Commentaries on Connor (2017)

WHY IS ALCOHOL CANCER'S BEST-KEPT SECRET?

Community awareness and acceptance of the causal relationship between alcohol use and cancer is generally low, and may also be suboptimal among physicians. Personal alcohol use among physicians and health professionals may be contributing to high levels of uncertainty and denial in the general population that alcohol causes cancer.

Connor makes a cogent argument for 'having it both ways' [1]. We agree that it is entirely plausible that alcohol causes cancer but does not afford drinkers a cardiovascular benefit. Theories about the connection between alcohol and cancer date back to 1903 [2], yet a 2015 UK survey found that, without prompting, only 13% of Britons identified cancer as a health condition linked to alcohol and, when prompted, approximately half made the connection [3]. Data from other countries show similar low levels of awareness. Few (13%) women from low- and middle-income countries are aware that alcohol is a cause of breast cancer [4].

Awareness and acceptance of the alcohol–cancer relationship is low for the general population and may also be suboptimal among physicians. In countries where most adults drink alcohol, surveys of physicians indicate that significant proportions are not aware of or resist the notion that alcohol causes cancer and do not advise their patients of the relationship [5–7]. This is compounded by the fact that many physicians are reluctant to ask about patient alcohol use, particularly when drinking does not appear to have a direct impact upon their health [7]. However, this is not universally so; 98% of medical students from a Saudi Arabian survey agreed that alcohol causes cancer, approximately the same proportion who agreed that tobacco causes cancer. It is perhaps related that only 5% of those surveyed reported drinking alcohol at all in a country where cultural norms around alcohol are very different to the West [8].

Given this, we ask the question: could individual alcohol use among physicians and other health professionals be a major factor in preparedness to utter 'alcohol-causes-cancer'?

Being a physician or health professional does not necessarily predispose an individual towards lower alcohol use. There are mixed findings in the scientific literature regarding levels of alcohol use among physicians and wide geographical variability is apparent. Some studies, particularly from Scandinavia, suggest that physicians drink more than the general population (e.g. [9,10]), while others suggest physicians' intake and behaviour towards alcohol, including binge drinking, is similar to the general population (e.g. [11,12]). Given this, it is reasonable to assume that most physicians drink at levels that are typical for the communities in which they live.

The question of when physicians should or should not drink also raises challenges. A US study asked doctors: 'Should physicians be allowed to use alcohol while on call?'. Fourteen per cent felt social drinking was acceptable while on call; 27% disagreed with the statement that 'physicians should not have a single drink while on call'; and 24% admitted to ever having drunk alcohol while on call. Approximately 64% reported having encountered colleagues they suspected used alcohol while on call, and 27% recalled encountering colleagues they suspected were impaired by alcohol while on call [13].

Therefore, if health experts drink at similar levels and engage in similar drinking behaviours to the communities they serve, does cognitive dissonance, or 'inconsistencies among our beliefs, attitudes, knowledge, and/or behaviour which give rise to an uncomfortable feeling' [14], play a role in their apparent reluctance to discuss alcohol and cancer with patients or the community more widely? If the answer to this question is yes, then an important source of health information for members of the public may not be communicating the alcohol-causes-cancer message consistently or effectively.

There is evidence of campaigns that have communicated this message effectively. The Western Australian 'Alcohol Think—Again' campaign, for example, increased community awareness from 62 to 87% [15]. However, in terms of influencing behaviour, expectations of such campaigns need to be realistic and bolstered by other reputable sources of information. Moreover, the alcohol industry has a clear responsibility to maximize profits for its shareholders, and has identified the alcohol-causes-cancer message as a considerable threat [16]. These powerful entities have a vested interest in maintaining the *status quo* of relative ignorance, uncertainty and denial among the general population and their trusted health advisers. In the face of this, it is time that health professionals set aside any leanings that might stem from their own drinking—good or bad—and convey unreservedly to their patients and the communities they serve that alcohol-causes-cancer.

Declaration of interests

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for programmes he administers comes from contracted government grants and donations from the public. He has an adjunct appointment at Curtin University. T.S. has no financial or other relevant links to companies with an interest in the topic of this paper. T.C. is Professor and head of the alcohol policy research programme at the National Drug Research Institute (NDRI) at Curtin University. The NDRI is supported by funding from the Australian Government under the Substance Misuse Prevention and Service Improvement Grants Fund. T.C. receives the majority of her research funding from the NDRI and from competitive grants and has never received funding form the alcohol industry. T.C. has no financial or other relevant links to companies with an interest in the topic of this paper.

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ALCOHOL'S CONTRIBUTION TO CANCER IS UNDERESTIMATED FOR EXACTLY THE SAME REASON THAT ITS CONTRIBUTION TO CARDIOPROTECTION IS OVERESTIMATED

Connor discusses whether it is consistent to doubt epidemiological studies that low-dose alcohol is cardioprotective while accepting similar evidence that it also causes cancer. We show that misclassification of former and occasional drinkers as abstainers is widespread in alcohol epidemiology. This practice leads to a systematic underestimation of health risks from drinking (e.g. for cancer) and overestimation of health benefits. Correction of this problem in future studies should lead to significantly larger estimates of alcohol's contribution to chronic disease.

We greatly appreciate Dr Connor's thoughtful analysis of the evidence that alcohol consumption can be considered a cause of cancer and not just a possible link or association [1]. She illustrates well how proposed causal associations can, through induction, stimulate new research questions that may help to refute or confirm a causal hypothesis. For example, many observational studies indicate a dose–response relationship between level of prior alcohol consumption and subsequent risk of different cancers. Conversely, there is evidence that cutting down on drinking or abstaining is associated later with a significantly reduced risk of these same cancers. In the same vein, we would add that confirmation of the main causal pathway for cancers of the digestive system via exposure to the alcohol metabolite acetaldehyde [2] has also been provided by genetic studies. These have shown that population subgroups with a genetic propensity to experience a build-up