Factsheet

Nicotine Replacement Therapy in pregnancy

Purpose of the fact sheet

This fact sheet has been developed by the Centre for Population Health within the NSW Ministry of Health, in consultation with NSW Kids and Families. It aims to provide evidence-based guidance to Local Health Districts (LHD) and other health professionals with regard to the use of Nicotine Replacement Therapy (NRT) in pregnancy. It has been informed by a review of the literature including information from the Cochrane Collaboration, the Therapeutic Guidelines and the Royal Australian College of General Practitioners.

Key messages:

- ***Smoking is the most important modifiable cause of adverse pregnancy outcomes***
- ***Behavioural approaches to smoking cessation are safest, however, NRT should be recommended to pregnant women who are otherwise unable to quit***
- ***Intermittent NRT and patches can be used in pregnancy, and are safer than continued smoking.***
- ***Pregnant women metabolise nicotine faster and need more NRT to reduce cravings and manage symptoms of nicotine dependence than they would in their non-pregnant state***

NRT use in pregnancy

NRT has been shown to double smoking cessation rates among non-pregnant smokers (1). The use of NRT in pregnancy has been controversial because of concerns about effectiveness and safety. However, there is growing consensus among experts, and evidence, that NRT is much safer than continued smoking and offers an important opportunity to increase the likelihood of smoking cessation (2,3). Guidelines from the Royal Australian College of General Practitioners and the Therapeutic Guidelines now suggest NRT as a smoking cessation support in pregnancy (4,1).

NRT delivers lower levels of nicotine to the fetus than continued smoking (1, 5) and does not contain any of the other harmful chemicals in cigarette smoke. In addition, NRT has been shown to reduce smoking in pregnant women sufficiently to increase birth weight (6).

The lack of evidence for NRT use in pregnancy in a recent Cochrane review (7) is likely to be due to several factors including inadequate dosing due to the increased metabolism of nicotine and cotinine in pregnancy (8) and low adherence to therapy in some studies (9).

NRT should be recommended to all nicotine dependent pregnant women who have been unable to quit using non-pharmacological approaches. Intermittent NRT (gum, lozenge, mouth spray, strips and inhalator) is preferred as it more closely mimics nicotine levels from smoking and delivers a lower overall dose (4). However, intermittent NRT may not be tolerated by some pregnant women as the higher peaks of nicotine may be associated with side effects such as gum and throat irritation

(10) and worsening of pregnancy related nausea. For these women, transdermal patches should be recommended and used for 16 hours rather than 24 hours (1,4).

NRT use in breastfeeding women

Breastfeeding mothers who smoke should also be offered NRT (4). Nicotine levels in the infant from NRT use while breastfeeding are low and are unlikely to cause harm (11). Infant exposure can be further reduced by breastfeeding immediately before intermittent NRT use.

The Quit for new life program

Quit for New Life is a smoking cessation support program for pregnant women having an Aboriginal baby. The program is an initiative of the NSW Ministry of Health in partnership with NSW Kids and Families, and is being delivered through Local Health Districts principally Aboriginal Maternal and Infant Health Services (AMIHS) and Building Strong Foundations for Aboriginal Children, Families and Communities (BSF) programs. Smoking cessation care, including brief intervention, Quitline referral, free NRT and extended follow-up care are offered to pregnant women having an Aboriginal baby who smoke and their household members. NRT is provided either directly by the service or through a voucher system redeemable at local community-based pharmacies.

References

1. Therapeutic Guidelines. Psychotropic drug use during pregnancy: non-prescribed psychoactive drugs [Revised June 2013]. In: eTG complete [Internet]. Melbourne: Therapeutic Guidelines Limited; 2013. Mar. Accessed 2013 August 6 at http://etg.hcn.com.au/desktop/tgc/ptg72/12044.htm#12116
2. Brose LS, McEwan A & West R. Association between nicotine replacement therapy use in pregnancy and smoking cessation. *Drug and Alcohol Dependence* 2012 (Epub ahead of print).
3. Pollak KL, Oncken CA, Lipkus IM, Lyna P, Swamy GK, Pletsch PK, Peterson BL, Heine RP, Brouwer RJ, Fish L, Myers ER. Nicotine replacement and behavioural therapy for smoking cessation in pregnancy. *American Journal of Preventive Medicine* 2007; 33(4):297-305.
4. Zwar N, Richmond R, Borland R, Peters M, Litt J, Bell J, Caldwell B & Ferretter I. Supporting smoking cessation: a guide for general practitioners. Melbourne: The Royal Australian College of General Practitioners, 2011.
5. Benowitz NL, Dempsey DA, Goldenberg RL, Hughes JR, Dolan-Mullen P, Ogburn PL, et al. The use of pharmacotherapies for smoking cessation during pregnancy. *Tobacco Control* 2000; 9(Supp 3):1191-4.
6. Wisborg K, Henriksen TB, Jespersen LB, Secher NJ. Nicotine patches for pregnant smokes: a randomized controlled study. *Journal of Obstetrics and Gynaecology* 2000; 96: 967-71.
7. Coleman T, Chamberlain C, Davey MA, Cooper SE, Leonardi-Bee J. Pharmacological interventions for promoting smoking cessation during pregnancy. *Cochrane Database of Systematic Reviews* 2012; 9:CD010078.
8. Dempsey D, Jacob P III, Benowitz NL. Accelerated metabolism of nicotine and cotinine in pregnant smokers. *Journal of Pharmacology and Experimental Therapeutics* 2002; 301:594-8.
9. Coleman T, Cooper S, Thornton JG, Grainge MJ, Watts K, Britton J et al. A randomized trial of nicotine replacement therapy patches in pregnancy. *The New England Journal of Medicine* 2012; 366(6):808-18.
10. Oncken CA & Kranzler HR. What do we know about the role of pharmacotherapy for smoking cessation before or during pregnancy? *Nicotine and Tobacco Research* 2009; 11(11):1265-73.
11. Dempsey DA & Benowitz NL. Risks and benefits of nicotine to aid smoking cessation in pregnancy. *Drug Safety* 2001; 24(4):277-322.

For more information on the QFNL program or the use of NRT in pregnancy contact:

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- Visit the Quit for new life page on NSW Health website: www.health.nsw.gov.au/tobacco/Pages/quit-for-new-life.aspx
- Quitline: 13 7848 (13 Quit)