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Factors Associated with Poor Mental Health Status among Homeless Women with and without Dependent Children

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Abstract

The purpose of this study was to estimate the prevalence of mental health problems among a representative sample of homeless women with and without dependent children and determine if the effects of risk factors for mental health are modified by the presence of dependent children. Homeless women (n=522) were recruited in 2004–2005 from shelters and meal programs in Toronto, Canada. Linear and logistic regression was performed to identify factors associated with mental health status. Poor mental health was associated with low perceived access to social support, physical/sexual assault in the past 12 months, presence of a chronic health condition, and presence of a drug use problem in the past month. Efforts to improve mental health in this population will need to address the associated problems of victimization, substance abuse, and lack of social supports.

Keywords

Mental health; Women; Homeless persons; SF-12; Addiction Severity Index

INTRODUCTION

Single women and women accompanied by their dependent children represent a substantial and growing segment of the homeless population in Canada (Human Resources and Skills Development Canada, 2010; Hwang, 2001). In 2009, 27% of Toronto's visible homeless population stayed in City-operated family shelters, and almost one-third of Toronto's visible homeless population were female (City of Toronto, 2009a). Every night in Toronto, an

average of 500 beds are occupied in women's shelters and 1,200 beds are occupied in family shelters (City of Toronto, 2009b).

The relationship between mental health and homelessness is complex and multidirectional; mental health problems can function as both a cause and a result of homelessness. While poverty and lack of affordable housing are often cited as the primary causes of homelessness among women with dependent children (National Center of Family Homelessness, 2008; National Coalition of the Homeless, 2008), the combined adverse effects of poverty, violence, and deprivation on mental well-being may also be a contributing factor (Goodman et al., 2009). Poverty, defined as both economic and material deprivation, and its associated downstream risk factors such as high stress, pervasive powerlessness, and social isolation and exclusion are known to contribute to emotional distress and depression (Goodman et al., 2009; Goodman, Smyth, & Banyard, 2010). The absence of formal and informal social supports, often experienced by low-income and homeless women, further reduces an individuals' ability to cope with these stressors (Bassuk et al., 2002). Among homeless families, in particular, homelessness and its associated risk factors, such as material deprivation, financial hardship, and lack of stable housing, combined with an absence of key protective factors, including social support, may reduce a parent's ability to provide a nurturing and protective environment for their children and, consequently, lead to feelings of depression, anxiety, shame, and guilt (Paquette & Bassuk, 2009).

Poor mental health status not only increases an individual or family's likelihood of experiencing homelessness, but it can also reinforce and lengthen their episodes of homelessness, further perpetuating the homelessness cycle and making it harder for women with or without dependent children to achieve housing stability (Forchuk et al., 2007; Power, 2008; Robertson & Winkleby, 1996). The impacts of poor mental health, for example reduced adaptive coping behaviour and poor self-esteem, may further exacerbate negative health and social outcomes associated with homelessness, such as the ability to find and maintain stable housing or provide nurturing and supportive parenting to children (Paquette & Bassuk, 2009; Montgomery, Brown, & Forchuk, 2011).

Homeless women experience disproportionately high rates of psychiatric morbidity. Prior research suggests that homeless women have higher rates of mental health problems, particularly depression, post-traumatic stress disorder, and alcohol and drug dependence, relative to other low-income women (Bassuk et al., 1996; Bassuk et al., 1998; Weinreb, Goldberg, & Perloff, 1998; Weinreb, Perloff, Goldberg, Lessard, & Hosmer, 2006). It is estimated that over one-half of all homeless women who use single adult shelters or meal programs in Toronto have been diagnosed with a mental illness (Khandor & Mason, 2007). Rates of physical and sexual abuse among this population are also high; a recent study of Toronto's homeless population showed that 37% of women surveyed had been physically abused in the past year (Khandor & Mason, 2007). While this research highlights the poor mental health status among single homeless women (i.e., those without dependent children), less information is available about women staying in Toronto's homeless shelter system who are accompanied by their dependent children. The purpose of this study was to estimate the prevalence of mental health problems among a representative sample of homeless women with and without dependent children in Toronto and to determine if the effects of risk factors

for mental health are modified by the presence of dependent children using cross-sectional data.

METHODS

Recruitment and Eligibility

Data were obtained from a representative sample of homeless individuals in Toronto, Canada. Our recruitment methods have been described previously (Chiu, Redelmeier, Tolomiczenko, Kiss, & Hwang, 2009; Hwang et al., 2008; Hwang et al., 2010). Briefly, participants were recruited over 12 consecutive months in 2004–2005 from homeless shelters and meal programs in Toronto. Based on a pilot study, we determined that about 90% of homeless people in Toronto slept at shelters, while 10% did not use shelters but used meal programs (Hwang et al., 2005). We therefore recruited 90% of our study participants at shelters and the remaining 10% at meal programs. Enrolment was stratified to obtain a 2:1:1 ratio of single men (i.e., men without dependent children), single women (i.e., women without dependent children), and family adults (i.e., adults accompanied by dependent children) to ensure adequate sample size for comparisons among these groups.

Homelessness was defined as living within the last seven days in a shelter, public place, vehicle, abandoned building, or someone else's place and not having a place of one's own. Participants were excluded if they did not meet our definition of homelessness, were unable to communicate in English, were meal program users who had used a shelter in the past seven days, or were unable to provide informed consent. Participants were also excluded if they did not have a valid provincial health insurance card number, as this information was required for linking participants to administrative health care utilization data, the goal of the larger study for which these data were originally obtained.

The number of people recruited at each site was proportionate to the number of homeless individuals served each month at that site. Participants were selected from bed lists and meal lines using a random number list. Selected individuals were told about the nature of the study verbally and in writing and were assessed for their eligibility and willingness to participate. All participants provided written informed consent and received \$15 for participating in the study. The Research Ethics Board at St. Michael's Hospital in Toronto provided ethics approval for this study.

For the purposes of recruitment, families (including lone-parent families with children, dual-parent families with children, and couples without children) were considered as units. Of the 2,516 single adults and family units who were screened, 882 (35.1%) were ineligible to participate and an additional 443 (17.6%) declined to participate. In total, 1,233 unique adults were enrolled into the study. For the purposes of this analysis, the sample was further restricted to 570 adult women. Women were classified as having dependent children if at least one child was living with them at the time of recruitment. Women were linked to children and/or their male partners through a unique identifier for family unit. Women without dependent children who were recruited from family shelters (i.e., were recruited with only a male partner and/or were pregnant at the time of study) were excluded from the

analysis. We also excluded two single adult women (ages 21 and 27 years) who were recruited at family shelters with their mother and their mother's dependent children.

Survey Instrument

Data were obtained cross-sectionally using structured, in-person interviews. Outcome measures for mental health were obtained using two separate instruments: 1) the 12-item Short Form (SF-12) Health Survey, a validated measure of health status for homeless populations (Larson, 2002; Ware, Kosinski, & Keller, 1995); and 2) the Addiction Severity Index (ASI) (McGahan, Griffith, Parente, & McLellan, 1986; McLellan et al., 1992), a validated indicator for mental health, alcohol and drug problems that has been used in numerous studies (Burt, Aron, & Lee, 2001; Drake, McHugo, & Biesanz, 1995; Joyner, Wright, & Devine, 1996; Zanis, McLellan, Cnaan, & Randall, 1994). SF-12 physical component summary (PCS) and mental component summary (MCS) scores were calculated according to the publishers' specifications (Ware et al., 1995). The scores range continuously from 13 to 69 for physical health and 10 to 70 for mental health and are standardized to the general population in the United States (mean score of 50 and standard deviation of 10), with higher scores representing better overall health status (Ware et al., 1995).

The second main outcome measure for our analysis was presence of a mental health problem in the past month. ASI mental health scores were considered present if subscale scores were less than or equal to 0.25, based on criteria used in a survey of homeless persons across the United States (Burt, Aron, & Douglas, 1999). Similarly, ASI alcohol and drug problems were dichotomized as present or absent using cut-off scores for each subscale (0.17 for alcohol problems and 0.10 for drug problems) (Burt et al., 1999). Concurrent disorder was defined as having a mental health problem and either an alcohol or drug problem in the past month according to ASI criteria.

Demographic characteristics were based on self-report. Age was calculated based on the difference between the participants' interview date and their self-reported date of birth and grouped into clinically meaningful categories (24 years, 25–39 years, 40 years). Ethnicity classifications were adapted from the Statistics Canada Ethnic Diversity Study (Statistics Canada, 2002). Perceived access to financial, instrumental and emotional social support from informal social networks (including family, friends and neighbours) was based on items adapted from Lam and Rosenheck (Lam, Wechsberg, & Zule, 2004). These items were dichotomized to indicate the presence or absence of social support (Hwang et al., 2009). Physical and sexual assault in the past 12 months was based on self-report. Chronic health conditions were based items from the National Survey of Homeless Assistance Providers and Clients (Burt et al., 1999).

Statistical Analyses

Bivariate comparisons between women with dependent children and those without dependent children were made using the Student's t-test for normally distributed, continuous variables and the chi-square tests for categorical variables. SF-12 MCS scores were entered as the dependent variable for linear regression and presence of ASI mental health problem

was entered as the dependent variable for logistic regression. All independent variables that were significant at the $p=0.20$ level in the univariate regression models were considered in the multivariate models (Greenland, 2008). Physical assault and sexual assault in the past 12 months were combined into a single measure for the regression analyses due to the high potential for collinearity between these two variables (81.2% of women who had been sexually assaulted in the past 12 months had also been physically assaulted). Forward stepwise model building was conducted to identify potential candidates for the multivariate regression models according to methods described in Hosmer and Lemeshow (Hosmer & Lemeshow, 2000). As the presence of dependent children was our primary independent variable of interest for this analysis, this variable was forced into all multivariate regression models regardless of its significance in the univariate models. Independent variables were assessed for multicollinearity and no problems were detected.

For logistic regression, the log likelihood ratio test was used to determine the final main effects model. For linear regression, analysis of variance (ANOVA) was used to determine overall model fit. A p -value of 0.05 for the log likelihood ratio and ANOVA tests were considered statistically significant. Final main effects models were confirmed using backward stepwise selection and purposeful selection. All included variables were agreed upon by the study authors to be clinically relevant. Interaction terms between the presence of dependent children and all significant variables in the main effects models were tested. All analyses were performed using SPSS 16.0 for Windows (SPSS Inc., Chicago, IL).

RESULTS

In total, 522 (91.6%) women in the study were included in the analysis, 219 (42.0%) of whom were women with dependent children and 303 (58.0%) of whom were women without dependent children. Women who were excluded from our analysis (i.e., those recruited from family shelters without dependent children) were similar in terms of their demographic characteristics, physical and mental health status, social support, substance use, and history of physical and sexual assault to the women without dependent children who were included in our analysis (data not shown).

Women with children were recruited into the study with a median of two dependent children (IQR: 1-2 children); the mode was one dependent child. Only 17 (7.8%) were accompanied by a male partner at recruitment. Compared to women without dependent children, women with children were more likely to be 25–39 years old (53.4% vs. 27.7%; $p<0.001$), Black (40.2% vs. 26.1%; $p<0.001$) or other racial minorities (23.7% vs. 11.6%; $p<0.001$), immigrants (53.4% vs. 31.0%; $p<0.001$), and homeless for less than one year (69.4% vs. 34.7%; $p<0.001$). Women with children had greater perceived access to financial (82.2% vs. 63.2%; $p<0.001$), instrumental (69.4% vs. 55.4%; $p=0.003$), and emotional (87.2% vs. 65.0%; $p<0.001$) social support. Women with children had higher SF-12 PCS scores (mean=47.4, SD=10.8 vs. mean=45.1, SD=11.7; $p=0.025$) and were less likely to have been sexually assaulted in the past 12 months (4.6% vs. 13.0%; $p=0.001$), have a chronic health condition (49.8% vs. 59.1%; $p=0.035$), have a mental health (33.8% vs. 45.5%; $p=0.007$), alcohol use (7.8% vs. 22.4%; $p<0.001$) or drug problem (8.7% vs. 40.9%; $p<0.001$) in the past month, currently smoke cigarettes (45.2% vs. 68.3%; $p<0.001$), or use injection drugs

(0.0% vs. 3.7%; $p=0.004$). A proportion of both women with and without dependent children reported that they had been pregnant previously while homeless (31.1% vs. 20.7%; $p=0.007$). Among women <40 years of age, 11.8% of women with dependent children and 6.4% of women without dependent children reported that they were currently pregnant ($p=0.087$).

On average, women in our sample had a SF-12 MCS score of 38.1 (SD=12.9), and 212 (40.6%) women were considered to have a mental health problem in the past month according to ASI criteria. While there was no statistically significant difference between SF-12 MCS scores between women with and without dependent children (mean=38.4, SD=13.4 vs. mean=37.8, SD=12.6; $p=0.615$), 71 (33.8%) women with dependent children were considered to have a mental health problem in the past month compared to 138 (45.5%) of women without dependent children ($p=0.007$). The two outcome measures were significantly associated when presence of a mental health problem was regressed upon SF-12 MCS scores in a linear regression model ($B=-12.58$; 95% CI: -14.57, -10.59), indicating that women with mental health problems had on average SF-12 MCS scores over 12-points lower than women without mental health problems. Ninety-five (18.2%) women in our sample were considered to have a concurrent mental health and substance use disorder; the prevalence of concurrent disorders was significantly higher among women without dependent children (26.1% vs. 7.3%; $p<0.001$). Over one-half (54.8%) of our sample had either a mental health or substance use disorder.

Perceived access to financial social support ($B=3.76$; 95% CI: 1.18, 6.34) was significantly associated with SF-12 MCS scores in the final linear multivariate model; presence of dependent children ($B=-3.61$; 95% CI: -6.12, -1.10), physical or sexual assault in the past 12 months ($B=-4.29$; 95% CI: -6.67, -1.91), having a chronic health condition ($B=-4.92$; 95% CI: -7.24, -2.60), and having a drug use problem ($B=-5.47$; 95% CI: -8.19, -2.76) were all inversely associated with SF-12 MCS scores. Having some post-secondary education or above (OR=1.77; 95% CI: 1.09, 2.87), physical or sexual assault in the past 12 months (OR=1.65; 95% CI: 1.08, 2.53), having a chronic health condition (OR=1.67; 95% CI: 1.10, 2.54), and having a drug problem (OR=2.40; 95% CI: 1.47, 3.92) were significantly associated with presence of a mental health problem in the final logistic multivariate model; perceived access to instrumental social support (OR=0.48; 95% CI: 0.32, 0.74) was inversely associated with having a mental health problem. The association between having dependent children and having a mental health problem was not significant in the final logistic multivariate model (OR=0.87; 95% CI: 0.56, 1.37). None of the tested interaction terms were significant in either the final multivariate linear regression or logistic regression models.

DISCUSSION

Our findings show that both homeless women with dependent children and those without dependent children have poor mental health status. SF-12 MCS scores were more than one standard deviation lower than the general population in the United States (Ware et al., 1995), and four in ten women were considered to have a mental health problem according to ASI criteria, with a higher prevalence of mental health problems observed among women

without dependent children. These data suggest that homeless women who use shelters and meal programs in Toronto experience disproportionately higher psychiatric morbidity than the general population of Canada. Over one-half of our sample were considered to have either a mental health or substance use problem in the past 12 months, compared to approximately 11% of Canadian women who experience symptoms of depression, mood disorders, anxiety disorders, or substance dependence (Statistics Canada, 2003). In regression analyses, we identified consistent factors associated with both mean SF-12 MCS scores and the presence of mental health problems. These factors included perceived access to social support (either financial or instrumental), physical or sexual assault in the past 12 months, presence of a chronic health condition, and presence of a drug use problem in the past month. None of the interaction terms between having dependent children and the identified factors were significant in the multivariate regression models, suggesting an absence of effect modification.

Our study confirms previous research that suggests that homeless women in families are a distinct population from single women (Buckner, Bassuk, & Zima, 1993; North & Smith, 1993; Robertson & Winkleby, 1996; Zugazaga, 2004). We show that compared to women without dependent children, women with dependent children had better overall health status, lower substance use, and higher perceived access to social support. However, it is important to note that a large proportion of both women with and without dependent children reported a history of pregnancy while homeless. Many women in our study who were recruited from single adult shelters and were classified as women without dependent children likely have children living elsewhere. This hypothesis is consistent with prior research, which suggests that anywhere from 50% to 80% of homeless women in the single adult shelter system have been separated, either voluntarily or involuntarily, from their children (Metraux & Culhane, 1999; Montgomery et al., 2011; Zlotnick, Robertson, & Tam, 2003). Therefore, the differences observed between the two groups in our study are possibly more associated with the provision of care for dependent children rather than motherhood status *per se*. Notably, women without dependent children had higher rates of substance use, chronic health conditions, and sexual assaults in the past 12 months and lower rates of perceived social support.

These findings have implications for mental health service provision. The high prevalence of mental health problems among homeless women suggests that mental health care services are not adequately meeting the needs of homeless women. Many homeless women experience barriers to accessing the health care system (Gelberg, Browner, Lejano, & Arangua, 2004; Lewis, Andersen, & Gelberg, 2003; Lim, Andersen, Leake, Cunningham, & Gelberg, 2002), and among women with children, prioritization of their children's needs, fear of losing custody of their children, and meeting basic family needs may function as additional deterrents for seeking mental health care (Tam, Zlotnick, & Bradley, 2008; Weinreb, Nicholson, Williams, & Anthes, 2007). The use of alternative models of care – for example, the psychiatric outreach model described by Farrell et al. (2005), which offers flexible, open-ended outreach services to individuals considered “hard to serve” – may help reduce some of these barriers to accessing care and ensure improved access to mental health care services among this population.

Homeless women, particularly those who are accompanied by dependent children, may benefit from trauma-informed, family-oriented mental health services that address their full range of needs and prioritizes and that are integrated with substance abuse and social support services (Weinreb et al., 2007). As our results show, mental health problems are closely associated with the presence of chronic health conditions, physical and sexual assault, drug use, and perceived access to social support networks. Addressing the mental health needs of homeless women will, therefore, require an integrated approach that not only focuses on homelessness and its effects on mental health but also deals with confounding factors, such as domestic violence and drug use, that are associated with both prolonged homelessness and poor mental health status. Finally, interventions to treat mental health among this population should be grounded in women's experiences of homelessness and poverty and should address issues related to stress, powerlessness, and social isolation and exclusion (Goodman et al., 2010).

This study has certain limitations. Data for this analysis were obtained cross-sectionally; thus, we unable to attribute causation to any of the identified associations. We did not include homeless individuals who neither used shelters nor meal programs; however, prior research suggests that the unsheltered homeless population in Toronto is small (City of Toronto, 2009b). We did not recruit participants from violence against women shelters; consequently, we may have underestimated the true prevalence of physical and sexual assault in this population. We also did not recruit participants from refugee shelters, and participants who were unable to communicate in English were excluded. As a result, our sample, while more inclusive than previous studies, may not encompass the full diversity of the homeless population in terms of immigrant status, ethnic and cultural backgrounds, and language. We excluded participants if they did not have a valid provincial health insurance card number, which may have biased our sample towards homeless persons who have better access to health services. Much of the data collected in our survey were based on self-report and may be subject to biases resulting from poor recall of past events or failure to disclose sensitive information. Although data were collected in 2005, findings from this study are likely still applicable to populations of homeless women today.

While prior research among homeless women in Toronto has highlighted the poor mental health status of women recruited from the single adult shelter system, our study is among the first to present health status data for women with dependent children who were recruited from family shelters in Toronto. Our results show that homeless women have very poor overall mental health regardless of whether they are accompanied by dependent children. These findings point to an urgent need for improved mental health services for homeless women that are integrated with other health and social services. Efforts to improve mental health in this population will need to address the associated problems of victimization, substance abuse, and lack of social supports. Further research by our group will include examination of mental health care utilization among homeless single adult women and homeless women in families.

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