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Letter to the Editor

Significance of reduced number of cigarettes smoked after release from smoke-free prisons[☆]



Dear Editor,

We read with interest the paper “Relapse to smoking following release from smoke-free correctional facilities in Queensland, Australia” by Puljevic and co-workers (Puljevic et al., 2018). This study is the first to reveal reduced levels of daily cigarette consumption among ex-prisoners released from smoke-free prisons. We believe further discussion of this finding is important, in the interest of guiding future research in the area.

Firstly, the potential for compensation must be considered. Previous research suggests that when smokers are faced with reduced nicotine intake, they compensate by increasing smoking behavior – for example by increasing inhalation frequency, volume or duration (Hughes and Carpenter, 2005; Scherer and Lee, 2014). In this way, total smoke exposure and nicotine levels are (at least partially) maintained, despite a reduced number of cigarettes being consumed. It is therefore likely ex-prisoners receive a more modest reduction in total smoke exposure than suggested by the reported reduction in cigarettes per day (CPD).

Secondly, if there is indeed a reduction in total smoking (even taking into account compensation), is this reduction likely to be beneficial to health? Uncertainty exists in the literature on the health benefits of reduced smoking. Two recent systematic reviews (Hughes and Carpenter, 2006; Pisinger and Godtfredsen, 2007) have been unable to conclusively state whether smoking reduction decreases the risk of smoking-related disease or mortality. A consistent finding of these reviews, however, is that the magnitude of any health benefit following smoking reduction is smaller than the reported decrease in CPD. The authors propose compensatory behaviors, biological time delays and unsuccessful maintenance of smoking reduction as potential reasons for the lack of detectable health benefits (Hughes and Carpenter, 2006; Pisinger and Godtfredsen, 2007).

Finally, as alluded to above, any potential health benefit conferred by reduced smoking is likely to be diminished if reduction is not maintained. A review by Hughes and Carpenter (2005) found only about 10% of people that reduce their smoking maintain this level at two years. Yet, a subsequent review by the same authors (Hughes and

Carpenter, 2006) found reduced smoking is associated with an increased probability of future cessation. The weight of Puljevic and co-worker’s finding would be considerably greater if reduced smoking among ex-prisoners was found to translate to increased future cessation, as this would have clear implications for health.

This is the first study to reveal a trend of reduced cigarette consumption after release from smoke-free correctional facilities. Future research could help to determine whether this is a clinically significant finding in two ways. Firstly, by measuring markers of exposure, as – given what is known about compensatory behaviors – a reduction in CPD may not accurately reflect the reduction in total smoke exposure. Secondly, as acknowledged by Puljevic and colleagues, longer follow-up is required to verify whether reduction leads to future cessation and improved health outcomes. In addition, interventions designed to increase cessation among ex-prisoners that return to smoking at a reduced level should be investigated, as this appears to represent the majority of ex-prisoners. Such interventions could involve nicotine replacement therapy and/or behavioral counselling, which potentially abate compensation and enhance maintenance of reduction (Hughes and Carpenter, 2005). Findings of this research would have important implications for optimizing the health benefits of the smoke-free prisons policy.

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Contributors

Eleanor Woodward contributed to reviewing the literature and writing the first draft. Robyn Richmond contributed to editing and finalizing the final article. All authors have approved the final article.

Conflict of interests

No conflict declared.

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