Commentary: Questionable premises, overadjustment, and a smoking/suicide association in younger adult men

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The analysis of smoking/suicide associations in this edition of the International Journal of Epidemiology risks deceiving rather than informing readers. The paper’s calculations and conclusions are highlighted, yet their basic assumptions seem incompletely disclosed, and likely false. The paper violates normal public health precautionary principles like full disclosure of contrary data, supporting stringent drug safety evaluations, and judging people innocent until proven guilty. The paper fails to highlight that smoking precedes and probably causes multiple suicide precursors that the researchers adjusted for, as discussed below. Thus the paper’s major premises are likely to be false and its adjustments misleading. Based on probably false premises, the paper judges smoking, a known drug addiction, stressor, and debilitator, likely to be innocent of all roles in suicide. With little evidence, this and a few prior papers judge smokers guilty of vague suicide ‘predispositions’.2

As the paper suggests, unless a suicide risk factor ‘very likely preceded smoking,’ smoking may cause the risk factor and ‘it would be inappropriate to control for’ risk factors “‘on the causal pathway’ between smoking and suicide…”1 Such inappropriate and often misleading adjustments are called ‘overadjustment’. Overadjustment in the paper is very likely if smoking contributes to any of the many suicide risk factors that the authors adjusted for. As shown below, it is likely that the authors made multiple overadjustments since smoking probably plays a role in multiple suicide risk factors that the authors adjusted for.

The paper’s thrust relies wholly on unsupported, probably incorrect, and sometimes less than fully disclosed assertions that smoking follows and produces no: loss of control, stress, psychopathology, dysfunction, destitution, debility, divorce, delinquency, or related suicide precursors. The facts show that smoking precedes and probably causes all of those possible suicide precursors.1–5 In particular, randomized trial, challenge-rechallenge, animal, cohort, and other studies show that smoking precedes and probably causes a good deal of psychopathology,3,4 substance abuse, suicide-prone biochemical changes, and losses both via second-hand smoke and the social exclusions addicts face.6 Also, those stopping smoking had reduced suicides7 and reduced suicide precursors compared with continuing smokers and prior measures in the same individuals, respectively.8,9

The paper’s suggestions are contrary to many of the following well-known facts. Smoking nearly always begins as a paediatric disease.5 Second-hand smoking often begins in utero, and active smoking on occasion begins at preschool ages. As a tobacco company noted:

However intriguing smoking was at 11, 12, or 13, by the age of 16 or 17 many regretted their use of cigarettes for health reasons and because they feel unable to stop smoking when they want to. Over half claim they want to quit. However, they cannot quit any easier than adults can.5

Children are more likely to smoke if their parents smoke. Since studies suggest that parental smoking causes delinquency, school non-attendance, and divorce, Hemmingsson inappropriately adjusted smoking/suicide associations for delinquency, dropping out, and parental divorce.10,11 Unsupported assertions that nearly all behavioural problems and suicide risk factors precede the onset of smoking1 are clearly false and deserve to be rejected. Tobacco industry documents show that young smokers soon recognize their loss of control over smoking. The literature has repeatedly shown that with nicotine use, addiction, and the loss of control that smokers themselves recognize comes greatly increased risks of developing psychopathology including depression and anxiety disorders. Smoking regularly precedes and apparently often prolongs alcohol and other substance use. The likely role of smoking in psychopathology has been further clarified by serial measurements showing that declines in stress, psychopathology, and substance abuse commonly follow smoking cessation.8,9

The evidence that smoking is likely to cause suicide is strong and largely unaffected by Hemmingsson and colleagues’ findings.1 Smoking predicts suicide in a consistent, strong, dose-response, coherent, biologically plausible fashion that appears to be reversible with interventions that reduce smoking. The paper does provide confirmation that strong, dose-response smoking/suicide associations occur in younger adults and national samples.

Smoking and nicotine clearly cause biochemical substrates of depression and suicide like hypercortisolism and impaired serotonin function.6 It may be that like fish on a hook, many smokers thrash about in their efforts to escape from or adapt to addiction. Some observers may view such thrashing as self-injurious and blame it on suicidal ‘predispositions’. Fortunately, others have helped free people from their addictions and likely resultant thrashing/injurious behaviour. Results to date are encouraging. Smoking cessation is likely to contribute to the favourable mental well-being in ex-smokers mentioned in the Hemmingsson paper.8,9 A meta-analysis showed that smokers randomized to effective cessation assistance had reduced...
suicide rates, though numbers available for study were low (\(P < 0.2\)). Studies on the California Tobacco Control programme began in 1988. From 1988 to 2000, per capita cigarette consumption in California fell by about 50%, to about 50% of remaining US levels. From 1990 to 1999, the California age-adjusted suicide rate fell by 30%, over twice as much as the decline in the remaining US in both percentage or absolute terms (www.seer.cancer.gov/canques). Hopefully, other locales will soon enjoy similar smoking and suicide reductions.

The editors limited this commentary to 11 references. For a more complete reference list please email bnleistikow@ucdavis.edu.

References