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Research paper

Alcohol use screening and intervention by American primary care providers

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ABSTRACT

Background: Regular/chronic drinking, defined by five or more drinks in one sitting on each of five or more occasions in the past 30 days, is a significant problem contributing to negative health outcomes, morbidity, and mortality. Regular/chronic and heavy episodic drinking largely goes undetected by primary care providers due to a lack of screening and intervention. The present study explores the extent to which healthcare practitioners screen for alcohol use, provide interventions, and refer to treatment across different types of drinkers.

Methods: A retrospective analysis of the 2014 National Survey on Drug Use and Health was analysed in 2016. Respondents who visited primary care settings were asked if healthcare providers queried them about their drinking, amount they drank, frequency of drinking, and if they received interventions. Simple tests among proportions and logistic regression were used to analyse these data.

Results: Healthcare professionals asked 76.5% of patients if they drank alcohol at all in the past year, and only 11.8% were asked if they had a drinking problem. The chance of being asked increased for heavy episodic and regular/chronic drinkers ($F_{[1.97,\ 98.38]} = 44.81$, $p < 0.001$). Healthcare providers infrequently suggested cutting down on drinking (5.5% overall), but the chance of receiving a suggestion increased across heavy episodic and regular/chronic drinkers ($F_{[1.92,\ 96.02]} = 196.22$, $p < 0.001$). Information about alcohol treatment referral was rarely given (7.3% of regular/chronic drinkers). Moreover, minority, older, male, and uninsured patients were queried about alcohol use less often.

Conclusion: Healthcare practitioners in primary care are screening for alcohol use at moderate rates, yet follow-up questions, brief advice, and treatment referrals are inconsistently targeted. There is a need for consistent screening of all patients and systematic follow-up protocols in primary care delivery.

Introduction

Regular/chronic drinking is a significant problem contributing to negative health outcomes, morbidity, and mortality (Hingson, Heeren, Winter, & Wechsler, 2005; Rehm, Gmel, Sempos, & Trevisan, 2002). The National Institutes of Health estimates 65% of US adults 18 and older drink alcohol. Of those that drink, 28% of adults 18 and over demonstrate heavy episodic or regular/chronic drinking behaviours (National Institutes of Health, 2010). Heavyepisodic drinking is defined by five or more drinks in one sitting (Johnston, O'Malley, Bachman, Schulenberg, & Miech, 2014; Lange & Voas, 2001). Regular/chronic drinking is defined by heavy episodic drinking on five or more occasions in the past 30 days (Johnston et al., 2014; Lange & Voas, 2001). Regular/chronic drinking largely goes undetected by primary care providers (National Institutes of Health, 2007). In addition, patients diagnosed with alcohol dependence (diagnosis at the time) may not receive the recommended care or intervention (Keesey, Hicks, Decristofaro, & Kerr, 2003). More recently, screening has improved while interventions remain low (Glass, Bohnert, & Brown, 2016). Screening is defined by healthcare provider queries about quantity, frequency, and problematic drinking behaviours; brief interventions consist of brief advice and referral to treatment (Glass et al., 2016). Healthcare provider interventions may help influence treatment outcomes. For

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instance, screening and providing brief interventions in healthcare settings have been associated with reduced drinking, and patient reported increases in general and mental health (Blow et al., 2006; Fleming et al., 2002; Madras et al., 2009).

All adult primary care patients should be screened for alcohol use and alcohol use disorders regardless of their presenting risk factors (Arndt, Schultz, Turvey, & Petersen, 2002; Bradley & Berger, 2013). However, implementing screening for alcohol problems in primary care settings has proven to be a difficult task (Vinson, Turner, Manning, & Galliher, 2013). For instance, physicians demonstrate low detection rates for alcohol use disorders (Arndt et al., 2002; Rumpf, Bohlmann, Hill, Hapke, & John, 2001). Detection rates are inconclusive as percentages vary considerably and the majority of outcomes has been evaluated with small samples (Vinson et al., 2013). Despite the low detection rates, there are promising results suggesting evidence-based programmes aimed at changing healthcare provider behaviour may improve outcomes (Anderson, Laurant, Kaner, Wensing, & Grol, 2004; Rumpf et al., 2001). However, preventive programmes are viewed by some as unsustainable due to a lack of resources in primary care (Yarnall, Pollak, Østbye, Krause, & Michener, 2003). Furthermore, research is lacking with large samples that would provide accurate healthcare provider detection rates of patients targeted for intervention and referral to treatment.

Healthcare provider referrals to substance abuse treatment tend to be lower than other referral sources (Sahker, Toussaint, Ramirez, Ali, & Arndt, 2015; St. Marie, Sahker, & Arndt, 2015). These low referral rates may be due to the lack of efficacy studies in brief intervention among patients with varying severity levels. For example, screening is effective in identifying alcohol use, but not in determining level of severity (Saitz, 2010). Low healthcare referral numbers may be problematic in light of the Substance Abuse and Mental Health Administration's approach to identification and treatment for substance problems entitled screening, brief intervention, and referral to treatment (SBIRT). SBIRT uses motivational interviewing, brief intervention, and referral, intended to improve substance use outcomes in healthcare settings (Madras et al., 2009). Healthcare providers may use screenings to identify alcohol use, and then stop short of providing further brief intervention or referrals to treatment. Thus, monitoring healthcare provider screenings and interventions is important to improve: primary care addiction services, access to treatment, patient satisfaction, differential diagnosis, healthcare costs, intervention redundancies, and targeted healthcare outcomes (Samet, Friedmann, & Saitz, 2001).

The present study explores the extent to which healthcare practitioners screen for alcohol use and provide interventions across different types of drinkers. In addition, we describe who is screened and if action is taken. Furthermore, the present study seeks to discover if patients demonstrating regular/chronic and heavy episodic drinking are receiving referrals to treatment. It is hypothesized that healthcare practitioners are querying patients about drinking behaviours in high percentages. It is further hypothesized that low percentages of patients demonstrating regular/chronic drinking behaviours are being referred to treatment.

Methods

Study sample

This is a secondary analysis of the 2014 US National Survey on Drug Use and Health (NSDUH; United States Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, & Center for Behavioral Health Statistics and Quality, 2016), a multistage, and weighted probability sample of the United States population. Data were analysed in 2016. The full sample included N = 55,271 respondents who received a face-to-face interview. The interview process used a computer-assisted self-interview and a personal interview. Respondents received a $30 incentive. The screening response rate was 83.9%, and then 71.7% for the interview. From the full sample, 44,519 (80.6%) answered the question about any alcohol use in the past 12 months, 1203 (2.19%) did not answer or represented missing data, and 9549 (17.28%) were logically skipped due to answering "no" to previous questions. For the present study's selection criteria, 92.2% were aged 17 years or older. More than half (70.6%) of these respondents drank alcohol within the past 12 months. Finally, 93.3% saw a healthcare provider in the past year. The final sample included 25,984 people 17 and older, who consumed alcohol in the last 12 months, and reported seeing a healthcare professional. Because these data represent de-identified existing public information there was no informed consent, and The University of Iowa Human Subjects Office, Institutional Review Board exempted this study from review.

Measures

Respondents were first asked if they had seen any healthcare provider in the past year. The survey asked if a healthcare provider queried about their drinking, provided advice, or referred them to treatment. From the codebook, the NSDUH (United States Department of Health and Human Services et al., 2016) survey was presented as such:

> Please think about all of the talks you have had with a doctor or other health care professional during the past 12 months when you answer this question. Choose the statement or statements below that describe any discussions you may have had in person with a doctor or other health professional about your alcohol use. (p. 427)

The questions represented in the present study were (a) healthcare professional asked about past 12 months: alcohol use, (b) doctor asked how much you drink, (c) doctor asked how often you drink, (d) doctor asked if you had any drinking problems, (e) doctor advised you to cut down on drinking, and (f) doctor offered information about alcohol treatment.

Basic demographics, e.g., sex, age group, race, were used for descriptive purposes. Respondents were also asked about their past year alcohol use including how many days they drank in the past month and how many standard drinks they had on an average day. Standard drinks in the US, in alcohol by volume (ABV) are: beer = 354.9 ml/∼5% ABV, wine = 147.9 ml/∼12% ABV, and liquor = 44.4 ml/∼40% ABV (National Institutes of Health, 2010). For respondents who indicated they drank five or more drinks on any occasion in the last month, heavy episodic for those who drank five or more drinks between one and four occasions, and regular/chronic for those who drank five or more drinks on each of five or more occasions.

Statistical analysis

Chi-square tests and logistic regression (using design based F-tests) were used to analyse these data with STATA 13.1. STATA uses design-based F statistics for chi-square comparisons as well as logistic regression with Taylor series approximations to account for the multistage sampling and weighting. Three separate regression models were run. The first univariate model used race to predict alcohol query, and the second univariate model used income to predict alcohol query. For the final multivariate model, having health insurance predicted alcohol query while controlling for income and age. Due to the large sample size and multiple tests, alpha was set at 0.001 to reduce the chance of type I error.