Moderate alcohol consumption and depression: A marginal structural model analysis of a representative US cohort

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Introduction and Aims: Moderate alcohol consumption is associated with decreased depression risk, but it remains unclear whether this is a causal relationship or merely a methodological artefact. This study aimed to investigate this issue using a marginal structural model (MSM) comparing the effects of various stable alcohol consumption levels throughout early-to-middle adulthood on depression at age 50.

Design and Methods: A secondary analysis of the US-based National Longitudinal Survey of Youth cohort was conducted. 5,667 eligible participants provided valid data on alcohol consumption, Centre for Epidemiological Studies-Depression Scale short form (CES-D-SF) measurements, and covariates of interest at baseline, with 3,593 participants providing valid outcome data. MSMs were used to predict CES-D-SF means and rates of probable depression for hypothetical trajectories of consistent alcohol consumption.

Results: Both consistent occasional and consistent moderate drinkers were predicted to have reduced CES-D-SF scores and probable depression at age 50 compared to consistent abstainers (CES-D-SF scores: b=-0.84, CI= -1.47, -0.11; probable depression: OR=0.58, CI=0.36, 0.88 for consistent occasional drinkers vs abstainers; CES-D-SF scores: b=-1.08, CI=-1.88, -0.20; probable depression: OR=0.59, CI=0.26, 1.13 for consistent moderate drinkers vs consistent abstainers). Consistent above-guidelines drinkers were predicted to have slightly increased risk compared to consistent abstainers, but this was not significant (b=0.34, CI=-0.62, 1.25; OR=1.06, CI =0.66, 1.72).

Discussions and Conclusions: The present study contributes preliminary evidence that associations between moderate alcohol consumption and reduced depression risk may be causal. Further research using diverse methodologies promoting causal inference is required.

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