

Transition to Fatherhood and Changes in Smoking Behaviour. The Role of Partner's Habit during Pregnancy

Pasqualini, M.¹, Pieroni L.¹, McMunn A.²

¹ University of Perugia, Department of Political Science

² University College of London, Department of Epidemiology and Public Health

Extended Abstract

Exposure to parental smoking during pregnancy is one of the most prevalent, if modifiable, public health issues and represents a primary risk factor associated with both maternal and child life-long health outcomes (Fergie et al., 2019). The prevalence of women who smoke during pregnancy in the UK is 20% (Pickett et al., 2019) and, more importantly, approximately 10% of UK women continue to smoke throughout all the pregnancy period (Fergie et al., 2019). Therefore, although the detrimental effects of smoking during pregnancy on child health are well-known and research has vastly shown the role of mothers in influencing children's risk-taking behaviours later in life (Pasqualini et al., 2019; Miles & Weden, 2012), smoking during pregnancy still represents an important public health problem. In this context, efforts to help future mothers to change smoking behaviour have grown as smoking cessation has been shown to significantly reduce the risk of complications during delivery, as well as the longer-term health of mothers and children (Miyazaki et al., 2015). Many studies have sought to identify the reasons behind women's difficulty in changing their smoking habits and have found partners' smoking status to be useful in supporting a successful quit attempt (Fergie et al., 2019; Bauld et al., 2017). Therefore, partners have been targeted in intervention programs since literature showed that their smoking status may be a relevant source of influence in women's likelihood to attempt to stop or reduce the amount of cigarettes smoked (Roman-Galvez et al., 2018). For example, some studies have shown that women with a non-smoking partner were considerably more likely to have stopped smoking (Turan et al., 2017) whereas, those with a partner who continuously smoked after delivery were markedly less inclined to quit or to reduce (Turan et al., 2017). On the contrary, other studies have shown that, in smoking couples, pregnant women were more likely to quit compared with those that have a non-smoking partner. However, most of the difference in women who smoke during pregnancy and those who do not has been explained through socio-economic factors (Härkönen et al., 2018; Miyazaki et al., 2015; Flemming et al., 2016). Indeed,

prior studies show that smoking during pregnancy is more frequent amongst socially disadvantaged mothers, while, similar conclusions have not been reached in describing the socio-demographic characteristics of expectant fathers who smoke. This may also suggest the existence of a gap in the literature on the identification of main characteristics of men who smoke during partner's pregnancy and on main determinants of their likelihood to modify smoking habit after the baby's birth. Indeed, men are generally less likely than their pregnant partners to receive advice to stop from health professionals, and they are exposed to less pressure from friends and family to quit despite the detrimental effects of second-hand smoke exposure amongst household members – especially of children and pregnant women – being well-documented (Soesanti et al., 2019). Therefore, it is not surprising that the prevalence of men who change their smoking behaviours after becoming a father is far lower than that of women although the consequences of smoking are equally relevant. Although prior work has consistently recognized that pregnancy provides a crucial window of opportunity for changing maternal behaviours (Kharkova, 2016), the fact that it might indirectly be a meaningful occasion to help their partners stop smoking has rarely been considered and, thus, is under-researched. Indeed, behaviours of couples are strongly influenced by each other and, since fathers smoking itself might have detrimental effects on foetal health - leading to small for gestational age, foetal deaths, and birth defects (Roman-Galvez et al., 2018; Lee et al., 2015), a partner's pregnancy might provide a pivotal period for changing smoking habits among expectant fathers.

To our knowledge, this is the first paper that aims to investigate the role of pregnant mothers smoking status in influencing fathers' probability of quitting or reducing smoking measured not just after delivery, but also across baby's childhood. Specifically, we undertook survival analyses drawing data from the UK Millennium Cohort Study, a longitudinal study which allows us to look at parents' smoking habits over time. Main findings show that having a non-smoker partner significantly increased fathers probability to quit only after birth whereas having an ex-smoker partner who quit during pregnancy was positively associated with fathers' probability of stopping smoking across cohort members' childhood. Moreover, we found that having an expectant partner who reduced the number of cigarettes smoked during pregnancy significantly increased father's probability of quitting. Finally, having a partner who reduced and who stopped smoking during

pregnancy significantly increased fathers' probability of reducing the number of cigarettes smoked immediately after birth as well as when the child was 3, 5 and 7 years old.

In the UK, many interventions to reduce smoking in pregnancy have been supported by investments in tailored smoking cessation services to provide help to women who find it difficult to stop (Flemming et al., 2016). However, our findings suggest that future interventions for reducing tobacco exposure during pregnancy should consider the positive effect also for their partners which potentially reduces exposure to passive smoke. Thus, interventions that include both partners may therefore be an approach that fosters more effective long-term cessation for pregnant smokers and to their partners as well.

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