Risk Factors for Homelessness among Women with Schizophrenia

Carol L. M. Caton, PhD, Patrick E. Shrout, PhD, Boanerges Dominguez, MS, Paula F. Eagle, MD, Lewis A. Opler, MD, PhD, and Francine Cournos, MD

ABSTRACT

A study of risk factors for homelessness among the severely mentally ill was extended to include women, and a case–control study of 100 indigent women with schizophrenia meeting criteria for literal homelessness and 100 such women with no history of homelessness was conducted. Subjects were recruited from shelters, clinics, and inpatient psychiatric programs in New York City. Clinical interviewers used standardized research instruments to probe three domains of risk factors: severity of mental illness, family background, and prior mental health service use. Findings adjusted for ethnicity revealed that homeless women had higher rates of a concurrent diagnosis of alcohol abuse, drug abuse, and antisocial personality disorder. Homeless women also had less adequate family support. (*Am J Public Health.* 1995;85:1153–1156)

Introduction

In previous eras, women have been found among hoboes, wanderers, and inmates of almshouses,[1–4] and today they constitute about 20% of the contemporary adult homeless population.[5] Homeless women without kin have been found to be more psychiatrically disabled than other subgroups of the homeless,[5] particularly those in mid-adulthood and older.[6] Although mentally ill women who are homeless are thought to require special services,[7] little is known about how they differ from mentally ill women who never experience homelessness.

Some studies that have explored the differences between the homeless and the residentially stable either have focused on one sex or have had such small numbers of women subjects that comparisons between the sexes were not possible.[10] Studies that have included adequate numbers of both sexes have found that the homeless or residentially unstable have greater alcohol[11,12] and/or drug[11,13] abuse; higher symptom levels[11,12]; greater noncompliance with prescribed treatments[11,12]; and a greater prevalence of foster care, group home placement, and runaway episodes in childhood.[14] While the literature suggests that multiple factors distinguish the homeless from the never-homeless, we know of no prior attempt to study multiple risk factors in a single investigation of women.

We recently reported findings on men with schizophrenia from our case–control study of homelessness designed to test hypotheses about three domains of risk: severity of illness, family background, and prior mental health services use.[15] We now report findings on women with schizophrenia, based on a replication of the design and the method of the study of men.

Methods

A case–control design was used with 100 women in a sheltered homeless group and 100 women in a never-homeless group. All 200 subjects had experienced at least one psychiatric hospitalization, were between the ages of 18 and 64 years, and were currently enrolled in a mental health program targeted at the public patient with severe mental illness. To be eligible for inclusion, the women were required to meet *DSM-III-R* criteria for schizophrenia or schizoaffective disorder, determined through the Structured Clinical Interview for DSM-III-R (SCID).[16] For both groups, potential study subjects were referred by clinical staff based on the subject's chart diagnosis, treatment history, and capacity to give voluntary informed consent. Such referrals were considered consecutively by the research staff. Women with a recent episode of literal homelessness[17] were recruited from a shelter, a 24-hour drop-in center, and three transitional housing programs (n = 93), as well as from three psychiatric inpatient units (n = 7). None were recruited from the streets. Women who were never literally homeless were selected from four outpatient clinics (n = 80) and three inpatient units (n = 20). All inpatients were ready for discharge. Although case subjects were matched with control subjects on inclusion criteria, they were drawn from different types of mental health programs and thus may not be similar on all dimensions.

Of the 249 women who were asked to participate in the study, 19 (7.6%) refused and 12 (4.8%) dropped out before completing the interview battery. Refusals were nearly three times greater in the never-homeless group. Eighteen (7.2%) of homeless subjects with completed interviews were eliminated from the study because of inconsistent or poor-quality data that could not be improved with a reinterview. In such cases, the subject was

Carol L. M. Caton, Boanerges Dominguez, Paula F. Eagle, Lewis A. Opler, and Francine Cournos are with the Department of Psychiatry and School of Public Health at Columbia University's College of Physicians and Surgeons, New York, NY. Patrick E. Shrout is with the Department of Psychology, New York University, New York, NY.

Requests for reprints should be sent to Carol L. M. Caton, PhD, Department of Psychiatry, Columbia University, 722 W 168th St, Box 114, New York, NY 10032.

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TABLE 1—Background Characteristics of Never-Homeless and Homeless Women with Schizophrenia

	Never Homeless (n = 100), %	Homeless (n = 100), %
Place of birth		
American born	74.0	81.0
Foreign born	26.0	19.0
Place of residence for the greatest % of time from birth to 18 y		
New York City area	60.0	55.0
Other	40.0	45.0
Race/ethnicity		
Black	39.0	52.0
Hispanic	26.0	10.0
White	35.0	38.0
Religion		
Protestant	32.0	40.0
Catholic	46.0	41.0
Other	13.0	15.0
None	9.0	4.0
Marital status		
Single	43.0	49.8
Married/conjugal	17.0	7.0
Separated/divorced	34.0	36.2
Widowed	6.0	8.0
Veteran status		
Yes	2.0	3.0
No	98.0	97.0
Employment status		
Employed	21.0	26.0
Unemployed	79.0	74.0
Income from entitlements		
Yes	85.0	88.0
No	15.0	12.0
Earned income		
Yes	19.0	19.0
No	81.0	81.0
Income from family		
Yes	39.0	8.0
No	61.0	92.0
Current age, y		
Mean	43.00	42.00
Median	42.00	42.00
Mode	45.00	34.00
Standard deviation	11.9	9.93
Years of education		
Mean	11.55	11.53
Median	12.00	12.00
Mode	12.00	12.00
Count	100	100
Standard deviation	2.95	2.10

either too delusional or too disorganized to function as a reliable informant. It is possible that the more disturbed subjects were not included in the final sample.

Research instruments are described in detail in our initial report.[15] In summary, preillness social functioning was rated with the UCLA Social Attainment Scale.[18] Positive and negative dimensions of schizophrenia were assessed with the Positive and Negative Syndrome Scale (PANSS).[19] Current and lifetime alcohol and drug abuse/dependence were evaluated with the SCID.[16] Antisocial personality disorder was evaluated with the SCID-II.[20]

Family disorganization in childhood was evaluated with 4-point rating scales in the Community Care Schedule.[21] Current family support was rated on a 4-point scale of adequacy[21] based on the frequency of contact, quality of relationship, material support, emotional support, and companionship available from family members regardless of living arrangement (see footnote* for explanation of scale).

Prior service use was also explored with items contained in the Community Care Schedule.[21] Medication adherence was rated on a 4-point scale based on the subject's self-report. Long-term follow-up care was defined in terms of the number of months in outpatient treatment with the same therapist. For practical reasons, interviewers had to conduct some interviews in the sites where subjects were enrolled. Therefore, they were not blind to the homeless/never-homeless status of some study subjects. However, they were not aware of the study hypotheses.

The case subjects (the homeless) were compared with the control subjects (the never-homeless) with respect to three classes of study variables. In the illness domain, there were six variables: premorbid social attainment scale score, Positive and Negative Syndrome Scale (PANSS) positive symptom score, PANSS negative symptom score, and binary indicators of alcohol abuse, drug abuse, and antisocial personality disorder. In the family domain, there were two variables: family disorganization index and adequacy of family support. In the service use domain, there were two variables: medication adherence and existence of a long-term therapist.

Case and control subjects were initially compared without taking into account sampling characteristics of the

*The scale of adequacy of family support: family support was rated on a 4-point scale from 1 (adequate) to 4 (grossly inadequate). Ratings are based on the following information pertaining to close relatives, usually parents and siblings: frequency of contact, quality of relationship, material support, emotional support, and companionship. The ratings are defined as follows:

- Adequate (1). Subject has frequent contact with family, who give food, clothing, and money when able. Subject can talk to at least one family member about her problems. Subject occasionally goes to movie or dinner with family member.
- Fair (2). Subject has less frequent (three to four times a year) contact with family, but family assists with material and emotional support. Socialization takes place only rarely.
- Poor (3). Subject has frequent contact with family, but family gives little or no material or emotional support.
- Grossly inadequate (4). Subject has infrequent contact with family, and family gives no material or emotional support. There is estrangement.

groups. They were then compared with statistical adjustments made using logistic regression, with the binary case/control variable treated as the outcome, and the risk variables and possible confounders treated as explanatory variables. Possible confounders were chosen from those demographic variables in Table 1 that were at all related to the case/control variable (at the $P < .15$ level). The only variable falling into this category is ethnicity. No adjustment was made for current income variables because they can be expected to be related to homelessness structurally rather than incidentally.

To facilitate the comparison of adjusted and unadjusted associations between the risk variables and the case/control distinction, both are presented using results from logistic regression analyses. The test statistic presented is the likelihood ratio chi square (LRT) from the logistic analyses.[22]

Results

The homeless case group and never-homeless control group had many traits in common (see Table 1), including median age (42 years), marital status (nearly two thirds had been involved in a conjugal relationship at some time, but only 17% of the never-homeless and 7% of the homeless were currently married or living with a partner), median level of education (12 years), and employment status (more than three fourths were unemployed). Moreover, most (62% of homeless and 65% of never-homeless) were members of ethnic minorities. However, there were greater numbers of Blacks among the homeless than among the never-homeless (52% vs 39%) and greater numbers of Hispanics among the never-homeless than among the homeless (26% vs 10%).

Table 2 summarizes tests of study hypotheses on the differences between never-homeless and homeless women with schizophrenia. Within the illness domain, there were no significant differences between the homeless and the never-homeless on the UCLA Social Attainment Scale scores in either unadjusted or adjusted tests. In addition, there were no major differences in PANSS positive or negative symptom levels. However, a higher proportion of homeless subjects had a concurrent alcohol abuse diagnosis ($P < .05$ for both unadjusted and adjusted tests) and/or a concurrent drug abuse diagnosis ($P < .05$ for both tests). Similarly, a significantly greater number of homeless subjects had a concurrent diagnosis of antisocial personality disorder ($P < .05$ for both unadjusted and adjusted tests), a finding that persisted when the criterion of lack of a fixed address for a month or more was deleted from the diagnostic algorithm. We plan to discuss the assessment of antisocial personality disorder among the severely mentally ill elsewhere (Caton CLM, Shrout P, Dominguez B, unpublished manuscript).[23]

TABLE 2—Test of Key Hypotheses on the Risk of Homelessness among Urban Women with Schizophrenia

	Never Homeless (n = 100)		Homeless (n = 100)		Unadjusted[a]		Adjusted[b]	
	Mean	SD	Mean	SD	LRT	*P*	LRT	*P*
Illness domain								
UCLA Social Attainment Scale score	19.3	7.1	20.4	7.4	1.10	0.30	1.20	0.27
PANSS positive symptoms score	15.4	6.5	16.5	7.7	1.22	0.27	1.07	0.30
PANSS negative symptoms score	17.6	7.3	18.9	6.5	1.66	0.20	1.32	0.25
Alcohol abuse (0 = no, 1 = yes)	0.16	0.37	0.30	0.46	5.60	<0.05	5.61	<0.05
Drug abuse (0 = no, 1 = yes)	0.15	0.36	0.29	0.46	5.79	<0.05	5.39	<0.05
Antisocial personality disorder (0 = no, 1 = yes)	0.01	0.10	0.08	0.27	6.45	<0.05	7.03	<0.05
Family domain								
Index of family disorganization	13.1	3.8	13.1	3.9	0.00	0.98	0.15	0.69
Adequacy of family support	1.8	1.1	2.6	1.3	18.06	<0.01	12.96	<0.01
Service use domain								
Medication adherence	1.64	0.95	1.57	0.95	0.29	0.59	0.53	0.46
Long-term therapist	49.4	51.90	39.6	54.40	1.51	0.22	1.00	0.32

Note. LRT = likelihood ratio test.
[a]Likelihood ratio test and *P* value from logistic regression models with no other variables held constant.
[b]Likelihood ratio test and *P* value from logistic regression models holding ethnicity constant.

Within the family domain, there were no differences on the index of family disorganization. Family support was less adequate for the homeless ($P < .01$ for both tests).

In terms of service use issues, there were no differences between the homeless and the never-homeless with regard to medication adherence or the duration of time in treatment with the same therapist. When the data were adjusted for recruitment status (outpatient or discharge-ready inpatient), findings remained the same.

When the four variables that were significant in Table 2 were included as a set in a logistic regression model along with ethnicity, only one variable—adequacy of family support—remained significant (Wald = 14.2; $df = 1$; $P < .01$). The odds of homelessness among those at the low end of family support were estimated to be about three times larger than those at the high end of the support measure. To determine if adequacy of family support is itself sufficient to account for the effects of alcohol abuse, drug abuse, and antisocial history, we carried out a stepwise regression analysis, with adequacy of family support and ethnicity entered in the first step. In the second step, antisocial history was statistically significant (Wald = 4.38; $df = 1$; $P < .05$) as well as practically significant: the odds of homelessness were estimated to be nearly 10 times greater among those women with a history of antisocial behavior. Alcohol abuse appeared not to have unique effects when ethnicity, family

support, and antisocial history were controlled, but drug abuse remained a trend.

Discussion

This study addressed risk factors for homelessness only among persons with schizophrenia. It did not probe the importance of schizophrenia itself or the relative importance of schizophrenia and poor family support as risk factors for homelessness. Homeless women with schizophrenia differed from their never-homeless counterparts in two of the three domains we studied: family background and illness characteristics. Both the univariate (see Table 2) and the logistic regression analyses revealed that poor family support is a key risk factor for homelessness. Because this was not a longitudinal study, we cannot ascertain that poor family support preceded the first episode of homelessness. While poor family support is not a risk factor for the initial onset of homelessness, we contend that it is a risk factor for the persistence of homelessness. Family living settings are common among the severely mentally ill. The loss of an opportunity to live with kin creates the need to find housing in a market with few available options.

Like their male counterparts,[15] women who ended up in our homeless group were more likely to have concurrent alcohol and/or drug abuse, antisocial personality disorder, and poor family support. In contrast to findings for men,[15] however, the logistic regression analysis revealed that adequacy of family support was a more important risk factor for women than were any of the variables in the illness domain. The results were consistent with a mediation explanation; the effect of substance abuse may be to decrease family support, which in turn leads to homelessness. Antisocial history, while partially mediated by family support, appears to have an independent effect on homelessness. Findings suggest that illness behavior and family characteristics of women with schizophrenia should be closely monitored to prevent homelessness. □

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A more detailed presentation of the study reported here is available from Dr Caton.

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