

## Commentary on Chai *et al*: Drug use, self-harm, suicide, and use of registry data in epidemiological research

*A study of specific drugs as risk factors for suicide and self-harm can be linked to the bigger issue of the relative harm of various substances. The role and impact of the interplay between psychiatric co-morbidity and impulsivity can be related more widely to the link between substance use and self-harm and suicide.*

Chai *et al.* [1] have made an important contribution to the literature on substance use and self-harm and suicide (SHS) by linking specific types of substance use disorders recorded at presentation to accident and emergency departments to subsequent SHS, using a population-based cohort in Hong Kong.

Chai *et al.* [1] used an epidemiological framework with control for multiple factors to assess the contribution of each drug to SHS and adjusted their analyses for psychiatric co-morbidity, which is an extremely important confounder, because psychiatric co-morbidity is the single strongest predictor of SHS and is closely related to substance use [2].

Compared with other patients, patients with drug use disorders, regardless of type of drug, were at elevated risk for SHS. The authors concluded that all types of drug use disorders pose a risk of SHS and underlined the importance of approaches that seek to prevent and regulate drug use, including supply-oriented approaches. It is notable that some drugs, such as ketamine and opioids, were associated with very high risk of SHS, whereas other drugs, such as hallucinogens or cannabis, were associated with somewhat lower risk of SHS. Similarly, in some previous studies, psycho-depressants, such as opioids or alcohol, were associated with completed suicide, whereas cannabis and stimulants were not [2]. Further, Chai *et al.* [1] found that previous drug use disorders and psychiatric disorders were significantly associated with increased risk of SHS, but noted that this link is complicated and that the potential contribution of state impulsivity to SHS because of drug use disorders should be considered.

The findings from their study fit into the framework of degrees of harm from various substances exemplified by the work of Nutt and colleagues [3,4] and are a prime example of what can be achieved by using register data. By understanding how various drugs contribute to harms, it is possible to prioritize the often scarce health service and law enforcement resources [5].

Longitudinal research, as presented by Chai *et al.* [1], can indicate that a drug may be an important contributor to an adverse outcome. Using record-linkage to predict future outcomes is an under-used method in substance use research and is able to produce knowledge about exactly the kind of links identified in this study [6]. However, if such findings are to inform policy and practice, it is important to try to identify causal links rather than simply longitudinal associations [7]. When considering whether adverse outcomes such as SHS are directly attributable to the use of a specific drug, cross-cultural robustness of associations, biological plausibility, dose-response relationships, and experimental evidence from laboratory findings can all contribute to understanding the contribution of the drug itself, and therefore, the implications for practice and policy. Importantly, the increased risk associated with specific drugs found in the study by Chai *et al.* [1] must be considered in relation to the local drug and alcohol culture and to differences in access to and use of health care services.

Considering the current evidence base, we are not yet at the point where we can safely say that SHS is a consequence of drug use. However, studies such as the one by Chai *et al.* [1] point to the possibility that some substances do increase the risk.

### KEYWORDS

Co-morbidity, degrees of harm, drug use, risk differentials, self-harm, substance use, suicide

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### DECLARATION OF INTERESTS

None.

### AUTHOR CONTRIBUTIONS

**Morten Hesse:** Conceptualization. **Birgitte Thylstrup:** Conceptualization. **Jens Skogen:** Conceptualization.

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