INTRODUCTION

Research indicates that alcohol use and misuse is the third leading cause of preventable death in the United States (Mokdad et al., 2004). The National Highway Traffic Safety Administration (NHTSA, 2010) found that fatalities due to drunk driving (BAC 0.08+) accounted for approximately 32% of all traffic deaths in 2009. On average, a person is killed in an alcohol related driving crash every 50 minutes in the United States. Research indicates that up to half of people arrested for driving while intoxicated (DWI) were drinking in alcohol serving establishments (e.g. bars, restaurants, lounges) prior to their arrest (Ventura County Behavioral Health, 2007). Recent research from Naimi, et al. (2009) indicated that over 10 percent of binge drinkers (five or more drinks on a single occasion) drove a vehicle within 2 hours of their most recent binge drinking occasion, and that drinking in licensed establishments accounted for over 54% of those driving episodes. Current research in Responsible Beverage Service Training (RBS) suggests that such training can be an effective means of preventing over-service of alcohol, and ultimately can reduce the incidence of drunk driving; e.g., alcohol servers may help prevent alcohol-impaired crashes by discouraging over-consumption of alcohol among their patrons. Recent results from research on the RBS literature suggest that training methods and implementation are an important factor in determining whether RBS training can achieve desired alcohol-related outcomes. There are now a number of commercially available web-based RBS training courses (e.g. leam2serve.com, tipsalcohol.com); however, to date, no systematic examination of the effectiveness of these online RBS courses has been published. Reported here is the first randomized controlled trial evidence for a web-based RBS on-premise (liquor by the drink) training – WayToServe.org, an RBS training website systematically developed and tested via a grant from NIH/NIAA (R01 AA014982).

METHOD

1. The New Mexico Alcohol and Gaming Division (AGD) provided a list of alcohol serving establishments from which one hundred fifty-five (N=155) were then randomly selected across four communities in New Mexico. Establishments had to have at least a beer and wine license and serve alcohol independent of any food order.

2. These 155 on-site premises were then randomly assigned to either the WayToServe training (n=77) or to the usual and customary training (n=78) provided in live classes in New Mexico by local trainers. Establishments randomized to receive the WayToServe training were then contacted by project staff for purposes of recruiting them into the study.

3. Individuals of at least 21 years of age were recruited and trained to act as “pseudo-patron” (PP) buyer and observer teams. The teams consisted of an individual who attempted to purchase alcohol while actually being observed by the alcohol serving establishments and an observer of the purchase attempt who acted as an innocent bystander. The use of pseudo-patrons in previous studies to evaluate the effectiveness of various alcohol server training models is well established (Glikson et al., 1993; McKnight, 1989, 1991, 1993; Russ & Geller, 1987; Saltz, 1989).

4. The buyer/observer teams were blind to the experimental condition of each establishment.

5. Design: The design employed in this investigation was a 2 (level of training: WayToServe vs. Usual and Customary – UC) x 4 (time of assessment: baseline: immediate post-training vs. 6 month follow-up vs. one year follow-up) mixed factorial design.

• Premises were assessed at baseline, immediate post-training, 6 month post-training, and one-year post-training intervals. Pseudo Patron (PP) assessments were employed to assess whether apparently intoxicated patrons would be served in premises at each of the four time assessment points. At each assessment point, the PP/observer teams would visit each establishment twice. The purpose of conducting two visits was to reduce the possibility of collecting anomalous data per a single visit to an establishment. All assessment occurred between summer 2009 and fall 2011.

• Although a number of dependent measures were collected, we shall focus here on rate of refusal: how often apparently intoxicated PP were refused service in any given establishment. This is the primary outcome of the investigation.

The WayToServe website is based on the content of the state mandated New Mexico Server Training curriculum. WayToServe was developed through several focus groups across New Mexico with members of the target population in order to determine proper terminology, idea groupings, and sensitive topics. Once the initial website was developed, project members conducted additional multimedia focus groups with alcohol servers and RBS policy makers (including the director of AGD) throughout the state in order to refine the design and structure of the beta version of the website. Prior to conducting the efficacy trial, WayToServe was subjected to a beta-test in four communities in New Mexico. The final version of the website consists of six multimedia, interactive content modules that include information on the following:

1. Alcohol laws - What one can do legally as a server, what one must do as a server, and the penalties one could face for failure to uphold the alcohol laws.

2. Preventing service to minors - Information is presented that will help in identifying underage patrons, including the finer points of checking an ID and information on strategies used by minors in attempting to obtain alcohol.

3. Alcohol and pregnancy - Information about Fetal Alcohol Spectrum Disorders (FASD) is presented, and includes frequently asked questions about FASD.

4. Facts about alcohol - Information is presented about the effects of alcohol and how to recognize a patron who has had too much to drink. Also, information is provided regarding the definition of a standard drink and the definition of blood alcohol concentration levels.

5. The intoxicated patron - Here, the user learns about the active role he or she plays in refusing further alcohol service to intoxicated patrons and preventing patrons from driving under the influence of alcohol. It includes a skill building activity for these purposes.

6. Responsible alcohol sales practices - In this section, the user will have the opportunity to learn about the SERVE system, and also to apply and practice each of its points. The SERVE system is a summary of what has been presented in the previous five sections. Below are screen captures from WayToServe.

RESULTS

A 2 (level of training) x 4 (time of assessment) repeated measures ANOVA of rate of refusal was conducted on the data, and found significant main effects for training (F(1, 264) = 5.55, p = 0.019), time of assessment (F(3, 792) = 34.07, p < 0.0001) and a significant training by time interaction (F(3, 792) = 22.8, p = 0.035). Planned t-tests (one-tailed) at each assessment period found no significant differences for refusal rate between WayToServe and UC training at baseline (WayToServe refusal rate mean=36%; UC refusal rate mean=35%), but a higher trained-trainee difference at immediate post-training (t(288) = 3.265, p < 0.0001) between WayToServe (refusal rate mean=68%) and UC (refusal rate mean=49%). At six months follow-up, no differences were detected between WayToServe (mean refusal rate=69%) and UC training (mean refusal rate=68%). A significant difference was detected between WayToServe training (mean refusal rate=68%) and UC training (mean refusal rate=58%), t(272) = 1.739, p = 0.0025. Figure 1 displays these mean refusal rates.

Overall, these results indicate that WayToServe training led to significantly more refusals to apparently intoxicated customers than the Usual and Customary training available in New Mexico. Although refusals also increased secularly in the UC training group, significant refusal rate differences were detected in 2 of the three follow-up assessment points, most notably at One Year follow-up.

SUMMARY

The most prominent finding in the present investigation is that web-based beverage service training (WayToServe) provides superior refusal rate outcomes when compared to usual and customary live training. Given the lack of any randomized trial research on other web-based RBS programs, this is an important addition to the RBS research literature. Most notably, the impact of WayToServe maintained over the year follow-up period, a finding suggesting that the longitudinal impact of this training persists. It is further worthwhile to note that the level of refusal (close to 70% at Year One follow-up) represents a high level of refusal compared to other similar outcomes in the literature.

REFERENCES


Poster presented at the 25th CASAA Anniversary Celebration at the Hotel Andalucia, Albuquerque, NM on November 7, 2014.