Jumping the hurdles for smoking cessation in pregnant Aboriginal and Torres Strait Islander women in Australia[1]

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Abstract

Tobacco smoking perpetuates the disadvantages experienced by Aboriginal and Torres Strait Islander people in Australia. Tobacco smoking is a risk factor for poor maternal and infant outcomes in pregnancy. Over half of Aboriginal and Torres Strait Islander women smoke during pregnancy and few successfully quit. Aboriginal and Torres Strait Islander women face many intrinsic barriers to quitting such as low socioeconomic disadvantage and patterns of use in family networks. There are also several extrinsic hurdles surrounding current practice guidelines and policy that may limit success in reducing smoking rates among Aboriginal and Torres Strait Islander women during pregnancy: the use of the Stages of Change (SOC) model; delay in the use of nicotine replacement therapy (NRT) and the absence of subsidised intermittent NRT. A more proactive approach towards smoking cessation for pregnant Aboriginal and Torres Strait Islander women may be necessary including moving away from the SOC model approach and subsidised provision of intermittent NRT. Comprehensive programs that take into account the family network and wider social context are also recommended.

It is recognised that Aboriginal and Torres Strait Islander women face significant hurdles in trying to quit smoking (van der Sterren & Gorreen Narrkwarren Ngrn-Toura - Health Family Air Project Team, 2010). Tobacco smoking is highly prevalent in maternal smokers and their partners, families and extended social network (McDermott, Campbell, Li, & McCulloch, 2009). Maternal smoking rates for Aboriginal and Torres Strait Islander women are as high as 67% (van der Sterren & Gorreen Narrkwarren Ngrn-Toura - Health Family Air Project Team, 2010) and data shows that reporting of these rates can be underestimated by 17% (Gilligan, et al., 2010).

As few as only 3% of pregnant Aboriginal and Torres Strait Islander women successfully quit during pregnancy (Wills & Coory, 2008). Barriers to quitting cited are related to the indices of socioeconomic disadvantage (Thomas, Briggs, Anderson, & Cunningham, 2008; Titmuss, Harris, & Comino, 2008), 'stolen generation' (Cunningham, 1994) (those who were removed from their families by force as children), being raised outside natural family (Thomas, et al., 2008), depression and stress (DiGiacomo, Davidson, Davison, Moore, & Abbott, 2007; Gilligan, Sanson-Fisher, D'Este, Eades, & Wenitong, 2009), having an Indigenous partner (Gilligan, et al., 2009), smoking partner (Eades, et al., 2008), patterns of use in social/family network (Gilligan, et al., 2009; Johnston & Thomas, 2008) and poor knowledge of specific risks of smoking (Gilligan, et al., 2009). Smoking in pregnancy perpetuates disadvantage by being associated with poor maternal and birth outcomes and health problems for mother and then the growing child (Titmuss, et al., 2008; Wills & Coory, 2008). Additionally, there is an absence of published research providing evidence for what tobacco cessation interventions are effective for pregnant Aboriginal and Torres Strait Islander women (van der Sterren & Gorreen Narrkwarren Ngrn-Toura - Health Family Air Project Team, 2010).

As if these aforementioned factors are not enough of a hurdle for a pregnant (often young) Aboriginal smoker to jump, in addition, the health system in Australia and its current approach to maternal smoking cessation may also inadvertently contribute to the challenge. These current approaches include (1) the use of Transtheoretical Model (TTM), (2) the current guidelines for smoking cessation treatment in pregnancy, (3) lack of access to subsidised intermittent nicotine replacement therapy (NRT).

The Trans Theoretical Model (TTM) or Stages of Change (SOC) model (Prochaska & DiClemente, 1983) is used extensively in Australia and has been adapted for use with Aboriginal and Torres Strait Islander

smokers with a range of culturally appropriate resources. The model in Australia asks a smoker to self-identify as *not ready*, *unsure* or *ready to change* (SmokeCheck) (Centre for Health Advancement, 2010) The TTM/SOC model has had recent opposition and in addition to its rather arbitrary *stages* and the fact that interventions tailored to stages have not been found to be any more effective than generic interventions (Riemsma, et al., 2003), its conceptual validity has been questioned (West, 2005). In particular, the stages of change model for promoting smoking cessation during pregnancy has been shown to be ineffective (pooled risk reduction 0.98, 95% CI 0.94 to 1.01) (Lumley, et al., 2009). Other more holistic models for smoking cessation have been put forward which recognise that behaviour change is more freely and less dependent on movement through fluid phases (West, 2006). The biggest significant factor to move a person toward being *ready to change* may be the offer of effective treatment (Andersen, 2007). When asking an Aboriginal and Torres Strait Islander person to report on their SOC we are possibly more accurately identifying their socioeconomic status. Those *not ready* are more likely over-represented in the disadvantaged category (Siahpush, McNeill, Borland, & Fong, 2006).

Those self-identified as *not ready* are less likely therefore to be offered comprehensive treatment. We then may be inadvertently discriminating against the women who need help the most.

In New Zealand all smokers are offered brief intervention and cessation advice (ABC model) (Ministry of Health, 2009) no matter what their attitude to change is in the same way we would offer treatment, for example for hypertension: we do not say 'come back when you are ready to have treatment'. Time could be wasted by trying to weigh up the pros and cons of quitting in first instance and move a person around the SOC (Riemsma, et al., 2003).

Another hurdle is that Australian guidelines for cessation in pregnancy recommends, in the first instance, that pregnant women should try and quit unaided by NRT (NSW Department of Health, 2006; Royal Australian College of General Practitioners, 2004). It is evident that in the general population NRT increases the rate of quitting by 50 to 70% (Stead, Perera, Bullen, Mant, & Lancaster, 2008) and although not definitive, there is some evidence to support improved quit rates and birth outcomes with the use of NRT during pregnancy (Oncken & Kranzler, 2009).

In the absence of clear scientific evidence for maternal smokers, there is expert consensus that continuation of smoking is considered to be a higher risk to the unborn child than the use of NRT (Bittoun & Femia, 2010; Zwar, Bell, Peters, MacDonald, & Mendelsohn, 2006). It is also apparent that some data from randomized controlled trials demonstrating adverse outcomes with maternal use of NRT have been confounded by other variables such as poor pregnancy history, and use of analgesics, and in fact the use of NRT in pregnancy had not contribute to adverse events (Swamy, et al., 2009). Current recommendations suggest that for pregnant women with moderate to high levels of addiction, NRT should be offered in intermittent form under physician supervision (Bittoun & Femia, 2010). So why put a vulnerable woman through the humiliation of failing, the resulting loss of self-esteem and the subsequent delays? Better to give her effective treatment – intermittent NRT – and give her the best chance of being successful. Intermittent NRT could be used immediately in a pre-quit fashion by starting to substitute products such as lozenges, gums and inhalers for cigarettes and setting quit date for two weeks later. While recent policy review for provision of medications under the pharmaceutical benefit scheme (PBS) has resulted in the addition of NRT (transdermal patches) for all Australian's (Department of Health and Aging, 2010), the needs of pregnant women have not been similarly considered regarding recommendations for intermittent NRT.

This brings us to our next hurdle, access to intermittent NRT. Currently recommendations for preferred delivery of NRT to pregnant women is through intermittent means (ASH Australia, 2007; Bittoun & Femia, 2010; Fiore, Bailey, Cohen, & et al, 2000; NSW Department of Health, 2006) yet, unlike the patches, intermittent NRT such as nicotine gum, lozenges or inhalers are not available on the PBS to Aboriginal and Torres Strait Islander women. So following delayed recommendations for pharmacological assistance to quit we disadvantage the pregnant woman once more – she has to buy her own intermittent NRT, not easy when you may be on a low income.

In pregnancy we have a short window in which to prevent poor birth outcomes and effects on the foetus. To secure the advantages of quitting, a pregnant woman needs to quit before 16 weeks gestation (Wills & Coory, 2008). Healthy women are seen less frequently in early pregnancy. Time can be wasted by either not providing treatment for women self-identifying as *not ready* or trying to move women through the

TTM/ SOC model, then asking her to quit unaided before expecting her to purchase her own intermittent NRT then finally if required giving her nicotine patches as treatment. Before we know it she is into the second or third trimester.

We suggest that instead take a more proactive approach with Aboriginal and Torres Strait Islander pregnant women. On first visit:

1) Identify smoker by self report and also consider screening pregnant women by expired carbon monoxide reading or urinary cotinine
2) Educate on harms of smoking and importance of quitting early in pregnancy
3) Offer all intermittent (subsidised) NRT
4) Offer culturally-appropriate psychosocial support

Follow-up within two weeks and if intermittent is NRT unsuccessful or unsuitable (e.g. due to nausea) start on nicotine patches, under medical supervision.

The Australian government should urgently subsidise a range of intermittent NRT for Aboriginal and Torres Strait Islander pregnant women, and amend guidelines, which advise her to quit unaided first. Consideration should be given to exercising care in the use of the TTM in Australia for pregnant women and put the emphasis on quitting as an urgent priority rather than waiting until ready. We recommend provision of consistent advice to all pregnant women as a question of equity. Culturally appropriate, intensive support such as quit groups offering peer support should be considered for this vulnerable group to educate, motivate, address social issues and teach coping skills. These should be extended to partners and household members for best effect in Aboriginal and Torres Strait Islander populations.

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