Stop smoking without NRT if possible
  - If need NRT try gum/lozenges
  - DO use patches if unable to quit without them
  - **NRT is safer than continuing to smoke**