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BRIEF COMMUNICATION

Religious Participation and Substance Use Behaviors in a Canadian Sample of Homeless People

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Abstract This study examined religious behaviors in 380 homeless individuals. We hypothesized that higher frequency of religious attendance is associated with lower rates of use of all substances, lower rates of drug and alcohol dependence, and lower psychological distress. Individuals attending religious ceremonies at least weekly ("frequent attendees") were compared to infrequent attendees. Participants also provided qualitative information about their faith. In univariate analyses, frequent attendees had significantly lower rates of alcohol, cocaine, and opioid use than infrequent attendees. They also had lower rates of alcohol and drug dependence, lifetime suicide attempts, and psychological distress, but these differences were not significant. In multivariate analyses, religious attendance remained significantly associated with alcohol use and opioid use. Researchers need to examine how spiritual and religious practices can be effectively incorporated as a part of substance abuse treatment.

Keywords Homelessness · Religious attendance · Substance use · Mental health survey

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Introduction

The association of religious involvement with substance use behaviors and its implications on substance abuse treatment has received increasing attention. Several reviews of the literature found, that higher religious commitment is associated with greater psychological adjustment and lower levels of drug use, alcohol use, and suicidal behaviors (Gartner 1996; Harrison et al. 2001; Moreira-Almeida et al. 2006). The design of such studies typically does not enable researcher to draw conclusions about the causality of the relationship; however, several mechanisms have been suggested by which religion may be beneficial for psychological and physical health: (1) many religions make prescriptions regarding health-promoting practices, e.g., by prohibiting substance use or promoting norms that discourage substance use; (2) religious involvement promotes social affiliations with people who share values that are incompatible with substance use; (3) religious involvement may increase individual psychosocial resources (e.g., self-esteem, self-efficacy, and mastery) which promote healthy behaviors; and (4) religion supports the development of a "sense of coherence" (i.e., the belief that the world is meaningful, predictable, and manageable) which enables individuals to experience stress as less threatening and cope with stress more effectively (George et al. 2002).

Despite the body of evidence supporting an association of substance use and religious behaviors in the general population, relatively little attention has been paid to examining this relationship in populations that have particularly high rates of substance use. Research indicates that religious and spiritual beliefs and practices are also important for marginalized populations such as individuals with HIV/AIDS (Cotton et al. 2006), methadone-

maintenance outpatients (Heinz et al. 2010), and the homeless (Brush and McGee 2000), although the few existing studies are often limited by small sample sizes and geographical confinement. In one study, 43 HIV-positive injection drug users entering a methadone maintenance program were asked to indicate the degree to which religion or spirituality provides them with comfort and support. High perceived support was independently associated with abstinence during treatment (Avants et al. 2001). In a study among homeless women, 92 % reported performing spiritual/religious practices, and 48 % reported that praying helped them to limit their substance use and alleviate depressive symptoms (Shuler et al. 1994). It has been suggested that religious commitment and devotion may buffer the depressogenic effects of stressful life events (Kendler et al. 1997), which may be particularly relevant for homeless people who are faced with constant challenges (Philippot et al. 2007). Examining substance use behaviors and religious practices in homeless individuals could offer valuable information related to the role of religion in their lives, and provide some directions as to whether it could be used to improve the health of homeless people.

The objectives of the current study were to assess religiousness in a large sample of homeless men and women, and to explore the association of religious attendance and substance use behaviors. While substance use behavior has often been assessed using a single variable such as a diagnosis of drug dependence, our study included a variety of different substances. Because there is some evidence that spiritually-based treatment such as 12-steps may be less beneficial for less religious people (Kelly and Moos 2003), we focused only on individuals who indicated having any religious faith at all. We hypothesized that a higher frequency of religious attendance is associated with lower rates of use of all substances, lower rates of drug and alcohol dependence, and lower psychological distress, after controlling for sociodemographic factors.

Methods

Procedures and Participants

The current study is a secondary analysis of data from a survey that assessed 500 homeless adults in three cities in British Columbia, Canada: Vancouver, Victoria, and Prince George. The main results of the survey which focused on prevalence rates of DSM-IV mental disorders have been reported elsewhere (Krausz et al. 2013). Participants had to be at least 19 years old, willing and able to give informed consent, able to communicate in English, and self-identified as being homeless (i.e., living in a shelter or on the streets) during the month prior to study entry. To recruit individuals living on the streets, research assistants walked along the streets and to places where homeless individuals were known to frequent, and contacted relevant community service teams. To recruit individuals living in shelters, research assistants visited all available shelters in Victoria and Prince George, and selected shelters in Vancouver. Purposive sampling was used to recruit a significant proportion of women, young people, individuals living on the street, and Aboriginals. Eligible individuals were informed about the study goals and procedures, requirements for participation and their rights as participants. Individuals who gave written informed consent attended a one-session structured clinical interview. Interviews were administered by research assistants who had received training for this assessment; most of them had previous experience in surveying this population. Participants received $30 reimbursement for their time. Ethical approval was obtained from the Behavioural Research Ethics Board of the University of British Columbia and the Providence Health Care Research Institute.

Of the 500 individuals interviewed, n = 380 indicated that they believed in a higher power and were included in the current study. Participants ranged in age from 19 to 66 years (mean: 38.9; SD = 10.9); 39.2 % were women; and 41.6 % self-identified as Aboriginal. 64.7 % had not graduated from high school; 79.4 % received governmental support, 23.4 % obtained at least part of their income through illegal activities, and 8.2 % obtained an income through employment. The average age of the first homelessness episode was 28.4 (SD: 12.1); 49.2 % was living on the street; almost half of the participants (47.6 %) was living in Vancouver (Victoria: 29.5 %, Prince George: 22.9 %).

Measures

Sociodemographic information included current age, age at the time of the first homelessness episode, gender, ethnicity (Aboriginal, European/Caucasian, African, Asian, Hispanic/Latin American, or Other; recoded as Aboriginal vs. Other), education (high school diploma or higher vs. less than high school diploma), current housing situation (street vs. shelter), study site (Prince George, Vancouver, or Victoria), and sources of income (governmental support, illegal activities, and/or employment). *Substance use* was assessed using the Maudsley Addiction Profile (MAP) (Marsden et al. 1998). Participants were asked to indicate the frequency and amount of alcohol, cannabis, cocaine (powder or crack cocaine), opioids (heroin, nonprescribed methadone, or nonprescribed opioids), amphetamines (amphetamines or crystal methamphetamines), and

nonprescribed benzodiazepines they used in the month prior to the interview. The MAP has been shown to be reliable and valid in previous studies (Marsden et al. 1998, 2000). *Current drug dependence and alcohol dependence diagnoses* were obtained using the MINI International Neuropsychiatric Interview Plus, version 5.0.0 (MINI-Plus) (Sheehan et al. 1998), a structured clinical interview based on DSM-IV and ICD-10 diagnostic criteria. The MINI-Plus has demonstrated reliability and validity in several US based and European studies (Sheehan et al. 1998). *Psychological distress* was measured by two variables: (1) The psychological symptom scale of the MAP which includes ten items derived from the anxiety and depression subscales of the Brief Symptom Inventory (BSI) (Derogatis 2000). The items are rated on a five-point Likert scale, resulting in an overall score between 0 and 40. (2) Lifetime suicide attempts which were assessed during the MINI-Plus interview ("Did you ever make a suicide attempt in your lifetime?"). *Religious behaviors* were assessed with a series of questions. All participants were asked if they believed in a higher power. Participants who responded "yes" were asked to indicate the faith they followed, and how frequently they attended religious services and ceremonies (daily; weekly; monthly, several times per year; never; unsure; and refused). For the analyses, those attending weekly or daily ("frequent attendees") were compared to the remaining participants ("infrequent attendees"). Participants were also asked the following exploratory open-ended question: "Why is your faith important to you?" The responses to this question (one statement per person) are described narratively.

Data Analyses

Chi square tests were used for dichotomous and Wilcoxon two-sample tests for continuous variables to assess differences in substance use behaviors, drug and alcohol dependence diagnoses, psychological distress, and sociodemographic characteristics by religious attendance (frequent vs. infrequent). All clinical variables (i.e., the types of substances, substance use disorders, psychological distress and previous suicide attempts) that were significant at $p \leq .05$ were used as dependent variables in multivariate logistic regression models, with religious attendance as the independent variable, and fixed demographic factors as covariates. The statistical analyses were computed using SAS 9.2 (SAS Institute Inc, Cary, NC). Participants' responses to the question related to their faith were reviewed by three raters (I.T., V.S., and I.L.) to identify recurring themes and categories (Miles and Huberman 1994). Initial coding was conducted independently; consensus meetings were held to create a codebook, allocate responses to codes (one code per response), and collapse redundant codes. The results are presented narratively.

Results

Descriptive Information

Religious affiliation was: 44.5 % Christians, 15.3 % Native Spirituality, 2.4 % Buddhists, 35.8 % followed no specific faith, and 2.1 % did not respond to the question. The majority of participants (n = 320; 84.2 %) were categorized as infrequent attendees of religious ceremonies; of which 192 reported not attending any ceremonies, 83 indicated attending a few times per year, 37 reported monthly attendance, and eight individuals were unsure. Sixty individuals were categorized as frequent attendees; 51 of which indicated they attended religious ceremonies weekly and nine reported daily attendance.

Prevalence rates for current substance use were 59.2 % for alcohol; 58.2 % for cocaine; 57.9 % for cannabis; 30.3 % for opioids; 13.4 % for amphetamines; and 5.8 % for illicit benzodiazepines. Polysubstance use was common; only 10.2 % reported no substance use at all and 14.6 % reported use of a single substance. 39.0 and 71.2 % met criteria for current alcohol dependence and drug dependence, respectively; 17.4 % had no substance dependence diagnosis. 39.0 % had ever attempted suicide, and the mean psychological distress score was 13.7 (SD: 8.2).

Univariate Analyses

Several differences in substance use behaviors and demographic characteristics were observed between frequent and infrequent attendees. For demographic variables, current age, age of first homelessness, gender, and source of income were all significantly associated with religious attendance. Compared to infrequent attendees, frequent attendees were older (41.6 vs. 38.5 years; $p = .013$), had their first homelessness episode at an older age (30.9. vs. 27.9 years; $p = .022$), had lower percentages of women (25.9 vs. 41.9 %; $p = .014$) and individuals who obtained income from illegal activities (10.0 vs. 25.9 %; $p = .008$), and a higher percentage of individuals who obtained income from employment (15.0 vs. 6.9 %; $p = .035$). None of the other sociodemographic variables were significantly associated with religious attendance (all $ps > .179$).

Furthermore, compared to infrequent attendees, frequent attendees had lower prevalence rates for use of all substances except cannabis, although some of the differences were not statistically significant. Use of alcohol (46.7 vs. 61.6 %; $p = .031$), cocaine (46.7 vs. 60.3 %; $p = .045$),

and opioids (15.0 vs. 33.1 %; $p = .005$) was significantly lower among frequent than among infrequent attendees. Differences were not significant for cannabis (65.0 vs. 56.6 %; $p = .225$), amphetamines (11.7 vs. 13.8 %; $p = .664$), and illicit benzodiazepines (5.0 vs. 5.9 %; $p = .775$). Frequent attendees had non-significantly lower rates of alcohol dependence (32.8 vs. 40.1 %; $p = .290$), drug dependence (62.1 vs. 72.9 %; $p = .093$), and lifetime suicide attempts (29.3 vs. 40.8 %; $p = .100$) than infrequent attendees, and slightly but non-significantly lower scores on the psychological distress scale [13.5 (SD = 8.2) vs. 14.5 (SD = 8.3); $p = .169$].

Multivariate Analyses

In the second step, we ran three logistic regression models, one for each substance type that was significantly associated with religious ceremony attendance. Adjusted odds ratios (ORs) and 95 % confidence intervals (CIs) were derived from these models. Alcohol use: The overall model was significant [$\chi 2$ (df = 7, N = 380) = 53.36; $p < .0001$]. Frequent attendees were only about half as likely than infrequent attendees to report current alcohol use (OR .48, CI .26–.88; $p = .018$). Opioid use: The overall model was significant [$\chi 2$ (df = 7, N = 380) = 42.98; $p < .0001$]. Frequent attendees were significantly less likely than infrequent attendees to report current opioid use (OR .37, CI .16–.83; $p = .018$). Cocaine use: The overall model was significant [$\chi 2$ (df = 7, N = 380) = 15.02; $p = .036$]. Frequent attendees were about half as likely than infrequent attendees to report current cocaine use, but this result was only marginally significant (OR .59, CI .34–1.01; $p = .070$). Of the sociodemographic variables, only lower education and receiving governmental support were consistently associated with substance use in all three multivariate model.

Qualitative Analyses

Of the 380 individuals who reported that they believed in a higher power, 361 gave a response to the question "Why is your faith important to you?". Of those, seventy-five responses did not elaborate the topic (e.g., "I don't know"; "It just is"). Among the remaining responses, we found two distinct themes; the responses were either of a practical/concrete affiliation (n = 159), or of a philosophical/abstract affiliation (n = 127); among these themes, nine distinct categories arose.

Just under half of the responses had a practical and concrete application. Eighty-six responses were clearly linked to managing daily life and practical or emotional struggles, such as "[Faith] helps me make it through the day and keeps me clean", "It is something to get up for in the morning and keeps me going", and "It helps me cope with my anxiety". Thirty-four responses made a direct link to their family upbringing and tradition; these responses described all types of spiritual upbringing from aboriginal spirituality: "It's the way my elders taught me", to Christian "I grew up going to church every Sunday and it kinda stuck". Twenty-two responses described a protective nature of their faith to their lives; "I will sit and talk to the creator and ask him to watch over my family", "In 1988, I had cancer that cleared on its own, faith in god keeps me healthy and sober". Ten responses were related to faith as the only remaining thing they had: "I have nothing else, that's all I got left", "It's the only thing that is undeniable mine". Lastly, seven responses were about connectedness: "I like to be with the people who attend", "Keeps me connected to someone rather than just me".

The second theme we found had more of a philosophical application. Eighty-one responses were about faith providing a purpose in life, direction, and explanation for existence, such as: "[Faith] makes sense of life, gives direction", "We all need to believe in something greater than yourself". Twenty-one expressed a strong belief in the existence of 'God', "Because God is out creator", "Because God exists". Sixteen individuals discussed their faith in relation to the 'after life': "When I die, I want to go to the spirit world", "I know there is heaven and hell and I know there is reincarnation. I go and pray and try to redeem for my sins. I don't want to go to hell or be stuck on earth forever.", "Because I want to go to heaven – I am in hell now". Nine responses were more directed to one's identity: "It's me, it's who I am", "He is of the center of who I feel I am."

Discussion

The current study examined religious beliefs and the association of substance use behaviors and psychological functioning with religious attendance in a sample of homeless men and women. In this population which is highly affected by substance use and psychological distress, the role of religiousness remained understudied.

About three quarter of the study sample indicated that they believed in a higher power, and two-third had a religious affiliation. The number of frequent attendees of religious ceremonies among the homeless was lower than in the general Canadian population where 21 % reported attending religious services at least one a week (Lindsay 2008). However, a significant minority of our study sample (12 %; 60 of 500 participants) reported weekly or more frequent participation in religious ceremonies. The lower rates of attendance can be related to the nature of homelessness where daily tasks such as meals and personal

hygiene require planning and therefore take longer to achieve. The lower rates may also be in part due to a regional phenomenon, because a recent survey among the general population revealed that across Canada, BC residents had the lowest level of religious affiliation and attendance/participation (Clark and Schellenberg 2006). Another reason may be that socially marginalized populations such as the homeless are not always welcome or do not feel comfortable in community-based organizations. The qualitative analysis shed some light on the role of faith in the lives of our study participants. For many homeless individuals, their faith appears to be a source of comfort and support, create hope, and provide strength in their current apparently hopeless situation.

We assumed that, among participants who believe in a higher power, the frequency of religious attendance was significantly associated with the rates of drug and alcohol use and dependence, lifetime suicide attempts, and psychological distress. The results supported some but not all of our hypotheses. As expected, participants who attended religious ceremonies at least once per week had significantly lower rates of alcohol, cocaine, and opioid use than less frequent attendees, although the two groups did not differ significantly with respect to amphetamine, and illicit benzodiazepine, and cannabis use. Although the effects of religious behavior on the use of specific substances are more extensively explored among adolescents than adult populations, our findings are generally consistent with results from studies which found that religious attendance was negatively associated with a variety of substances including cannabis, hallucinogens, licit and illicit stimulants and tranquilizers, alcohol, and tobacco (Adlaf and Smart 1985; CASA 2001; Heath et al. 1999). Unexpectedly, cannabis was the only substance that showed a trend towards higher rates of use for frequent attendees (65.0 vs. 56.6 %). BC has the highest rates of cannabis use in Canada (Tjepkema 2004); and also more tolerant attitudes towards and greater availability of cannabis (Stockwell et al. 2006), and it has been suggested that cannabis is regarded as a 'normal' recreational drug by BC residents (Stockwell et al. 2006). Thus, religious homeless people may view the use of cannabis but not other substances as compatible with (or even beneficial for) their faith or relationship with god.

In multivariate analysis, religious ceremony attendance remained significantly associated with alcohol use and opioid use. Cocaine use lost some strength of its significance but remained at marginal significance in its association with ceremony attendance. The odds of using substances for frequent attendees compared to infrequent attendees were .37 for opioids, .48 for alcohol, and .59 for cocaine. Religion may have a protective effect on substance use behaviors, as suggested by some authors (CASA 2001; Levin and Vanderpool 1987). Indeed, several of our participants indicated in their narrative responses that their faith "keeps them clean". However, the cross-sectional study design of our study (and of most work in this area) does not allow drawing conclusions regarding the direction of this association or the causal relationship between both variables. For example, regular attendance of religious services may be an indicator of self-discipline which is also protective against substance use. It is also possible that religious individuals who start using substances lose their faith or stop attending religious services (Heinz et al. 2010).

Our second hypotheses was not confirmed; although frequent attendees were less likely to have diagnoses of current alcohol dependence (32.8 vs. 40.1 %) and drug dependence (62.1 vs. 72.9 %) than less frequent attendees, the differences were not significant. Other studies have found that religiosity was significantly related with lower levels of alcohol and drug dependence (Anthony et al. 1994; Kendler et al. 2003). Similarly, our third hypothesis did not receive full support. Although fewer individuals reported a lifetime suicide attempt among frequent attendees as compared to infrequent attendees (29.3 vs. 40.8 %), the difference was not significant. The two groups did also not differ in their psychological distress score, although religiosity was associated with psychological well-being and lower suicidality in a number of other studies (Gartner 1996; Harrison et al. 2001; Moreira-Almeida et al. 2006). It is possible that low statistical power was responsible for the lack of significance in the current study. The numbers of infrequent and frequent attendees was unevenly distributed in our sample, with only 60 individuals reporting frequent service attendance. This resulted in small numbers for some of the clinical variables among frequent attendees. Because frequent and infrequent attendees differed significantly in use of substances that have a particularly high addictive potential, it is likely that a greater sample size would have pushed the existing differences to significance. After all, our data indicated a very consistent overall trend towards better outcomes for frequent attendees. Other explanations for the lack of significant differences between frequent and infrequent attendees are also possible. For example, our data may reflect that there are in fact few true differences between the groups. Furthermore, our study design may not be eligible to reliably detect existing differences. We used frequency of reported religious ceremony attendance as the primary variable of interest. However, lack of religious attendance does not necessarily equal lack of religiousness or spirituality. In fact, we included only participants in this study who indicated that they do believe in a higher power. Individuals who do not attend public religious services (i.e., as expressed in external/social behavior) may have

strong spiritual/religious faith and private practices (e.g., expressed in internal/personal attitudes and beliefs) which have been found to be associated with substance dependence and psychological functioning (Kendler et al. 2003).

A few important limitations should be considered in evaluating the findings of the study. First, scholars generally agree that religiousness is a multidimensional concept including religious affiliation, participation, history, private practices, support, coping, beliefs and values, commitment, relationship behavior, and experiences (George et al. 2000). However, as mentioned earlier, we assessed only religious attendance in our survey. Second, information on substance use relied solely on self-reports without biochemical validation. Thus, because substance use is less acceptable in many religious communities, it is possible that frequent attendees of religious ceremonies are more likely to conceal their substance use than less frequent attendees, and the association of religious service attendance with substance use has been overestimated. Third, the design of our study does not allow drawing any conclusions with respect to the causality of the associations between religious attendance and substance use. Another limitation can be related to the frequency of homeless services such as food programs and shelters affiliated with a religious organization. For example, many services may offer food at the end of their weekly spiritual service, thus drawing homeless individuals to such a service. Therefore we will not know if attendance at religious ceremonies was originally related to spirituality/religiousness or simply the result of using programs and services for the homeless provided by the church.

In summary, our results suggest that religious attendance has an important association with the use of specific substances, although the relationship may be weaker for substance dependence and psychological well-being. The benefits of religious and spiritual practices may be underutilized in substance abuse counseling for homeless individuals. If they indicate that religion is an important value in their lives, therapists could take this into account during an intervention. For example, they could be referred to twelve-step self-help groups which emphasize the role of spirituality and spiritual growth for recovery (Winzelberg and Humphreys 1999). Because of their abstinence-based approach, twelve-step groups may not be the best fit for all homeless people. Substance users were generally supportive of the idea of integrating a spiritual/religious discussion into standard addiction treatments (Arnold et al. 2002), emphasizing that participation needs to be voluntary, and adopting specific religious dogmas should be avoided (Heinz et al. 2010). Acknowledging spirituality and religious issues during counseling could involve using contemplation and meditation techniques to promote calmness and increase coping skills for managing craving and other relapse-critical situations, using narratives from sacred texts to promote insight, guidance, and inspiration, using prayers to create comfort and hope, and introducing regular rituals such as singing sacred hymns and meeting with likeminded people to adopt a daily structure and facilitate commitment to a healthier life (see also Mohr 2006). Our study sample included individuals with very diverse spiritual and religious backgrounds, and if spiritually based addictions programs were to be implemented in these cities, it would be important that that they were independent of a specific faith. Very few pilot studies exist that examine the effects of such interventions on substance use behaviors. In a sample of 29 cocaine- and opioid-dependent clients, Spiritual Self-Schema therapy—a treatment that integrates non-theistic Buddhist principles and practices with cognitive-behavioral psychotherapy—resulted in a decrease in drug use and an increase in spiritual experiences and coping (Avants et al. 2005). In another study among incarcerated men and women, individuals who had voluntarily signed up for mindfulness meditation in addition to standard addiction treatment showed significantly greater reductions in alcohol, marihuana, and crack cocaine use than individuals who had only received the standard addiction treatment (Bowen et al. 2006). Researchers need to examine in larger studies how spiritual and religious practices can be effectively incorporated as a part of substance abuse treatment to support personal strength and community reintegration.

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