Supplementary Table 1. Summaries of All Studies Included in The Current Meta-Analysis

| Article reference | Description | Number of recommendations | Number of main recommendations | Main recommendation(s) | Number of auxiliary recommendations | Auxiliary recommendation(s) | Sample size | Average  Effect size |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Aharonovich et al.,2017 | This study examined the feasibility and efficacy of MI + HealthCall as adapted for smartphone technology on reducing non-injection drug and alcohol use. | 6 | 2 | Reduce drug use; reduce alcohol use | 4 | Set goals to reduce alcohol use; set goals to reduce drug use; continue alcohol use care; continue drug use care | 21 | 0.88 |
| Aharonovich et al.,2017 | This study examined the feasibility and efficacy of MI + HealthCall as adapted for smartphone technology on reducing non-injection drug and alcohol use. | 5 | 3 | Reduce alcohol use; reduce drug use; achieve abstinence; | 2 | Continue alcohol use care; continue substance use care | 21 | 0.89 |
| Amaro et al., 2007 | This study examined the efficacy of trauma-enhanced substance abuse treatment combined with HIV/AIDS prevention on reducing sexual risk behaviors compared to treatment with services-as-usual. | 2 | 2 | Reduce sexual risk for HIV; decrease substance abuse | 0 | / | 110 | -0.1 |
| Amaro et al., 2007 | This study examined the efficacy of trauma-enhanced substance abuse treatment combined with HIV/AIDS prevention on reducing sexual risk behaviors compared to treatment with services-as-usual. | 6 | 2 | Reduce sexual risk for HIV; decrease substance abuse | 4 | Implement interpersonal skills (sexual negotiation, sexual safety); implement money and finances skills; implement child custody skills; implement parenting skills and family communication | 122 | 0.36 |
| Arnaud, 2017 | This study examined the efficacy of a brief motivational intervention to reduce drinking and associated problems within pediatric emergency department in Germany. | 1 | 0 | / | 1 | Seek counseling service | 145 | 0.62 |
| Arnaud, 2017 | This study examined the efficacy of a brief motivational intervention to reduce drinking and associated problems within pediatric emergency department in Germany. | 4 | 1 | Reduce alcohol use | 3 | Seek family-related service; seek substance-use related services; reflect on previous AAI episodes | 124 | 0.8 |
| Avants et al., 2004 | This study examined the efficacy of a 12-session harm reduction group intervention for injection drug users, based upon the Information-Motivation-Behavioral skills model of behavior change, which focused on reducing both drug and sex risk. | 2 | 2 | Reduce drug use, increase condom use | 0 | / | 112 | 1.12 |
| Avants et al., 2004 | This study examined the efficacy of a 12-session harm reduction group intervention for injection drug users, based upon the Information-Motivation-Behavioral skills model of behavior change, which focused on reducing both drug and sex risk. | 7 | 2 | Reduce drug use, increase condom use | 5 | Implement safe sex skills (correct use of condom, eroticizing condom use); implement skills for negotiating safe sex with partner; implement drug-safety skills (cleaning needle/syringe); implement a healthy lifestyle; implement healthy social relationship and activities | 107 | 1.53 |
| Bachanas et al., 2016 | This study examined the feasibility and efficacy of a multi-component, clinic-based HIV prevention intervention for HIV-positive patients attending clinical care in Namibia, Kenya, and Tanzania. | 0 | 0 | / | 0 | / | 1573 | 0.05 |
| Bachanas et al., 2016 | This study examined the feasibility and efficacy of a multi-component, clinic-based HIV prevention intervention for HIV-positive patients attending clinical care in Namibia, Kenya, and Tanzania. | 0 | 0 | / | 0 | / | 1539 | 0.21 |
| Boyer, Shafer & Tschann, 1997 | This study evaluated the efficacy of a school-based knowledge- and cognitive-behavioral skills-building STD/HIV prevention intervention. | 2 | 2 | Prevent STD/HIV; avoid alcohol use | 0 | / | 106 | 0.03 |
| Boyer, Shafer & Tschann, 1997 | This study evaluated the efficacy of a school-based knowledge- and cognitive-behavioral skills-building STD/HIV prevention intervention. | 8 | 2 | Prevent STD/HIV; avoid alcohol use | 6 | Implement skills of prevention STDs and HIV; problem-solving and communication skills; steps to maintaining abstinence; skills to recognize antecedent of risk; skills for identify health-promoting behaviors; make clinic appointments | 106 | 0 |
| Brendryen, 2017 | This study compared the efficacy of a brief and an intensive self-help alcohol intervention. | 0 | 0 | / | 0 | / | 30 | 0 |
| Brendryen, 2017 | This study compared the efficacy of a brief and an intensive self-help alcohol intervention. | 3 | 1 | Reduce alcohol use; | 2 | Set reminders for the self; monitor alcohol consumption | 26 | 0.35 |
| Burke et al., 2005; 2007;2008 | This study examined the efficacy of multifactorial lifestyle modification on antihypertensive drug needs in treated hypertensive individuals. | 1 | 1 | Read materials regarding health care | 0 | / | 98 | 0.07 |
| Burke et al., 2005; 2007;2008 | This study examined the efficacy of multifactorial lifestyle modification on antihypertensive drug needs in treated hypertensive individuals. | 5 | 4 | Follow a diet; increase physical activity; reduce alcohol intake; quit smoking | 1 | Increase social support from partners | 106 | 0.3 |
| Burton et al., 1995 | This study examined the efficacy of the John Hopkins Medicare Preventive Services Demonstration over a period of 2 years on smoking, problem alcohol use, and sedentary lifestyle. | 1 | 1 | Read good health practices | 0 | / | 92 | 0.63 |
| Burton et al., 1995 | This study examined the efficacy of the John Hopkins Medicare Preventive Services Demonstration over a period of 2 years on smoking, problem alcohol use, and sedentary lifestyle. | 3 | 3 | Reduce smoking; reduce alcohol use; reduce sedentary lifestyle | 0 | / | 92 | 0.48 |
| Calsyn et al., 2010 | This study examined the efficacy of the Real Men Are Safe (REMAS) intervention on reducing the frequency with which men engage in sex under the influence of drug or alcohol. | 2 | 1 | Reduce sex under the influence | 1 | Read educational materials | 141 | 0 |
| Calsyn et al., 2010 | This study examined the efficacy of the Real Men Are Safe (REMAS) intervention on reducing the frequency with which men engage in sex under the influence of drug or alcohol. | 1 | 1 | Reduce sex under the influence | 0 | / | 136 | 0.28 |
| Carrico, 2015 | This study compared the efficacy of a positive-affect intervention plus contingency management with contingency management alone for methamphetamine using men who have sex with men. | 3 | 1 | Abstain from stimulant use | 2 | Attend support group; seek substance use treatment | 9 | -0.1 |
| Carrico, 2015 | This study compared the efficacy of a positive-affect intervention plus contingency management with contingency management alone for methamphetamine using men who have sex with men. | 5 | 1 | Abstain from stimulant use | 4 | Attend support group; seek substance use treatment; conduct acts of kindness; meditate | 12 | -0.5 |
| Choo, 2016 | This study examined the acceptability and feasibility of BSAFER, a brief Web-based program and booster phone call addressing violence and drug use. | 0 | 0 | / | 0 | / | 19 | 0.11 |
| Choo, 2016 | This study examined the acceptability and feasibility of BSAFER, a brief Web-based program and booster phone call addressing violence and drug use. | 4 | 2 | Reduce drug use; reduce intimate partner violence | 2 | Seek help for relationship safety; seek help from substance-use expert | 15 | -0 |
| Dakof, 2010 | This study examined the efficacy of "Engaging Moms program" vs. intensive care management on drug use, child abuse potential, and psychological symptoms, for mothers enrolled in family drug court. | 9 | 4 | Protect child welfare; complete drug treatment; maintain drug abstinence; comply with court orders | 5 | Complete parenting classes; demonstrate good parenting skills; participate in educational/vocational training; attend necessary counseling services; study or maintain employment | 29 | 0.8 |
| Dakof, 2010 | This study examined the efficacy of "Engaging Moms program" vs. intensive care management on drug use, child abuse potential, and psychological symptoms, for mothers enrolled in family drug court. | 11 | 4 | Protect child welfare; complete drug treatment; maintain drug abstinence; comply with court orders | 7 | Complete parenting classes; demonstrate good parenting skills; develop communication skills; participate in educational/vocational training; attend necessary counseling services; study or maintain employment; develop a workable everyday routine | 29 | 0.79 |
| Deady, 2016 | This study examined the feasibility and preliminary efficacy of an automated Web-based self-help intervention (DEAL Project) in treating co-occurring depressive symptoms and problematic alcohol use in young people. | 0 | 0 | / | 0 | / | 26 | 0.15 |
| Deady, 2016 | This study examined the feasibility and preliminary efficacy of an automated Web-based self-help intervention (DEAL Project) in treating co-occurring depressive symptoms and problematic alcohol use in young people. | 4 | 1 | Reduce alcohol use | 3 | Monitor their drinking; plan their activities; monitor their thoughts | 30 | 0.83 |
| Doumas, 2017 | This study examined the efficacy of a brief, web-based personalized feedback intervention (the eCHECKUP TO GO) on alcohol use and alcohol-related consequences among high school seniors. | 0 | 0 | / | 0 | / | 52 | 0.04 |
| Doumas, 2017 | This study examined the efficacy of a brief, web-based personalized feedback intervention (the eCHECKUP TO GO) on alcohol use and alcohol-related consequences among high school seniors. | 0 | 0 | / | 0 | / | 18 | 0.11 |
| Doumas, 2017 | This study examined the efficacy of a brief, web-based personalized feedback intervention (the eCHECKUP TO GO) on alcohol use and alcohol-related consequences among high school seniors. | 3 | 1 | Reduce alcohol use | 2 | Seek professional helps; use services in the local community | 61 | 0.1 |
| Doumas, 2017 | This study examined the efficacy of a brief, web-based personalized feedback intervention (the eCHECKUP TO GO) on alcohol use and alcohol-related consequences among high school seniors. | 3 | 1 | Reduce alcohol use | 2 | Seek professional helps; use services in the local community | 20 | 0.41 |
| Doumas, 2011 | This study examined the efficacy of two brief personalized feedback interventions on reducing heavy drinking among mandated college students. | 1 | 1 | Reduce heavy drinking | 0 | / | 47 | -0.3 |
| Doumas, 2011 | This study examined the efficacy of two brief personalized feedback interventions on reducing heavy drinking among mandated college students. | 1 | 1 | Reduce heavy drinking | 0 | / | 36 | 0.09 |
| Dushay et al., 2001 | This study compared the efficacy of a standard intervention with a culturally competent enhanced intervention. | 5 | 3 | Seek HIV testing; use condoms; implement needle bleaching | 2 | Engage in HIV preventive behavior; reduce drug use | 86 | 0.42 |
| Dushay et al., 2001 | This study compared the efficacy of a standard intervention with a culturally competent enhanced intervention. | 5 | 3 | Seek HIV testing; use condoms; implement needle bleaching | 2 | Engage in HIV preventive behavior; reduce drug use | 453 | 0.42 |
| Fogel et al., 2015 | This study examined the efficacy of an HIV/STI prevention intervention compared with a standard STI education session among women in 2 correctional facilities. | 2 | 2 | Use condoms; abstain from sex | 0 | / | 155 | 1 |
| Fogel et al., 2015 | This study examined the efficacy of an HIV/STI prevention intervention compared with a standard STI education session among women in 2 correctional facilities. | 7 | 2 | Use condoms; clean drug paraphernalia | 5 | Implement condom-use skills; communicate/negotiate with partners about sex; avoid violence; identify/contact a support person; search for resources | 179 | 1.12 |
| Fromme, 2004 | This study examined the efficacy of the peer- versus professional- led Lifestyle Management Class Alcohol Prevention Program among voluntary and mandated college students. | 0 | 0 | / | 0 | / | 164 | 0.01 |
| Fromme, 2004 | This study examined the efficacy of the peer- versus professional- led Lifestyle Management Class Alcohol Prevention Program among voluntary and mandated college students. | 3 | 2 | Moderate alcohol use; reduce behavioral risks associated with college drinking | 1 | Implement harm reduction strategies | 194 | 0.09 |
| Fromme, 2004 | This study examined the efficacy of the peer- versus professional- led Lifestyle Management Class Alcohol Prevention Program among voluntary and mandated college students. | 3 | 2 | Moderate alcohol use; reduce behavioral risks associated with college drinking | 1 | Implement harm reduction strategies | 159 | 0.16 |
| Go et al., 2015 | This study examined the efficacy of a multi-level intervention to reduce injection and sexual risk behaviors among HIV-infected people who inject drugs in Vietnam. | 2 | 2 | Reduce drug injection; reduce sexual HIV risk behaviors | 0 | / | 75 | 1.39 |
| Go et al., 2015 | This study examined the efficacy of a multi-level intervention to reduce injection and sexual risk behaviors among HIV-infected people who inject drugs in Vietnam. | 3 | 2 | Reduce drug injection; reduce sexual HIV risk behaviors | 1 | Look for social support | 113 | 1.54 |
| Go et al., 2015 | This study examined the efficacy of a multi-level intervention to reduce injection and sexual risk behaviors among HIV-infected people who inject drugs in Vietnam. | 5 | 2 | Reduce drug injection; reduce sexual HIV risk behaviors | 3 | Look for social support; ask partner to test; disclose HIV status | 76 | 1 |
| Go et al., 2015 | This study examined the efficacy of a multi-level intervention to reduce injection and sexual risk behaviors among HIV-infected people who inject drugs in Vietnam. | 5 | 2 | Reduce drug injection; reduce sexual HIV risk behaviors | 3 | Look for social support; ask partner to test; disclose HIV status | 113 | 1.76 |
| Grossbard, 2010 | This study examined the efficacy of a parent-delivered intervention on reducing alcohol use among incoming college students. | 0 | 0 | / | 0 | / | 340 | -0.1 |
| Grossbard, 2010 | This study examined the efficacy of a parent-delivered intervention on reducing alcohol use among incoming college students. | 2 | 1 | Reduce alcohol use | 1 | Resist peer pressure | 277 | -0.1 |
| Grossbard, 2010 | This study examined the efficacy of a parent-delivered intervention on reducing alcohol use among incoming college students. | 2 | 1 | Reduce alcohol use | 1 | Implement protective behavioral strategies to reduce negative consequences of alcohol use | 316 | -0.1 |
| Grossbard, 2010 | This study examined the efficacy of a parent-delivered intervention on reducing alcohol use among incoming college students. | 3 | 1 | Reduce alcohol use | 2 | Implement protective behavioral strategies to reduce negative consequences of alcohol use; resist peer pressure | 342 | 0.06 |
| Hadley et al., 2016 | This study examined the efficacy of an interactive DVD and workbook specifically designed for African-American parents and adolescents (ages 13–18), based on an efficacious face-to-face intervention, to address key factors associated with risk. | 0 | 0 | / | 0 | / | 85 | -0.2 |
| Hadley et al., 2016 | This study examined the efficacy of an interactive DVD and workbook specifically designed for African-American parents and adolescents (ages 13–18), based on an efficacious face-to-face intervention, to address key factors associated with risk. | 4 | 3 | Abstinence, condom use, substance use | 1 | Parent-child communication | 80 | -0.1 |
| Haller et al., 2014 | This study examined the efficacy of brief interventions delivered by family physicians on reducing binge drinking and excessive cannabis use among young people. | 2 | 2 | Reduce alcohol; reduce cannabis consumption | 0 | / | 232 | 0.06 |
| Haller et al., 2014 | This study examined the efficacy of brief interventions delivered by family physicians on reducing binge drinking and excessive cannabis use among young people. | 2 | 2 | Reduce alcohol; reduce cannabis consumption | 0 | / | 249 | 0.04 |
| Hanson et al., 2008 | This study examined the efficacy of contingency management on reducing HIV risk behaviors and tested whether this was mediated by longest duration. | 6 | 3 | Abstain from drugs; take daily methadone dose; attend counseling | 3 | Perform uri-analysis; have discussion with counselors; participate in HIV testing competition | 65 | 0.68 |
| Hanson et al., 2008 | This study examined the efficacy of contingency management on reducing HIV risk behaviors and tested whether this was mediated by longest duration. | 6 | 3 | Abstain from drugs; take daily methadone dose; attend counseling | 3 | Perform uri-analysis; have discussion with counselors; participate in HIV testing competition | 100 | 0.3 |
| Hershberger, Wood & Fisher, 2003 | This study compared the efficacy a cognitive-behavioral intervention with a two-session standard counseling with respect to drug and sex-related risk behaviors among crack and injection users. | 2 | 2 | Reduce injection risk; reduce sex risk behavior | 0 | / | 487 | 0.27 |
| Hershberger, Wood & Fisher, 2003 | This study compared the efficacy a cognitive-behavioral intervention with a two-session standard counseling with respect to drug and sex-related risk behaviors among crack and injection users. | 2 | 2 | Reduce injection risk; reduce sex risk behavior | 0 | / | 281 | 0.34 |
| Hien et al., 2009 | This study compared the efficacy of a cognitive– behavioral treatment for substance use disorder and posttraumatic stress disorder (PTSD), with an active comparison health education group. | 2 | 2 | Reduce alcohol use; reduce drug consumption | 0 | / | 113 | 0.27 |
| Hien et al., 2009 | This study compared the efficacy of a cognitive– behavioral treatment for substance use disorder and posttraumatic stress disorder (PTSD), with an active comparison health education group. | 2 | 2 | Reduce alcohol use; reduce drug consumption | 0 | / | 108 | 0.19 |
| Ingersoll et al., 2011 | This study examined the efficacy of two interventions to improve adherence and drug problems among people with crack cocaine use and poor adherence to HAART. | 3 | 3 | Reduce alcohol use; take medication; reduce drug use | 0 | / | 23 | 0.71 |
| Ingersoll et al., 2011 | This study examined the efficacy of two interventions to improve adherence and drug problems among people with crack cocaine use and poor adherence to HAART. | 6 | 3 | Reduce alcohol use; take medication; reduce drug use | 3 | Improve nutrition; increase exercise; implement behaviors to cope with stress | 22 | 0.83 |
| Jones et al., 2018 | This study examined the efficacy of different inhibitory control trainings (associative no-go, associative stop signal, general inhibition, and control) on alcohol-related outcomes (volume consumed, abstinent days, etc.). | 1 | 1 | Reduce alcohol use | 0 | / | 50 | 0.73 |
| Jones et al., 2018 | This study examined the efficacy of different inhibitory control trainings (associative no-go, associative stop signal, general inhibition, and control) on alcohol-related outcomes (volume consumed, abstinent days, etc.). | 1 | 1 | Reduce alcohol use | 0 | / | 54 | 0.71 |
| Jones et al., 2018 | This study examined the efficacy of different inhibitory control trainings (associative no-go, associative stop signal, general inhibition, and control) on alcohol-related outcomes (volume consumed, abstinent days, etc.). | 1 | 1 | Reduce alcohol use | 0 | / | 51 | 0.48 |
| Jones et al., 2018 | This study examined the efficacy of different inhibitory control trainings (associative no-go, associative stop signal, general inhibition, and control) on alcohol-related outcomes (volume consumed, abstinent days, etc.). | 1 | 1 | Reduce alcohol use | 0 | / | 52 | 0.58 |
| Jungerman et al., 2007 | This study examined the efficacy of a brief intervention for cannabis users. | 1 | 1 | Abstain from using cannabis | 0 | / | 52 | 0.13 |
| Jungerman et al., 2007 | This study examined the efficacy of a brief intervention for cannabis users. | 3 | 1 | Abstain from using cannabis | 2 | Implement feasible and realistic consumption goals; implement skills to face and manage high risk consumption situations | 55.8 | 0.13 |
| Jungerman et al., 2007 | This study examined the efficacy of a brief intervention for cannabis users. | 3 | 1 | Abstain from using cannabis | 2 | Implement feasible and realistic consumption goals; implement skills to face and manage high risk consumption situations | 52 | 0.16 |
| Kaner et al., 2013 | This study examined the efficacy of different brief intervention strategies at reducing hazardous or harmful drinking in primary care. | 1 | 1 | Reduce alcohol consumption | 0 | / | 202 | 0.3 |
| Kaner et al., 2013 | This study examined the efficacy of different brief intervention strategies at reducing hazardous or harmful drinking in primary care. | 2 | 1 | Reduce alcohol consumption | 1 | Implement techniques to reduce drinking | 207 | 0.24 |
| Kaner et al., 2013 | This study examined the efficacy of different brief intervention strategies at reducing hazardous or harmful drinking in primary care. | 3 | 2 | Reduce alcohol consumption; positive changes in lifestyle | 1 | Implement techniques to reduce drinking | 205 | 0.39 |
| Kulesza, 2010 | This study examined the efficacy of different duration of brief interventions on reducing the amount of alcohol consumed by college alcohol drinkers, as well as their number of alcohol-related problems. | 0 | 0 | / | 0 | / | 40 | 0.29 |
| Kulesza, 2010 | This study examined the efficacy of different duration of brief interventions on reducing the amount of alcohol consumed by college alcohol drinkers, as well as their number of alcohol-related problems. | 3 | 1 | Reduce alcohol use | 2 | Change drinking patterns; use strategies to moderate drinking | 39 | 0.36 |
| Kulesza, 2010 | This study examined the efficacy of different duration of brief interventions on reducing the amount of alcohol consumed by college alcohol drinkers, as well as their number of alcohol-related problems. | 3 | 1 | Reduce alcohol use | 2 | Change drinking patterns; use strategies to moderate drinking | 35 | 0.53 |
| Kypri et al., 2005 | This study examined the efficacy of a brief web-based intervention for multiple risk behaviors in a primary care setting for young people. | 0 | 0 | / | 0 | / | 61 | 0.21 |
| Kypri et al., 2005 | This study examined the efficacy of a brief web-based intervention for multiple risk behaviors in a primary care setting for young people. | 0 | 0 | / | 0 | / | 65 | 0.15 |
| Kypri et al., 2005 | This study examined the efficacy of a brief web-based intervention for multiple risk behaviors in a primary care setting for young people. | 4 | 4 | Reduce hazardous drinking; increase physical activity; increase fruit; increase vegetable intake | 0 | / | 72 | 0.24 |
| Latkin et al., 2008 | This study evaluated the efficacy of a network-orientated peer education intervention for drug users and their drug and sexual members. | 5 | 2 | Engage in protective sexual behaviors; reduce injection risk behavior | 2 | Keep cookers handy; keep condoms handy | 488 | 1.06 |
| Latkin et al., 2008 | This study evaluated the efficacy of a network-orientated peer education intervention for drug users and their drug and sexual members. | 4 | 2 | Engage in protective sexual behaviors; reduce injection risk behavior | 2 | Keep cookers handy; keep condoms handy | 425 | 1.15 |
| Leeman, 2013 | This study examined the efficacy of multiple iterations of automatic action tendency retraining, followed by laboratory alcohol self-administration, on reducing young adults' heavy drinking. | 0 | 0 | / | 0 | / | 19 | -0.1 |
| Leeman, 2013 | This study examined the efficacy of multiple iterations of automatic action tendency retraining, followed by laboratory alcohol self-administration, on reducing young adults' heavy drinking. | 1 | 1 | Moderate alcohol use | 0 | / | 20 | -0 |
| Letourneau, 2017 | This study examined the efficacy of Risk Reduction Therapy for Adolescents (RRTA) on addressing youth substance use disorders (SUD) and sexual risk behaviors. | 2 | 1 | Substance use | 1 | Peer influence | 60 | 1.42 |
| Letourneau, 2017 | This study examined the efficacy of Risk Reduction Therapy for Adolescents (RRTA) on addressing youth substance use disorders (SUD) and sexual risk behaviors. | 9 | 5 | Substance use, condom use, abstinence, STI testing, no sex on substances | 4 | Drug refusal skills; avoid unhealthy peers; avoid parties; make condoms more available | 42 | 1.73 |
| Lewis et al., 2015 | This study examined the efficacy of a pharmacy-randomized intervention on reducing injection risk among PWID in New York City. | 1 | 1 | Reduce drug injection | 0 | / | 255 | 0.37 |
| Lewis et al., 2015 | This study examined the efficacy of a pharmacy-randomized intervention on reducing injection risk among PWID in New York City. | 8 | 1 | Reduce drug injection | 7 | Use a pharmacy as primary syringe source; use a sterile syringes; reduce drug injection; avoid sharing syringes; use safe syringe disposal; test for HIV; access drug treatment | 227 | 0.31 |
| Litt, 2009 | This study compared the efficacy of a comprehensive CBT program versus an individualized assessment and treatment program among participants with alcohol abuse/dependence. | 3 | 1 | Reduce alcohol misuse | 2 | Manage social pressure/conflict; implement self-management skills | 45 | 1.41 |
| Litt, 2009 | This study compared the efficacy of a comprehensive CBT program versus an individualized assessment and treatment program among participants with alcohol abuse/dependence. | 5 | 1 | Reduce alcohol misuse | 4 | Avoid alcohol settings; escape alcohol settings; modify alcohol settings; implement self-management skills | 48 | 1.46 |
| Martin et al., 2001 | This study compared the efficacy of a standard intervention with a focused intervention for people on probation. | 2 | 2 | Reduce drug use; reduce risky sex behavior | 0 | / | 213 | 0.55 |
| Martin et al., 2001 | This study compared the efficacy of a standard intervention with a focused intervention for people on probation. | 5 | 2 | Reduce drug use; reduce risky sex behavior | 3 | Reduce selling sex; reduce paying for sex; reduce number of sexual partners | 213 | 0.5 |
| McCusker et al., 1997 | This study compared the efficacy of a traditional therapeutic community program, and a modified therapeutic community program with relapse prevention. | 5 | 3 | Stop using drugs; prevent relapse; reduce risk for HIV | 2 | Implement behavioral coping skills to confront triggers; avoid situations that trigger drug use | 362 | 0.7 |
| McCusker et al., 1997 | This study compared the efficacy of a traditional therapeutic community program, and a modified therapeutic community program with relapse prevention. | 7 | 2 | Stop using drugs; reduce risk for HIV | 5 | Assume responsibilities; implement social skills; help peers; rely on others; be honest | 155 | 0.43 |
| McMahon, Malow, Jennings & Gomez, 2001 | This study compared the efficacy of a cognitive-behavioral HIV risk reduction intervention with standard care condition in modifying HIV risk related knowledge, beliefs, attitudes, and behaviors among HIV seronegative males. | 3 | 3 | Reduce drug consumption; prevent HIV; reduce risky sex | 0 | / | 152 | 0.76 |
| McMahon, Malow, Jennings & Gomez, 2001 | This study compared the efficacy of a cognitive-behavioral HIV risk reduction intervention with standard care condition in modifying HIV risk related knowledge, beliefs, attitudes, and behaviors among HIV seronegative males. | 7 | 3 | Reduce drug consumption; prevent HIV; reduce risky sex | 4 | Implement communication and negotiation skills about safe sex (condom use, sexual practices, partner attitudes); implement skills for managing social situations that trigger drug use; implement skills for managing social situations risky sex; safe syringe use (avoid share needles, clean needles) | 149 | 0.64 |
| Meade et al., 2010 | This study examined the efficacy of a group intervention addressing coping with HIV and sex trauma in reducing alcohol and cocaine use. | 2 | 2 | Reduce alcohol use; reduce cocaine use | 0 | / | 88 | -0.1 |
| Meade et al., 2010 | This study examined the efficacy of a group intervention addressing coping with HIV and sex trauma in reducing alcohol and cocaine use. | 2 | 2 | Reduce alcohol use; reduce cocaine use | 0 | / | 95 | 0.46 |
| Monti, 2016 | This study examined the efficacy of a single session MI compared to Brief Advice (BA) for reducing heavy drinking and condomless sex in adult ED patients screening positive for both. | 2 | 2 | Reduce alcohol use; use condom | 0 | / | 161 | 0.28 |
| Monti, 2016 | This study examined the efficacy of a single session MI compared to Brief Advice (BA) for reducing heavy drinking and condomless sex in adult ED patients screening positive for both. | 3 | 3 | Reduce alcohol use; use condom; increase drinking abstinence; | 0 | / | 141 | 0.54 |
| Mouttapa et al., 2009 | This study compared the efficacy of the SUHIP (substance use and HIV prevention) intervention with a control group in adolescents. | 4 | 4 | Avoid use of drugs; avoid use of alcohol; avoid stimulant use; practice safe sex | 0 | / | 14 | 0.33 |
| Mouttapa et al., 2009 | This study compared the efficacy of the SUHIP (substance use and HIV prevention) intervention with a control group in adolescents. | 10 | 4 | Avoid use of drugs; avoid use of alcohol; avoid stimulant use; practice safe sex | 6 | Implement decision making skills; implement effective communication skills (refuse drugs, alcohol, unsafe sex); implement correct and effective condom use; implement skills for negotiating safe sex; increase skills to assess the partner risk; implement skills to identify and manage antecedents to risk behaviors and barriers | 11 | 0.37 |
| Murphy, 2001 | This study compared the efficacy of an educational intervention with an assessment-only control group among college student drinkers. | 0 | 0 | / | 0 | / | 24 | -0.1 |
| Murphy, 2001 | This study compared the efficacy of an educational intervention with an assessment-only control group among college student drinkers. | 1 | 1 | Reduce alcohol use | 0 | / | 25 | 0 |
| Murphy, 2001 | This study compared the efficacy of an educational intervention with an assessment-only control group among college student drinkers. | 1 | 1 | Reduce alcohol use | 0 | / | 30 | 0.42 |
| O'Farrell, 2016 | This study compared the efficacy of group-based behavioral couple therapies to standard behavioral couple therapy on its effect on substance and relationship outcomes. | 2 | 1 | To stay abstinent | 1 | Engage in constructive couple communications | 51 | 1.47 |
| O'Farrell, 2016 | This study compared the efficacy of group-based behavioral couple therapies to standard behavioral couple therapy on its effect on substance and relationship outcomes. | 3 | 2 | To stay abstinent; to reinforce sobriety | 1 | Engage in constructive couple communications | 48 | 1.65 |
| Parsons, Lelutiu-Weinberger, Botsko & Golub, 2014 | This study compared the efficacy of an intervention combining motivational interviewing and cognitive-behavioral skills building versus a time- and content-equivalent educational condition among hazardous drinkers. | 2 | 2 | Reduce sexual risk; reduce drug use | 0 | / | 62 | 0.11 |
| Parsons, Lelutiu-Weinberger, Botsko & Golub, 2014 | This study compared the efficacy of an intervention combining motivational interviewing and cognitive-behavioral skills building versus a time- and content-equivalent educational condition among hazardous drinkers. | 2 | 2 | Reduce sexual risk; reduce drug use | 0 | / | 61 | 0.4 |
| Penberthy et al., 2013 | This study examined the efficacy of a motivational interviewing plus feedback condition against a video information condition and an informational brochure condition in women with depression related drinking. | 4 | 2 | Reduce alcohol misuse; use contraception | 2 | Explore community health resources; explore substance abuse resources | 59 | 0.16 |
| Penberthy et al., 2013 | This study examined the efficacy of a motivational interviewing plus feedback condition against a video information condition and an informational brochure condition in women with depression related drinking. | 2 | 2 | Reduce alcohol misuse; use contraception | 0 | / | 64 | 0.16 |
| Penberthy et al., 2013 | This study examined the efficacy of a motivational interviewing plus feedback condition against a video information condition and an informational brochure condition in women with depression related drinking. | 0 | 0 | / | 0 | / | 58 | 0.2 |
| Perry et al., 2003 | This study examined the efficacy of D.A.R.E. and D.A.R.E. plus with middle and junior high school students. | 0 | 0 | / | 0 | / | 1093 | 0.08 |
| Perry et al., 2003 | This study examined the efficacy of D.A.R.E. and D.A.R.E. plus with middle and junior high school students. | 3 | 3 | Resist social influence to use drugs; resist social influence to use tobacco; handle violent situations effectively | 0 | / | 1269 | 0.09 |
| Perry et al., 2003 | This study examined the efficacy of D.A.R.E. and D.A.R.E. plus with middle and junior high school students. | 6 | 3 | Resist social influence to use drugs; resist social influence to use tobacco; handle violent situations effectively | 3 | Participate in school activities; participate in team activities at home; participate in community activities | 1381 | 0.07 |
| Prado et al., 2012 | This study examined the efficacy of family therapy in reducing substance use, illicit drug use, and alcohol dependence diagnosis, relative to a control community practice. | 2 | 2 | Increase parental support; increase parental participation | 0 | / | 119 | 0.16 |
| Prado et al., 2012 | This study examined the efficacy of family therapy in reducing substance use, illicit drug use, and alcohol dependence diagnosis, relative to a control community practice. | 3 | 2 | Increase parental support; increase parental participation | 1 | Transfer competencies learned in the group to their children (e.g. how to use female condom) | 113 | 0.18 |
| Purcell et al., 2007 | This study examined the efficacy of a peer mentoring intervention on sexual behaviors, injection behaviors, utilization of HIV care, and adherence, among HIV-positive IDUs recruited in 4 US cities. | 4 | 2 | Prevent HIV; prevent drug overdose | 2 | Seek employment; implement Red Cross safety tips | 314 | 0.34 |
| Purcell et al., 2007 | This study examined the efficacy of a peer mentoring intervention on sexual behaviors, injection behaviors, utilization of HIV care, and adherence, among HIV-positive IDUs recruited in 4 US cities. | 6 | 4 | Use HIV care; maintain adherence to HIV treatment; reduce sexual risk behaviors; reduce injection risk behaviors | 2 | Mentor peers; implement skills for behavior change | 312.5 | 0.39 |
| Reback et al., 2010 | This study examined the efficacy of a contingency management intervention to reduce substance use and increase health-promoting behaviors among homeless MSM. | 2 | 1 | Reduce HIV risk | 1 | Attend HIV prevention activities | 67 | -0.2 |
| Reback et al., 2010 | This study examined the efficacy of a contingency management intervention to reduce substance use and increase health-promoting behaviors among homeless MSM. | 5 | 4 | Abstain from stimulants; abstain from other drugs; reduce HIV risk; participate in health promotion activities | 1 | Attend HIV prevention activities | 64 | 0.04 |
| Robles et al., 2004 | This study examined the efficacy of an intervention to engage Hispanic injection drug users in treatment and reduce their drug use and injection-related HIV risk. | 7 | 4 | Reduce injection risk for HIV; reduce sexual risk for HIV; receive HIV testing; receive HIV testing results | 3 | Implement safer sex skills; implement safer injection skills; receive drug use treatment. | 203 | 2.24 |
| Robles et al., 2004 | This study examined the efficacy of an intervention to engage Hispanic injection drug users in treatment and reduce their drug use and injection-related HIV risk. | 11 | 5 | Reduce injection risk for HIV; reduce sexual risk for HIV; receive HIV testing; receive HIV testing results; prevent relapse | 6 | Implement safer sex skills; implement safer injection skills; receive primary care; receive drug use treatment; negotiate safer sex; refuse to use drugs | 207 | 2.58 |
| Rongkavilit et al., 2013 | This study examined the efficacy of a four-session motivational interviewing intervention aimed at decreasing sexual risk and alcohol use, and increasing medication adherence among youth living with HIV in Thailand. | 4 | 4 | Diet; exercise; stop smoking; develop healthy sleep habits | 0 | / | 47 | 0.17 |
| Rongkavilit et al., 2013 | This study examined the efficacy of a four-session motivational interviewing intervention aimed at decreasing sexual risk and alcohol use, and increasing medication adherence among youth living with HIV in Thailand. | 4 | 2 | Reduce sexual HIV transmission risk; change one of the following behaviors: reduce alcohol use or maintain anti-retroviral treatment adherence | 2 | Monitor change progress; implement strategies to maintain healthy behaviors | 49 | 0.17 |
| Saitz et al., 2013 | This study examined the efficacy of motivational enhancement therapy on drug and alcohol use. | 1 | 1 | Get addiction treatment | 0 | / | 262 | 0.46 |
| Saitz et al., 2013 | This study examined the efficacy of motivational enhancement therapy on drug and alcohol use. | 4 | 2 | Attend health care visits; receive relapse prevention counseling | 2 | Take medication; attend mental health counseling | 270 | 0.54 |
| Sakane, 2015 | This study examined the efficacy of telephone-delivered lifestyle coaching on preventing the development of type 2 diabetes mellitus (T2DM) in participants with impaired fasting glucose (IFG). | 6 | 6 | Exercise, maintain weight, diet fiber, diet vegetables, less alcohol, undergo check ups | 2 | Set and monitor goals of body weight and number of daily steps | 1367 | 0.02 |
| Sakane, 2015 | This study examined the efficacy of telephone-delivered lifestyle coaching on preventing the development of type 2 diabetes mellitus (T2DM) in participants with impaired fasting glucose (IFG). | 6 | 6 | Exercise, maintain weight, diet fiber, diet vegetables, less alcohol, undergo check ups | 2 | Set and monitor goals of body weight and number of daily steps | 1240 | 0.1 |
| Samet et al., 2015 | This study examined the efficacy of an HIV prevention intervention compared with an attention control condition in decreasing sexually transmitted infections and sex and drug risk behaviors among Russian HIV-infected heavy drinkers. | 3 | 2 | Improve nutrition; reduce stress | 1 | Seek social support | 259 | 0.4 |
| Samet et al., 2015 | This study examined the efficacy of an HIV prevention intervention compared with an attention control condition in decreasing sexually transmitted infections and sex and drug risk behaviors among Russian HIV-infected heavy drinkers. | 7 | 1 | Reduce sexual STI risk behaviors | 6 | Disclose HIV status, reduce alcohol use; reduce drug use; communicate about condom use; implement condom use skills; receive substance use treatment | 264 | 0.29 |
| Santa, 2016 | This study examined the efficacy of a novel GMI protocol that included tobacco-specific components (referred to as ‘Tobacco GMI or T-GMI’) targeting enhanced engagement in smoking cessation treatment. | 4 | 1 | Reduce substance use | 3 | Staying clean and sober; attend treatment; take medication for the substance use disorders | 16 | 1.28 |
| Santa, 2016 | This study examined the efficacy of a novel GMI protocol that included tobacco-specific components (referred to as ‘Tobacco GMI or T-GMI’) targeting enhanced engagement in smoking cessation treatment. | 6 | 2 | Reduce substance use; quit smoking | 4 | Staying clean and sober; attend treatment; take medication for the substance use disorders; join quit smoking treatment | 21 | 1.25 |
| Santos et al., 2014 | This study examined the efficacy of adapting Personalized Cognitive Counseling and rapid HIV testing on abstinence from substances and reducing alcohol intoxication frequency and high-risk sexual behaviors. | 0 | 0 | / | 0 | / | 164 | 0.15 |
| Santos et al., 2014 | This study examined the efficacy of adapting Personalized Cognitive Counseling and rapid HIV testing on abstinence from substances and reducing alcohol intoxication frequency and high-risk sexual behaviors. | 2 | 1 | Reduce HIV risk behaviors | 1 | Avoid similar high-risk situations in the future | 162 | 0.14 |
| Satre, 2016 | This study examined the efficacy of Motivational Interviewing (MI) to reduce hazardous drinking and drug use among adults in treatment for depression. | 0 | 0 | / | 0 | / | 148 | 0.51 |
| Satre, 2016 | This study examined the efficacy of Motivational Interviewing (MI) to reduce hazardous drinking and drug use among adults in treatment for depression. | 3 | 3 | Reduce alcohol use; reduce illegal drug use; reduce misuse of prescription drugs | 0 | / | 148 | 0.64 |
| St. Lawrence, Jefferson, Alleyne & Brasfield, 1995 | This study examined the efficacy of a behavioral skill training intervention among youth in substance dependence residential treatment. | 1 | 1 | Reduce sexual HIV risk | 0 | / | 17 | -0.3 |
| St. Lawrence, Jefferson, Alleyne & Brasfield, 1995 | This study examined the efficacy of a behavioral skill training intervention among youth in substance dependence residential treatment. | 5 | 2 | Reduce sexual HIV risk; abstain from sex | 3 | Develop condom use skills; implement interpersonal skills; implement self-management skills | 17 | 0 |
| Surratt & Inciardi, 2010 | This study compared the efficacy of two HIV and hepatitis prevention interventions on changes in risk behavior among drug using women sex workers. | 3 | 3 | Reduce sexual risk for HIV; reduce injection risk for HIV and hepatitis B/C; reduce HIV risk associated with stimulant use | 0 | / | 274 | 0.32 |
| Surratt & Inciardi, 2010 | This study compared the efficacy of two HIV and hepatitis prevention interventions on changes in risk behavior among drug using women sex workers. | 6 | 4 | Reduce sexual risk for HIV; reduce injection risk for HIV and hepatitis B/C; test for HIV; test for hepatitis B/C | 2 | Implement tips to reduce the risk of violence; receive services including drug treatment | 272 | 0.28 |
| Tucker, 2017 | This study examined the efficacy of AWARE, a voluntary four session group- based motivational interviewing (MI) intervention to reduce AOD use and sexual risk behavior. | 0 | 0 | / | 0 | / | 95 | 0.13 |
| Tucker, 2017 | This study examined the efficacy of AWARE, a voluntary four session group- based motivational interviewing (MI) intervention to reduce AOD use and sexual risk behavior. | 6 | 3 | Reduce alcohol use; reduce drug use; reduce risky sexual behaviors | 3 | Avoid high-risk situations; protect oneself when drinking; protect oneself when having sex; | 86 | 0.27 |
| Wechsberg et al., 2006 | This study compared the efficacy of a modified Standard HIV intervention and a Woman-Focused HIV prevention intervention. | 5 | 2 | Reduce risk; use condoms properly | 3 | Implement skills to talk to one’s partner; test for HIV; prevent spread of HIV | 40 | 0.43 |
| Wechsberg et al., 2006 | This study compared the efficacy of a modified Standard HIV intervention and a Woman-Focused HIV prevention intervention. | 4 | 0 | / | 4 | Negotiate risk reduction; communicate better with partners; prevent violence; seek community resources | 40 | 0.53 |
| Wechsberg et al., 2016 | This study examined the efficacy of the Couples Health CoOp intervention on heavy drinking, condom use, and HIV incidence. | 4 | 2 | Condom use, alcohol/drug use | 2 | Stress management, relationship communication skills | 162 | 0.15 |
| Wechsberg et al., 2016 | This study examined the efficacy of the Couples Health CoOp intervention on heavy drinking, condom use, and HIV incidence. | 4 | 2 | Condom use, alcohol/drug use | 2 | Stress management, relationship communication skills | 191 | 0.25 |
| Wechsberg et al., 2016 | This study examined the efficacy of the Couples Health CoOp intervention on heavy drinking, condom use, and HIV incidence. | 4 | 2 | Condom use, alcohol/drug use | 2 | Stress management, relationship communication skills | 198 | 0.47 |
| Wernett et al., 2018 | This study examined the efficacy of a computer-delivered, single-session brief motivational intervention plus booster session on addressing both substance use and STI risk. | 0 | 0 | / | 0 | / | 19 | 0.34 |
| Wernett et al., 2018 | This study examined the efficacy of a computer-delivered, single-session brief motivational intervention plus booster session on addressing both substance use and STI risk. | 2 | 2 | Reduce unprotected sex, reduce substance use | 0 | / | 30 | 1.3 |
| Williams et al., 2009 | This study examined the efficacy of an electronic clinical reminder for brief alcohol counseling. | 0 | 0 | / | 0 | / | 345 | -0 |
| Williams et al., 2009 | This study examined the efficacy of an electronic clinical reminder for brief alcohol counseling. | 1 | 1 | Reducing drinking | 0 | / | 957 | -0.2 |
| Woolf et al., 2006 | This study examined the efficacy of a tailored web site that provides health information on behavior change. | 1 | 1 | Reduce drinking | 0 | / | 49 | 1.7 |
| Woolf et al., 2006 | This study examined the efficacy of a tailored web site that provides health information on behavior change. | 6 | 6 | Reduce drinking; increase vegetable/fruit consumption; increase grain consumption; decrease fat consumption; increase exercise; stop smoking | 0 | / | 73 | 1.35 |
| Yonkers et al., 2012 | This study examined the efficacy of motivational enhancement therapy coupled with cognitive behavioral therapy (MET-CBT) to brief advice for treatment of substance use in pregnancy. | 3 | 3 | Abstain from sex; practice safe sex behavior; practice relapse prevention | 0 | / | 35 | 0.11 |
| Yonkers et al., 2012 | This study examined the efficacy of motivational enhancement therapy coupled with cognitive behavioral therapy (MET-CBT) to brief advice for treatment of substance use in pregnancy. | 5 | 3 | Abstain from sex; practice safe sex behavior; practice relapse prevention | 2 | Implement communication skills; implement problem solving skills | 34 | 0.14 |
| Zule, Costenbader, Coornes & Wechsberg, 2009 | This study examined the efficacy of a motivational intervention versus an educational intervention on use of a new syringe at last injection, and condom use at last sexual encounter in a community sample of injection drug users. | 9 | 3 | Reduce sexual risk; reduce injection risk; reduce alcohol use | 6 | Test for HIV; test for hepatitis B and C; clean syringes; apply condoms correctly; seek addiction treatment and necessary services; seek vaccine or treatment | 286 | 0.18 |
| Zule, Costenbader, Coornes & Wechsberg, 2009 | This study examined the efficacy of a motivational intervention versus an educational intervention on use of a new syringe at last injection, and condom use at last sexual encounter in a community sample of injection drug users. | 11 | 3 | Reduce sexual risk; reduce injection risk; reduce alcohol use | 8 | Test for HIV; test for hepatitis B and C; clean syringes; apply condoms correctly; seek addiction treatment and necessary services; seek vaccine or treatment; monitor progress; develop strategies to overcome obstacles | 265 | 0.4 |

Supplementary Table 2**.** Descriptive Statistics

| ***Variable*** | ***Multiple behavior groups (k = 113)*** | ***Oher groups (k = 42)*** |
| --- | --- | --- |
| General characteristics | | |
| Publication year (*r* = 1) |  |  |
| M | 2010 | 2011 |
| Mdn | 2010 | 2013 |
| SD | 6.70 | 6.41 |
| *k* | 113 | 42 |
| Source type (κ = 1) |  |  |
| Journal article | 97.3 (110) | 97.6 (41) |
| Not specified | 2.7 (3) | 2.4 (1) |
| Academic affiliation (κ = .91) |  |  |
| University | 48.1 (37) | 56.0 (14) |
| College | 29.9 (23) | 20.0 (5) |
| Research center | 18.2 (14) | 12.0 (3) |
| Hospital / health cent | 3.9 (3) | 12.0 (3) |
| Institutional area (κ = 1) |  |  |
| Psychology | 21.6 (19) | 35.1 (13) |
| Epidemiology | 3.4 (3) | 2.8 (1) |
| Community / Health | 29.5 (26) | 0.0 (0) |
| Medicine | 43.2 (38) | 48.6 (18) |
| Public Health | 0.0 (0) | 13.5 (5) |
| Sociology | 2.3 (2) | 0 (0) |
| Country (κ = 1) |  |  |
| United States | 83.2 (94) | 71.4 (30) |
| Other | 16.8 (19) | 28.6 (12) |
| Participant characteristics | | |
| Sample size (N) (*r* = 1) |  |  |
| Sum total | 19689 | 8606 |
| M | 174.24 | 204.91 |
| Mdn | 106.67 | 56.00 |
| SD | 245.02 | 375.76 |
| k | 113 | 42 |
| Age in years (*r* = 1) |  |  |
| M | 34.04 | 30.69 |
| Mdn | 36.2 | 32.20 |
| SD | 12.04 | 14.49 |
| k | 85 | 29 |
| % men (*r* = 1) |  |  |
| M | 56.06 | 53.62 |
| Mdn | 59.80 | 53.00 |
| SD | 31.27 | 24.29 |
| k | 111 | 39 |
| % women (*r* = 1) |  |  |
| M | 43.82 | 45.76 |
| Mdn | 40.20 | 47.00 |
| SD | 31.46 | 24.69 |
| k | 111 | 39 |
| % gay / bisexual (*r* = 1) |  |  |
| M | 36.31 | 50.00 |
| Mdn | 9.6 | 50.00 |
| SD | 42.43 | 70.71 |
| k | 29 | 2 |
| % high school graduates (*r* = 1) |  |  |
| M | 58.00 | 70.91 |
| Mdn | 61.30 | 91.90 |
| SD | 31.78 | 37.91 |
| k | 60 | 20 |
| % with risk factors or a health condition at pretest (*r* = 1) |  |  |
| M | 53.35 | 56.84 |
| Mdn | 47.70 | 57.5 |
| SD | 43.39 | 46.15 |
| k | 43 | 8 |
| Ethnic descent |  |  |
| % European - American (*r* = 1) |  |  |
| M | 42.48 | 64.64 |
| Mdn | 33.30 | 76.97 |
| SD | 34.01 | 30.07 |
| K | 91 | 30 |
| % Africa – American (*r* = 1) |  |  |
| M | 29.86 | 21.19 |
| Mdn | 23.90 | 10 |
| SD | 28.58 | 30.10 |
| k | 89 | 23 |
| % Latin – American (*r* = 1) |  |  |
| M | 16.69 | 7.79 |
| Mdn | 10.00 | 4.05 |
| SD | 22.97 | 10.73 |
| k | 85 | 22 |
| % Asian – American (*r* = 1) |  |  |
| M | 7.30 | 3.97 |
| Mdn | 0.00 | 2.7 |
| SD | 19.65 | 4.43 |
| k | 71 | 18 |
| % Native American (*r* = 1) |  |  |
| M | 0.41 | 0.75 |
| Mdn | 0.00 | 0.00 |
| SD | 1.18 | 1.41 |
| k | 72 | 21 |
| |  |  |  |  | | --- | --- | --- | --- | | Types of intervention strategies | | | | | Passive strategies |  |  | | | Attitudinal arguments (κ = 1) |  |  | | | Yes | 64.0 (55) | 25.0 (4) | | | No | 36.0 (31) | 75.0 (12) | | | Normative arguments (κ = 1) |  |  | | | Yes | 41.3 (31) | 26.7 (4) | | | No | 58.7 (44) | 73.3 (11) | | | Control arguments (κ = .85) |  |  | | | Yes | 57.3 (47) | 6.7 (1) | | | No | 42.7 (35) | 93.3 (14) | | | Threat argument (κ = 1) |  |  | | | Yes | 32.8 (20) | 18.8 (3) | | | No | 67.2 (41) | 81.2 (13) | | | Informational arguments (κ = 1) |  |  | | Yes | 90.5 (96) | 68.2 (15) | | | No | 9.5 (10) | 31.8 (7) | | | Active strategies |  |  | | | Behavioral skills training (κ = 1) |  |  | | | Yes | 50.4 (57) | 16.7 (7) | | | No | 49.6 (56) | 83.3 (35) | | | Communication skills training (κ = 1) |  |  | | | Yes | 42.9 (40) | 0.0 (0) | | | No | 57.1 (30) | 100.0 (16) | | | Setting / reviews of goals (κ = 1) |  |  | | | Yes | 54.4 (43) | 0.0 (0) | | | No | 45.6 (36) | 100.0 (17) | | | Role playing exercises (κ = 1) |  |  | | | Yes | 26.1 (18) | 0 (0) | | | No | 73.9 (51) | 100.0 (18) | | | Teaches cues to engage in behavior  (κ = 1) |  |  | | | Yes | 16.4 (10) | 0.0 (0) | | | No | 83.6 (51) | 100.0 (16) | | | Training on coping with barriers (κ = 1) |  |  | | | Yes | 49.3 (35) | 0.0 (0) | | | No | 50.7 (36) | 100.0 (15) | | | Relapse prevention training (κ = 1) |  |  | | | Yes | 32.9 (23) | 0.0 (0) | | | No | 67.1 (47) | 100.0 (15) | | | Relaxation training (κ = 1) |  |  | | | Yes | 8.2 (6) | 0.0 (0) | | | No | 91.8 (67) | 100.0 (17) | | | Teaches self-monitoring prompts (κ = 1) |  |  | | | Yes | 25.8 (17) | 25.0 (4) | | | No | 74.2 (49) | 75.0 (12) | | | Stress management skills training (κ = 1) |  |  | | | Yes | 17.4 (12) | 0 (0) | | | No | 82.6 (57) | 100 (17) | | | Strategies in both intervention types |  |  | | | Biological methods (κ = 1) |  |  | | | Yes | 7.7 (7) | 0 (0) | | | No | 92.3 (84) | 100 (18) | | | Behavioral contract (κ = 1) |  |  | | | Yes | 6.8 (6) | 0 (0) | | | No | 93.2 (82) | 100 (19) | |   Intervention set-up | | |
|  |  |  |
| Domains targeted |  |  |
| Alcohol use (κ = 1) |  |  |
| Yes | 37.5 (21) | 47.4 (9) |
| No | 62.5 (35) | 52.6 (10) |
| Drug use (κ = 1) |  |  |
| Yes | 61.5 (32) | 23.1 (3) |
| No | 28.5 (20) | 76.9 (13) |
| Tobacco use (κ = 1) |  |  |
| Yes | 4.3 (2) | 0.0 (0) |
| No | 95.7(47) | 100.0 (12) |
| Number of recommendations (*r* = 1) |  |  |
| M | 4.24 | 0.48 |
| Mdn | 4.00 | 1 |
| SD | 2.20 | 0.51 |
| k | 113 | 42 |
| Medium of delivery |  |  |
| Face to face (κ = .97) |  |  |
| Yes | 88.1 (89) | 60.0 (15) |
| No | 11.9 (12) | 40.0 (10) |
| Delivery format (κ = 1) |  |  |
| Groups | 27.5 (30) | 14.8 (4) |
| Individuals | 46.8 (51) | 81.5 (22) |
| Both | 25.7 (28) | 3.7 (1) |
| Facilitator (κ = .93) |  |  |
| Professional expert | 88.5 (54) | 80.0 (8) |
| Lay community member | 11.5 (7) | 20.0 (2) |
| Culturally appropriateness (κ = .89) |  |  |
| Yes | 9.7 (11) | 2.4 (1) |
| No | 90.3 (102) | 97.6 (41) |
| Duration of intervention in minutes (*r* = 1) |  |  |
| M | 62.83 | 42.50 |
| Mdn | 60.00 | 39.75 |
| SD | 42.70 | 45.17 |
| k | 68 | 18 |
| Research design and implementation | | |
| Random assignment to conditions (κ = .97) |  |  |
| Yes | 84.1 (95) | 92.9 (39) |
| No | 15.9 (18) | 7.1 (3) |
| Payment received (US dollars) (*r* = 0.93) |  |  |
| M | 85.08 | 56.12 |
| Mdn | 30.00 | 0 |
| SD | 123.91 | 83.62 |
| k | 85 | 26 |
| Days between intervention and posttest (*r* = 0.88) |  |  |
| M | 17.80 | 0 |
| Mdn | 0.00 | 0 |
| SD | 61.61 | 0 |
| k | 25 | 5 |
| Targeting an alcohol / drug dependent population  (κ = 1) |  |  |
| Yes | 28.3 (32) | 21.4 (9) |
| No | 71.7 (81) | 78.6 (33) |
| Sample targeted by ethnicity (κ = 1) |  |  |
| Yes | 8.0 (9) | 2.4 (1) |
| No | 92.0 (104) | 97.6 (41) |
| Sample targeted by gender (κ = 1) |  |  |
| Yes | 27.7 (31) | 13.9 (5) |
| No | 62.3 (81) | 86.1 (31) |
| Self-selected sample (κ = 1) |  |  |
| Yes | 83.1 (93) | 82.1 (32) |
| No | 16.9 (19) | 17.9 (7) |

*Note*. *k* = number of cases. *r* = intercoder reliability for continuous variables. κ = intercoder reliability for categorical variables