

Twelve-Plus Years of Secondary and Tertiary Alcohol and Other Drug Use Prevention Programming on a College Campus: Making the Case for Risk-Matched Education

Keywords: College students; college campus prevention; alcohol and other drug (AOD) use; AOD Programs; Alcohol tobacco and other drug (ATOD) programs; Primary prevention; Secondary prevention; Tertiary prevention

Abstract

The use of alcohol and other drugs (AOD) among young people is pronounced within college student populations. Therefore, prevention-based strategies to reduce the use and misuse of AOD are important. A thorough literature review of research-based AOD education programming aimed at students is included. In addition, a longstanding university AOD program to assist students with indicated use concerns is described, where the evolution of effective education programming to assist in the prevention of AOD use and misuse are shared. An AOD program description also includes examples of educational implementation, its evolution over time, and program evaluation. A case for assessed-risk-based education programming is made utilizing the Program as a backdrop. Suggestions for broadening holistic prevention programming on college campuses are discussed, including prevention that includes students in recovery.

Introduction

The need for effective alcohol and other drug use prevention programming is more important than ever. In recent years, 94 million individuals in the US met the criteria for an alcohol use disorder, and close to 32 million met criteria for another substance use disorder per year [1]. The impact of the COVID-19 spread on rates of alcohol and other drug (AOD) use remains to be seen, however factors such as lost employment, and increased co-occurring psychological concerns, support the need for continued prevention and treatment efforts [2]. Perhaps focused energy on young-adult populations with more AOD use risk could make a difference.

Binge drinking or heavy episodic use of alcohol continues to replace healthy lifestyles of young adult college students [3]. Compared to other age groups, 18 to 24-year-old US college students account for the highest rates of binge drinking [4]. The consequences of binge drinking, commonly defined as 5+ (males) and 4+ (females) standard drinks in one occasion, include impaired academic performance, risky sexual behaviors, driving while intoxicated, injuries, and even death [5]. In fact, over multiple years in the US, deaths as a result of alcohol-related injuries, including motor vehicle accidents,

ranged from 1500 to 1700 per year for 18-24-year-olds [4]. Young adults who use AOD also risk brain development consequences. The associations between adolescent AOD use and changes in overall brain functioning and long-term impacts on cognition long term are well-established [6]. Therefore, to successfully combat student binge drinking, campus AOD use prevention programs could benefit from the use of evidence-based programming matched to campus demographic needs.

Effective prevention interventions for young adults on college campuses could have immediate results on increased student retention rates, improved academics and lower the incidence of adults diagnosed with AOD use disorders later in life. The purpose of this article is to highlight how a 12-year implemented program at a western Pennsylvania public university utilizes evidence-based practices, grounded in assessed needs. In so doing, this article will note the importance of effective strategies for determining college student levels of AOD use as a pre-cursor to sound individualized education delivery, therefore providing a case for implementing AOD prevention programming.

AOD Use Secondary/Tertiary Prevention on College Campuses

Overall, campus AOD prevention is aimed at student alcohol use including reductions in underage use and binge drinking rates. However, primary prevention programming usually focused on entire campus populations (e.g. social norm campaigns) alone may not be enough. In fact, Gintner and Choate [7] showed evidence that primary prevention alone for college students who binge drink falls short of meeting their needs. According to Hart and Ksir [8] comprehensive prevention of alcohol and other drug (AOD) use should include primary, secondary, and tertiary prevention efforts. Primary prevention on college campuses is aimed at the entire population, whereas secondary and tertiary prevention is aimed at students with indicated AOD use. For example, students with secondary prevention needs are those with an underage drinking charge, whereas students with tertiary prevention needs might have received multiple alcohol-related violations and have a strong



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history of memory loss due to drinking (i.e. blackouts). Additionally, students cited for the use of alcohol may have a higher likelihood of problematic drinking (i.e. binge drinking). Therefore, assistance to students with higher rates of binge drinking requires secondary and/or tertiary prevention efforts that supplement programming aimed at the entire campus population [8,9].

Seminal alcohol use reduction research completed during the 1990's established the Alcohol Skills Training Program (ASTP) [10,11] that supported current secondary and tertiary prevention. The ASTP, an 8-10-week education program to increase skills to cope with alcohol misuse, resulted in more refined programming for college campuses. Two modalities of this early research were the Brief Alcohol Screening and Intervention for College Students (BASICS) [12] and CHOICES [13].

The BASICS and CHOICES programs are brief educational programs aimed at college students with indicated AOD use concerns. The general goal of the programs is to reduce the harm caused to students who have current or a history of alcohol use. As harm-reduction programs [14], a core aspect of CHOICES and BASICS is Motivational Interviewing (MI) whose origins can be traced to the early 1990s when introduced as an approach to assisting substance using individuals [15]. "Motivational interviewing is a collaborative, goal-oriented style of communication with particular attention to the language of change. It is designed to strengthen personal motivation for and commitment to a specific goal by eliciting and exploring the person's own reasons for change within an atmosphere of acceptance and compassion." p.29 [16].

In a comprehensive examination of 363 studies on the effectiveness of alcohol treatment approaches by Miller, Wilbourne, and Hettema [17], MI ranked second out of 47 diverse alcohol treatment interventions. Additionally, MI is generally accepted as an effective strategy for reducing college student drinking rates by the National Institutes on Alcohol Abuse and Alcoholism (NIAAA) an institute that recognizes methods of effective alcohol use prevention programming on college campuses [9,18].

Carefully controlled studies using MI interventions showed evidence that MI is effective when used with college student populations. To test the feasibility of MI with young persons (12 to 19-year-olds) Bailey, Baker, Webster, and Lewin [19] found increases in readiness to change and lowered frequencies of alcohol use compared to control group participants who had increased drinking results. Similarly, Feldstein and Forchimes [20] examined underage college students and found that MI interventions significantly reduced binge drinking rates when compared against a control group. In another carefully controlled study on 16 to 20-year-olds (N=200), McCambridge and Strang [21] not only showed that MI was significantly effective in reducing AOD use rates, but that MI was integral in reductions of risk indicators (e.g. changes in perceptions of drug-related risk).

MI interventions were effective in combination with other intervention strategies used with college students. In a randomized clinical trial (N=279) Walters et al [22] used MI with feedback. Their research indicated feedback alone (counselor provides brief feedback on methods to lower alcohol risk behaviors) as a brief intervention has been shown effective in previous studies. However, when MI

and feedback were combined they found that the combination outperformed MI-only and feedback-only interventions in the resultant reduction of drinking. Furthermore, Tevyaw, Borsari, Monti, and Colby [23] examined MI in combination with peer support (i.e. peer involvement in intervention with mandated students). They compared MI-only and MI-plus-peer support interventions and found that both groups showed significant reductions in alcohol use post intervention with increased student satisfaction found in the MI-peer support group. Finally, MI was found to benefit college students who wish to socially drink. For instance, in the promotion of responsible drinking, LaBrie, Pedersen, Lamb, and Bove [24] stated that MI is an integral component of their Heads Up! Program that targets freshman college students. Thus, it is apparent that MI in combination with feedback, peer-support, and harm reduction approaches are more efficacious when compared to other single-intervention and non-combined approaches.

As can be seen, BASICS and CHOICES alcohol use programs rely heavily on MI and also make use of differentiated approaches to assist students with indicated use concerns. BASICS programming can be used with individual students and/or groups of students and includes an MI approach, an interview to examine drinking patterns, homework in-between sessions that involves personalized feedback, and educational materials and strategies to modify and/or reduce harmful drinking patterns [12]. Alternatively, CHOICES programming utilizes MI, journaling activities [25] that include educational materials, strategies to lower the potential for harmful alcohol use, expressive writing, and cognitive behavioral therapeutic approaches. CHOICES are meant to be implemented with groups of students to allow for peer to peer interactions [26]. Interactive Journaling provides opportunities for participants to reflect on their past alcohol use patterns, internalize knowledge of at-risk behaviors, guides them to positive behavioral changes, and is complementary to group setting work [27]. Both BASICS and CHOICES programs were recognized by College AIM [9], an evidence-based rating-scale-guide to campus practitioners who are interested in the use of is AOD prevention programs for college campuses.

NIAAA's College AIM [9] rates a number of approaches to college AOD prevention programs and specifies environmental programs (primary prevention strategies) and individual programs (secondary/tertiary strategies). According to College AIM, BASICS as an individual program, is deemed a highly effective program if used in one-on-one facilitation with students and moderately effective when used with groups. Programs set up to see students individually are not feasible at all colleges and universities. CHOICES is not recognized as a stand-alone program by College AIM matrices and defined as a Brief Motivational Intervention (BMI) rated moderately effective when used, as intended, with groups.

The decision on a sound AOD use harm-reduction secondary/tertiary prevention program should be supported by relevant research that showed evidence of effectiveness. More recently, the choice of an efficacious program can also be facilitated by NIAAA's College AIM [9]. With a basis for an effective program in place via research reviews, a number of additional considerations went into the formulation of an effective AOD Program at a western Pennsylvania public university.

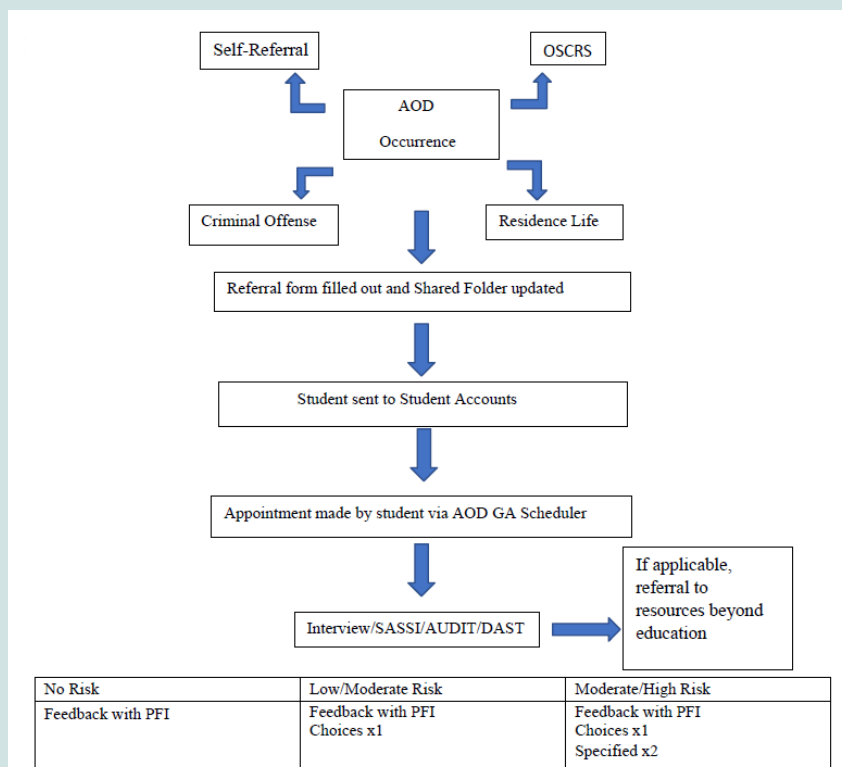


Figure 1: Key: AOD = Alcohol and Other Drugs; OSCRS=Office of Conduct Resolution Services; SASSI=Substance Abuse Subtle Screening Inventory; PFI=Personalized Feedback Intervention; AUDIT=Alcohol Use Disorders Identification Test; DAST=Drug Abuse Screening Test.

A 12-Year AOD Program

Research on an effective program led to the use of CHOICES prevention program suited for groups of students who could be accommodated campus-wide by one facilitator. CHOICES interactive journals are well respected by the Substance Abuse and Mental Health Services Administration’s (SAMHSA) National Registry of Evidence-Based Programs and Practices [25]. According to Johnson [28], who used pre-post testing, CHOICES is significantly effective in its ability to change participant attitudes toward drinking ($p < .001$), and increase knowledge of alcohol-related health-risks and concerns ($p < .001$). The CHOICES program uses MI within an interactive journaling [25] framework and is meant to be used with groups of students that utilize expressive writing and peer-to-peer interactions to facilitate student skill-sets to change drinking and using behaviors [23,27]. Stockings et al [29] illustrated that interventions that incorporate skills training have a higher probability of effectiveness compared to interventions that provide strictly information.

In addition to skill building, specific techniques were borrowed from MI-based research to facilitate change among students. Generally, MI utilizes motivational approaches in combination with the Transtheoretical Model of Change [30] to effectively prevent alcohol misuse or abuse. Primarily, MI motivational approaches assist people with alcohol use problems via (a) decisional balance exercises, (b) an exploration of ambivalence via discrepancy exercises, and (c) flexible pacing toward desired goals. Counselor roles therefore include expression of empathy, developed discrepancy, rolling with resistance, and supporting counselee/student self-efficacy [31]. Additionally, MI-trained facilitators are encouraged to use a

FRAMES approach (Feedback Responsibility Advice Menu Empathy Self-efficacy) [32] that ensures that students have self-determination in their choice of strategies for changing alcohol misuse and abuse behaviors (i.e. binge drinking).

Motivation to change is a critical component in helping people who misuse and/or abuse alcohol [32]. Therefore, MI uses the Transtheoretical Model of Change, more commonly known as the Stages of Change [33] as a framework for joining students at particular readiness to change levels. Readiness levels within Stage of Change motivations include pre-contemplation, contemplation, preparation, action and maintenance. Readiness varies from no desire for change (pre-contemplation), seeing the pros and cons to change (contemplative), to change achievement like stopping alcohol use (action) and the maintenance of change. Once the level of readiness is determined specific motivational techniques are matched to levels of readiness. Subsequently, the MI interventions, connected to readiness levels, join with, empower, and guide students to change undesirable substance use behaviors.

With CHOICES interactive journaling that utilizes MI techniques, feedback and skills as a BMI in place, other deliberations germane to life on a university campus were made. To match with the needs of the university, the program needed to show evidence of lower recidivism rates, a greater attention to risk-related education provision, and use of more standardized screening tools than previous AOD prevention programming. Additionally, the program needed to be brief and involve graduate student training for students pursuing masters’ in counseling. Therefore, in the formulation of a successful evidence-based program the following sections detail the specific

program components with emphasis on: a) program structure, b) modifications over time, and c) use of standardized screening tools and interviews.

AOD Program Structure

As is often the case, the AOD Program was guided by mission and purpose. The mission statement "...is to support and encourage healthy choices concerning the use of alcohol and other drugs while promoting an inclusive, safe, healthy, and learning-conducive environment" with the purpose to reduce harm caused by AOD use. The mission and purpose brought together the needs of the university with use of evidence-based practices.

In order to determine student AOD use-risk levels, the program started with holistic interviewing combined with standardized screening (see below) that all students receive when referred. Students were primarily referred due to AOD-related charges ranging from underage drinking to driving while intoxicated (DWI) charges. Once interviewed, students followed up with a feedback meeting to discuss interview/screening results and recommended for further education if applicable. Depending on risk found through the interview process, students could be completed at the feedback meeting, return for 1 additional educational group workshop or return for 3 additional group workshops. Figure 1 illustrates the process from program referral from varied offices (conduct office, residence life, etc.) to possible educational recommendations, and incidences where students might be referred for additional services outside the education Program (e.g. university counseling center). In sum, all students when referred receive interview (session 1) and feedback (session 2) meetings before completion or further recommended education workshops.

Evidence-based group education programming ensued for those recommended for further education. Group modalities using MI strategies have been shown to be effective with college students [34]. Students at the lowest risk and no apparent continued or ongoing AOD use (e.g. students referred with no use, but were cited because of alcohol in residence) typically completed the program at the feedback meeting. Students at mild to moderate risk (i.e. low probability of AOD use concerns, with more regular AOD use) were referred to 1 workshop, while students with moderate to high risk of AOD use concerns were referred to 3 workshops. The duration of all individual workshops were 90 minutes.

Generally, harm reduction and MI interventions imbedded into interactive journaling encompassed workshop education. The CHOICES About Alcohol interactive journal [13] was used with students receiving 1 workshop. Specific learning outcomes from this workshop included learning about standard drinks, knowing and setting limits, understanding blood alcohol content levels, and assisting during alcohol poisoning. Specific to Pennsylvania, an amnesty law passed that protects underage drinkers from prosecution when assisting someone with an alcohol related medical emergency was also part of the education. Finally, risky-use behaviors were discussed and what strategies were used to lower risk of use. Those who chose non-use were fully supported as another example of harm-reduction.

Students with high risk AOD use were recommended for 3

workshops, and completed the CHOICES interactive journal, The Power of Self-Talk, and Getting Started Motivational Education and Experiential (MEE) Journals [35,36]. For students with higher AOD use risk, the additional workshops had smaller attendees and were designed to probe deeper into reasons for use by utilizing cognitive behavioral techniques and strategies that encourage students question the values attached to their use. Concepts learned included: obstacles to continued non-use, positive and alternative self-talk, motivations to change use, and positive self-affirmations. Activities where students describe how they will face upcoming triggering events were also included in the MEE journal workshops.

Over the span of 12 years, changes in educational delivery and original program structure were made based on multiple considerations to maintain evidence-based practices. Higher incidences of marijuana use on campus, screening changes, and increased drug use referrals were considerations leading to modifications to the program.

Modified AOD Program

The modifications to the AOD program structure and education delivery were related to: a) BASICS trial, b) MEE journal student feedback, c) increased referrals for marijuana use. These 3 events over 12 years promoted the AOD program remaining evidence-based and effective for a wider range of student referrals.

BASICS Trial

In 2010 through a US Department of Education grant funding a PA statewide coalition on college student alcohol use reduction, the campus was encouraged to use BASICS for secondary/tertiary prevention. Thus, BASICS instead of CHOICES was used for first-year students as a 1-year trial. After 2011, the AOD program went back to CHOICES for all student referrals primarily to cope with larger numbers of students given the group capabilities of the program. However, the use of BASICS had a positive impact on programming. Specifically, BASICS used a personalized feedback intervention (PFI) as part of the education process, something the current Program was lacking.

Over the years PFIs received research attention and have been encouraged for increased prevention efficacy [37]. In general, use of technology within AOD use prevention is encouraged [38] and PFIs are considered highly effective tools by NIAAA College AIM standards [9]. Additionally, there was a need for more education to students that completed after 2 sessions (interview and feedback meetings) in the existing Program. Therefore, the Echeckup to go [39] was incorporated in between the first interview and feedback sessions. This decision allowed all students to, in addition to other face to face education if applicable; receive personalized feedback on their use behaviors in relation to peers and national statistics of alcohol use. Echeckup to go has positive research backing with evidence of diminishing peak usage in the short-term [40], decreased reports of alcohol use over 3 to 6-month periods [41], and the capability to reach and positively impact students via its electronic delivery [42].

MEE Journal Student Feedback

When the program originated, interactive journals Positive Self-Talk and Getting Started [35,36] were utilized for the students with

the highest risk factors for potential addictive use. Student feedback anecdotally as part of the ongoing program evaluations showed low favorability for the Getting Started journal. The main concerns from students were that the journal was too treatment-based versus educational, causing some to feel as though they had an addiction, when personally they felt they did not. Other anecdotal complaints related a lack of connection to the material, because they only had ever used alcohol, where the journal encourages users to discuss their values around the use of multiple substances.

Given the student feedback, only 2 portions of the journal were used that helped students still identify obstacles to their use and motivations to modify use [25]. To maintain the value of the journal, students were given the journal in its totality and encouraged to use other sections for their personal growth if they felt the other sections were applicable. To supplement the group workshop time, an activity on the process of addiction was utilized. This educational piece was introduced to have students examine how their use has progressed and/or waned along a continuum of use, and was based on stages of the addictive process adapted from Nowinski [43]. The addiction process supplemented students understanding that anyone can become addicted. Another learning outcome was that the addiction process follows the same progression no matter the substance or activity (i.e. process addictions), therefore lowering the potential to stigmatize those with addictions.

Increased Marijuana Use Referrals

Within the past 5 years, there has been an increase in marijuana use referrals to the Program. This increase required action in the form of prevention aimed at the use of marijuana specifically. First, the program added the Drug Abuse Screening Test (DAST) [44] screening tool to its repertoire of standardized instruments. The addition of the DAST helped to identify those with marijuana use tendencies and supplemented the other AOD screening tools. Second, the education materials, in keeping with a theme of expressive writing, were updated to now include the Marijuana: Making Wise Choices journal from the MEE series of the Change Companies [25]. The inclusion of this journal assisted the education programming overall and helped students question their marijuana use. Finally, the eTOKE [39] was implemented as a PFI that included campus-level student and national marijuana use statistics. The eTOKE therefore assisted students evaluate their personal use via comparisons to others in the privacy of a web-based personalized electronic platform.

In sum, the original program structure made use of brief motivational interventions, skill building activities and expressive writing that were supported in research. Over time, the program was strengthened through the inclusion of marijuana-based education materials and personalized feedback, and the addition of a PFI for all participants. According to College AIM ratings [9], the original program was considered moderately effective. However, with modifications the program became a mixture of moderately effective (BMI with a group—IND-17) and highly effective (PFI—IND 24) programming. There are programs across the nation that rely on stand-alone BMIs or PFIs for all students in the provision of secondary/tertiary prevention, which makes this program unique by remaining brief, but also adhering to the need for more or less education based on assessed risk factors.

Standardized Screening Tools and Interviews

As discussed in the previous 2 sections, upon referral to the Program, students had 2, 3, or 5 total sessions. The determinations of each of these 3 potential educational directions was based on the interview and screening results. Therefore, it was imperative to incorporate evidence-based screening tools matched to the holistic interviewing process [45]. AOD secondary/tertiary prevention programs that use risk-related screening and assessment to assist with education level determinations was supported in the research for some time [9,11]. Some who compared the effectiveness of various screening tools argued that use of multiple screening assessments increases accuracy due to the diversity of students that attend colleges, because all measure slightly different aspects of AOD use [46]. The current Program made use of a variety of standardized screening tools.

The first screening tool was the Substance Abuse Subtle Screening Inventory (SASSI) [47]. The SASSI was updated to align with the Diagnostic and Statistical Manual of Mental Disorders – 5 [48], so the SASSI-4 was adopted, which was researched for its internal consistency and test-retest reliability by Lazowski & Geary [49]. The SASSI-4 was updated to include a scale for prescription misuse, and in general measures the probability of a substance use disorder (SUD), therefore screening for alcohol and drug use. It requires training to administer and is useful due to a variety of scales measured related to attributes of use, not just screening for amounts and frequencies of use. It is fairly brief at around 80 forced questions and Likert-like questions, and can be administered electronically or in person. A student referred to the Program scoring a high probability on the SASSI benefitted from the full educational experience (5-sessions), due to the potential for a SUD.

A second screening tool, the Alcohol Use Disorders Identification Test or AUDIT [50] measures risk of a SUD in the future based on current alcohol use. This measure is well suited for a variety of students with diverse racial and ethnic identities as it was normed with diverse populations via the World Health Organization. In sum, it was a suitable tool depending on the diversity of the students, utilized 10 questions, and was matched to SASSI results for verifiability of student AOD use risk.

A final screening instrument was brought on in the wake of increased marijuana use among students, as discussed previously. The DAST [44] is a 10-question tool to measure drug use within the past 12-months. The DAST was utilized as a complement to the drug measures of the SASSI and was used as an additional verifiable tool of drug use among participants.

To complement standardized screen scores, students also underwent an interview process upon entry into the Program. The interview process assessed many domains of students' lives that could relate to substance use. Domains of the interview included substance use, psychiatric/psychological history, family history, school/work activities, medical/medication usage, social interactions, legal histories and past/current suicide risk. Use of holistic interviewing supported there commended education level determinations, and was used in conjunction with standardized screening tool results. Additionally, interviews could uncover other psycho/social concerns that could

not be assisted through the education process of the Program. Stated differently, not all students referred needed education services alone. Therefore, as shown in Figure 1, students were referred to other campus resources such as the counseling and/or health centers when applicable as a result of interview findings.

The use of multiple and complementary standardized screening tools increased the robustness of the Program to determine the appropriate levels of education for students with indicated AOD use concerns. Without proper assessment students would not receive appropriate levels of education, and consequently be served inadequately. Inadequate prevention could subsequently leave students at-risk for future SUDs and undermine the role of prevention itself.

Discussion

Effective secondary and tertiary prevention strategies for indicated college student AOD users were researched and established. Programming suited to those with lower use risk was implemented in the form of interview and feedback meetings utilizing standardized screening tools, and a PFI to educate student users of alcohol and/or marijuana. Students with moderate risk received the holistic interview, feedback, PFI interventions, and a CHOICES workshop. Finally, those with highest risk received interview, feedback, PFI, CHOICES workshop, plus 2 MEE-based workshops (Getting Started + addiction process and Power of Self-Talk) [35,36]. Students with additional psycho/social concerns were referred to additional on-campus and/or outside resources.

Program Evaluation

The current Program serves between 100 to 300 students per academic year. Measures of the success consisted of student satisfaction surveys and pre-post testing of knowledge gained. Additionally, recidivism rates were examined by acknowledging any repeat participants after education was received. For a majority of participants (>75%), the satisfaction with education, interviews, and those conducting interviews showed high favorability. Knowledge gained from pre to post-tests showed higher percentages of correct answers at post, in line with other CHOICES evaluations [28], which is further evidence of the current Program's effectiveness. Recidivism rates over the years have been under or at 5%.

The Program also has learning outcomes for graduate-level fieldwork students who provide interviews to students referred. Learning outcomes include use of electronic filing system, comfort working with actual students, and knowledge of working with those with indicated AOD use. The Program from its onset has included the use of graduate students to perform interview and feedback meetings, therefore, allowing students to have fieldwork experiences.

Making the Case: Programming Matched to Student Risk

The existing AOD Program was a creative culmination of research reviews and programmatic implementation that sought to individualize care to students based on their needs. Effective ways to reach groups of students was sought out due to higher numbers of referrals, and balanced with a brief program implementation, unlike less-brief ASTP-versions of prevention [10,11]. It is perhaps, more difficult to work with groups using BMI because students will

have varied degrees of readiness to change, which is likely a factor in BMI performance ratings for groups lagging in comparison to BMI performance with one on one interactions [9]. To ameliorate the moderate effectiveness of BMI used with groups, the education is provided by a faculty member with specialized skills in treating those with SUDs and advanced training in the use of MI. The use of a highly trained educator, and the university's need for brief education programming, led to the BMI-based (i.e. CHOICES; CHOICES plus MEE-LEE journals) programming for groups of students.

To improve on the effectiveness of group BMI, a PFI was implemented. According to NIAAA [9] the PFI is highly effective and complements the face-to-face components of the program by giving students a chance to submit and learn about their AOD-use through a web-based module. The PFI carried mixed results according to NIAAA with less effectiveness long term (>6months). However, the program is essentially supported long-term through the BMI usage, which was important to the design of the Program. Students with less indicated use receive appropriate education just as much as those with heavier risk levels. BMI has more research support for longer term effectiveness at 6 months [9]. Therefore, the BMI program may be more supportive of students with higher risk factors for addiction who could benefit from a longer-term period of education-efficacy. Furthermore, some students with higher risk factors may be more entrenched in their use patterns and benefit more from the BMI strategy shown to initiate positive changes in behaviors surrounding substance use and abuse [51].

Apart from creative researching and program implementation, the Program functions to individualize types of programming based on risk. Individualized care was central to distinguishing the current AOD Program from others. NIAAA's College AIM [9] amplified substantive information on AOD use prevention programming and encouraged institutions to come up with their own programs matched to their individual needs. Individualized care was also recognized in others ways. Ginter & Choate [7] showed the importance of individual needs in terms of students' motivations for change, as a contributing factor to student risk for substance use. Furthermore, Harris, Aldea, & Kirkley [31] looked at approaching mandated versus self-referred clients differently in terms of intervention. Factors such as motivation to change, and mandated versus non-mandated referrals to programming are further evidence of the push for individualized care.

The message underlying recent research is perhaps an argument for more individualized education programming. However, alternate programs rely on the education programming itself to individualize care, whereas this Program individualizes care through the interview/assessment process that aligns students to the appropriate levels of evidence-based education. Therefore, the current program relies on its use of an evidence-based screening process to customize the education experiences based on AOD-use risk, rather than providing all participants the same education programming. For example, how would a student with high risk factors of use be served through a stand-alone PFI? Alternately, how would a student with low risk factors for use be served by an 8-week ASTP program? The PFI is decidedly effective in the short term and ASTP longer term, but without both as part of an education program, how are the students being served? The

current Program's structure, thus, allows for selections to be made in the types of evidence-based education that would be most fitting based on the assessed (i.e. screened) needs of the individual.

Broadening Prevention

A combination of primary, secondary, and tertiary prevention efforts is ideal on college campuses to promote public health and wellness. Beyond collaborations between multiple campus offices (university police, conduct, health services, and residence life) as suggested by College AIM [9], the current review sought to highlight secondary and tertiary methods of prevention. Primary prevention is an important component of comprehensive campus AOD use prevention programming. This section exemplifies some systems of prevention that can provide broader efforts to college campuses.

To truly provide holistic prevention, we need to include those in recovery. This could include recognition of students in recovery, campus recovery community (CRC), and/or events that increase awareness of people in recovery. To this end, Trujillo, Obando, and Trujillo [52] studied the importance of community and positive social factors for adolescents to help delay the onset of substance use. Additionally, CRCs are becoming more and more important for college campuses to provide safe havens for students in recovery who want an education. CRCs could impact community culture and provide a positive social factor by sending the message of the importance of not using AOD. For those campuses without a CRC, recovery events can contribute to recovery culture when aligned with recovery celebrations. For instance, during National Recovery Month, the current AOD Program collaborates with peers in recovery to provide specific information regarding self-help groups in the community, while looping a recording of *The Anonymous People* [53] as a way to provide a sense of campus inclusion for persons in recovery.

Use of technology is another way to broaden prevention efforts [37]. Carey, et al [44] showed evidence that providing peer-alcohol-consumption information delivered via mobile phones led to less alcohol use among participants and less incidence of binge drinking behavior. Therefore, students may be motivated to use less when given phone messaging. Information on peer alcohol consumption at local, regional, and national levels are often a component of PFI platforms. Stated differently, PFI platforms often use campus student use statistics as well as regional, and even national data, to assist students envision how their own use compares to others. Therefore, supplementing education interventions with technological approaches (PFIs) such as eToke or eChug [39] are beneficial for reducing peak consumption in the short term.

For good reason, college AOD programs prioritize alcohol use. With ever increasing marijuana use and shifting societal views of marijuana, current directions for program education should be matched to student use. Use of vapes and nicotine products is also seen on college campuses. Specific to marijuana, The CASICS program [54] offers evidence-based education practices modeled off of BASICS [12] in the assistance of student marijuana users [55]. Additionally, tobacco/vape smoking cessation programming is an important part of a comprehensive prevention program. Herman & Fahlander [56] showed support for the implementation of MI

interventions in smoking cessation and college health promotion respectively. In all, casting a wider net by including education for those using a variety of substances is another way to broaden public health programming.

Conclusion

Overall, individualized care in combination with evidence-based education programs, and strong primary prevention, increases the probability that our AOD-using young adults can change and, in some cases, move toward recovery. It is hoped that the current review motivates readers to individualize care through the use of assessed-risk factors, not solely on the basis of available programming alone. Risk-assessment aligned with customized effective education is a strategy that builds upon evidence-based practices aimed at AOD use reductions among college students.

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