Predictors of Readiness to Change Alcohol Use Prior to Intervention Among At-Risk, Non-Treatment Seeking Drinkers

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Abstract

Health care settings are regularly accessed by individuals with problems related to heavy drinking. Research on interventions for reducing alcohol use, specifically brief motivational intervention, has demonstrated the utility of considering a patient's readiness to change, as described by the Transtheoretical Model. Thus, it is important to identify predictors of readiness to change prior to intervention for reducing alcohol use in opportunistic settings. Participants were 593 injured patients from three urban Level I trauma centers screened positive for heavy drinking. Participants completed questionnaires that assessed demographics, alcohol use, alcohol-related consequences (Short Inventory of Problems +6 [SIP+6]), and readiness to change alcohol use (revised Readiness to Change Questionnaire- Treatment Version [RCQ-TV]). A multivariate analysis was conducted in which readiness to change ([RTC]; RTC score = action + contemplation – precontemplation) was simultaneously regressed on several predictor variables. In the multivariate model, SIP+6 scores (b = .448, β = .546, p < .001), high risk drinking status (b = 3.700, β = .170, p < .05), and blood alcohol content [BAC] at time of injury (b = 6.539, β = .085, p < .05) were statistically significant predictors of RTC Results suggest several salient predictors of readiness to change prior to intervention. Given their increased readiness to change, injured patients without these characteristics may be more likely to benefit from brief intervention or brief intervention plus booster, whereas brief advice may be sufficient for injured patients with these characteristics when considering making a change in their drinking patterns.

Introduction

How much is too much?

Research has found alcohol abuse to be among the top 20 leading causes of premature death and disability in the United States. Alcohol use is the third preventable cause of death in the United States (Mokdad, Marks, Stroup, & Gerberding, 2004). The National Institute on Alcohol Abuse and Alcoholism (NIAAA) has defined heavy drinking as drinking five or more drinks on the same occasion on each of five or more days in the past 30 days (2015).

What's the harm?

According to the Center for Disease Control and Prevention (2014), excessive consumption of alcohol led to approximately 88, 000 deaths and significant economic costs, which were estimated at $249 billion in 2010. Furthermore, excessive consumption of alcohol has been associated with negative social consequences in a person's life that may impact an individuals'

- Employment
- Finances
- Relationships (Mulia, Ye, Thomas, Greenfield, & Zemore, 2009).

How can you reduce the risk?

The use of brief interventions for alcohol misuse have been shown to be a useful preventative service (Solberg, Maciosek, & Edwards, 2008; Schermer ,Moyers, Miller, & Bloomfield, 2006). Past studies have shown the efficacy of brief interventions in the medical setting, including emergency departments and trauma care settings (Woolard, Cherpitel, & Thompson, 2011 ; Field, Caetano, Harris, Frankowski, & Roudsari, 2009). Readiness to change has been proposed as an important mechanism of treatment success for brief interventions targeting behavior change (Apodaca & Longabaugh, 2009; Heather, 2014).

Aim of Study

The primary aim of the present study was to identify predictors of readiness to change alcohol use among trauma center patients who screened positive for heavy drinking.

Method

Procedure

Participants were 593 patients (76.6% male) from three urban Level I trauma centers:

1. Baylor University Medical Center (BUMC; Dallas, TX)
2. Methodist (Dallas, TX)
3. University Medical Center Brackenridge (UMCB; Austin, TX).

All participants who were over the age of 18 (M = 34.83 ± 12.409) and were treated for unintentional injuries (e.g., motor vehicle collisions) or intentional or violence-related injuries (e.g., gunshot wounds), were eligible for inclusion in the study and were included in the analysis (see Field et al., 2009). The majority of participants self-identified as White (39.8 %), while the remaining participants self-identified as Latino (29.0%), Black (26.3%), or other (4.9%).

Measures

The measures are as follow:

Demographics- Typical sociodemographic information (e.g., age and gender) was collected.

Questions Related to Injury- Blood alcohol concentration (BAC) at time of injury and whether injury was intentional or unintentional.

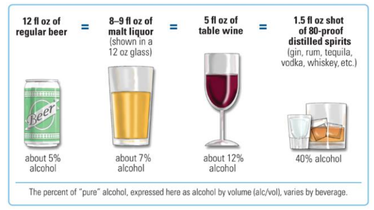
At-Risk Status-

- *Men- More than 4 drinks on a single day or no more than 14 drinks per week.*
- *Women-More than 3 drinks on a single day or no more than 7 drinks per week.*

Readiness to Change Alcohol Use- Assesses a patient's level of readiness to change their alcohol use (e.g., reduce, quit) in respect to the precontemplation (PC), contemplation (C), and action (A) stages of change. This scale was developed for non-treatment seeking patient populations.

- *"It's a waste of time thinking about my drinking because I do not have a problem."*

Alcohol Use - Alcohol use was assessed using the Timeline Follow-Back procedure (Dawson, Grant, & Li, 2005).



Short Inventory of Problems- Measures negative consequences of alcohol use and is composed of six subscales that assess different domains. The constructs measured by the SIP +6 are: physical, interpersonal, intrapersonal, social responsibility, impulse, and injury (Soderstrom et al., 2007).

- *"Have you been unhappy because of your drinking?"*

Results

We conducted bivariate zero correlations to determine what predictors were significantly correlated with RTC.

Variables	1	2	3	4	5	6	7	8	9
1. RTC Score	1.000								
2. BAC Injury	.224**	1.000							
3. At-Risk Status	.349**	.196**	1.000						
4. SIP+6	.630**	.206**	.374**	1.000					
5. Max. # Drinks/day	.259**	.341**	.387**	.361**	1.000				
6. Number of Heavy Drinking Days	.327**	.224**	.690**	.429**	.312**	1.000			
7. Intent of injury	0.031	0.021	-0.003	-0.001	0.003	-0.020	1.000		
8. Age	0.010	-0.094	0.069	-0.011	-.150**	.105*	-0.027	1.000	
9. Gender	-0.024	0.007	-0.020	0.033	.174**	.083*	0.006	-0.083*	1.000

Note: * p <.05; ** p < .01

We conducted a multivariate analysis in which readiness to change (RTC score = action + contemplation – precontemplation) was simultaneously regressed only on the predictors that were significantly correlated.

Predictors	β	Std. Error	b	p
BAC at Time of Injury	6.539	3.077	0.085	0.034
At-Risk Status	3.700	1.208	0.170	0.002
SIP+6	0.448	0.036	0.546	0.000
Max. # of drinks per day	0.016	0.043	0.017	0.709
No. of Days of Heavy Drinking	-0.024	0.023	-0.056	0.312
Dependent Variable = RTC score				
Adjusted R^2 = .396				

Discussion

Results revealed that SIP+6 scores, high-risk drinking status (reference condition is low-risk status), and BAC at time of injury were statistically significant predictors of readiness to change.

In conclusion, these findings suggest that patients who have experienced more alcohol-related consequences, meet high-risk drinking criteria, and have a higher BAC at time of injury have an increased readiness to reduce their drinking or abstain from alcohol. The characteristics identified are components of what makes the injury a sentinel event and possibly lead to behavior change. Thus, identifying these characteristics among emergency and trauma department patients can help inform the components of a brief intervention particular to the patient's readiness to change.

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