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Factors associated with homelessness among women: a cross-sectional survey of outpatient mental health service users at The Banyan, India

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ABSTRACT

Background Homelessness has multifaceted and damaging effects on women with mental illness. This makes it imperative to identify and address the factors leading to homelessness among women with mental illness in order to inform policy on providing relevant services for this vulnerable population.

Method A cross-sectional survey was conducted among 346 women in active contact with one of four outpatient clinics at The Banyan, a non-profit organization in the Indian state of Tamil Nadu. A semi-structured instrument and modified version of the List of Threatening Experiences Questionnaire was used for data collection. Multivariate logistic regression analysis was used to examine predictive variables for homelessness among women with mental illness.

Result 32.65% of participants reported a history of homelessness. Less than 5 years of schooling (OR = 2.914, 95% CI = 1.027–8.269, $P < 0.05$) and disrupted relationships (OR = 1.807, 95% CI = 1.23–2.655, $P < 0.01$) were associated with a greater likelihood of women with mental illness to experience homelessness.

Conclusion In the study cohort, this was explained mainly by factors rooted in gender-based disadvantage. Further practice and research are needed to develop interventions that address issues with a sociological basis to mental illness and prevent these predictive factors.

Keywords gender, mental health

Background

The association of homelessness with mental illness is a significant problem. With lower quality of life and greater health and social deprivations, this population often requires complex service responses.[1–3] Several studies in the West reveal a higher prevalence of mental illness among homeless people compared with a matched general population. A 2008 meta-analysis of surveys in Western countries estimated a pooled prevalence rate of 12.7% for psychotic disorders among the homeless population.[4] In the case of severe and persistent mental illnesses, homelessness is often the outcome,[5] with poverty facilitating the relationship between mental illness and social problems.[6,7] In the USA, the prevalence of homelessness among people being treated for a mental health problem over a 1-year period was found to be up to15% and significantly associated with a diagnosis of schizophrenia or bipolar disorder and lack of medicaid, among other factors such as being a man or of African American ethnicity.[8]

There is a lack of similar research on homeless people with mental illness in India, although the urban landscape

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of the country is witness to this phenomenon. In India, 150 million people are estimated to experience mental illness,[9] while estimates for homelessness is 1.8.[10] Much of the evidence on risk factors for homelessness among those with mental illness is primarily from countries in the West. Poverty, childhood instability and violence, inaccessible services, family disorganization, and lack of support, illness characteristics and substance abuse have been found to be associated with homelessness among those with mental illness.[11–13] While men are more likely to experience homelessness,[8] homeless women face unique gender-based problems as well as cross-cutting disadvantages.[14]

The paucity of similar research in the Indian context, despite several decades of work by organizations in the country, limits the ability to inform policy and advocate for more meaningful service options. This study was conducted in the context of the work of The Banyan, a not-profit organization established in 1993 to address the needs of homeless women with mental illness. The history of homelessness among The Banyan's clientele from low-income backgrounds at rural and urban outpatient clinics, has not been explored to date. What is the prevalence of homelessness among women with mental illness and what factors are associated with the phenomena? The object of exploring the roots of the phenomenon of homelessness among those with mental illness has potential implications for design of preventive strategies and interventions that may mitigate the recurring toll that this exacts on the lives of people.

Materials and methods

The study adopted a cross-sectional design with a primary survey of women with a diagnosis of mental illness attending urban and rural outpatient clinics of The Banyan. In September 2015, at the start of the study, 688 women in active contact, across four clinics (three urban and one rural). Active service contact was defined as attending the clinic as on the date of appointment within the preceding quarter (maximum duration between two subsequent appointments at clinics). We excluded 203 women from the sample (195 with intellectual disability, five with hearing and speech disability and three with dementia) because existing resources were unable to enable them to contribute meaningfully. In total, 485 women who were identified as potential participants, of whom 346 consented to participate and were included in the final sample surveyed. We were unable to elicit consent from 30 women who were highly symptomatic at the time of the study, 22 declined to participate and we were unable to establish contact with 87 women.

Measures

A semi-structured interview was used to elicit information on socio-demographic characteristics of participants and their households, the prevalence and course of homelessness and illness. A history of homelessness was recorded if women reported at least one episode of being on the streets away from home. Diagnoses were drawn from a consolidated database of all registrations with data at intake across outpatient clinics. The modified version of the List of Threatening Experiences Questionnaire (LTE-Q)[15] that has items with dichotomous responses (yes/no) was used to record the lifetime prevalence of critical events among the participants. The LTE-Q has been used in several studies with the homeless population and has been useful in mental health to distinguish associations of ill health and homelessness and psychosocial stressors.[16] Local experts with over 20 years of clinical practice with the population suggested 10 more items (see annexure) to be added to the original list of 12 items in LTE-Q. The interview schedule and modified LTE-Q were translated into Tamil and back into English by two bilingual experts. Discrepancies between the original interview schedule and the translation were resolved. The interview schedule was piloted with women with mental illness who were attending the outpatient clinics ($n = 18$). Debriefs with interviewees and interviewers were carried out to discern any confusing or difficult words or expressions, resulting in adjustments and the preparation of a final version of the interview schedule.

Data collection and analysis

Two Research Associates with master's in social work gathered data through face-to-face interviews with women over a period of 4 months between December 2015 and March 2016. Data were analyzed using SPSS 22; and R 3.5. R was primarily used to perform tetrachoric factor analysis for the LTE-Q which has items with dichotomous responses. Descriptive statistics were used to examine the data initially. Continuous variables were tested for normality using Q-Q plots. Differences between background characteristics of those who had a lifetime prevalence of homelessness and those who had not were examined using t tests/Mann–Whitney U for continuous variables and chi-square test for categorical variables.

Exploratory factor analysis (EFA) using tetrachoric correlations was run in R on the modified LTE-Q, a 22-question assessment determining prevalence of stressful life events in the participant's past. The Kaiser–Meyer–Olkin measure of factor adequacy was 0.62. The EFA revealed eight factors with eigenvalue greater than one; however, the scree plot

Table 1 Factor analysis of modified LTE-Q—rotated matrix[a]

Items	Factor 1	Factor 2	Factor 3
Breaking of a steady relationship	0.847		
Abandonment	0.801		
Separation due to marital difficulties	0.647		
Lack of living in proper housing		0.601	
Unemployment or seeking work unsuccessfully for more than 1 month		0.531	
Major financial crisis		0.481	
Death of parent, partner or child		0.467	
Poor treatment adherence			0.662
Experiencing chronic and severe symptoms of mental illness			0.617
Proportion of variance (%)	48	28	24
Cumulative proportion of variance (%)	48	76	100

Extraction method: minimum residual criterion

[a]Rotation method: varimax with Kaiser normalization.

indicated that three factors should be retained. Therefore, three factors with nine items were retained, as seen in Table 1. A varimax orthogonal rotation was employed. The Tucker Lewis Index of factoring reliability was 0.936. The items with correlation coefficients greater than 0.4 were consistent with a theme within each factor. There were three items with moderate to strong factor loadings associated with disruptions in relationships (Factor 1), three items related to socio economic difficulties (Factor 2) and two items loaded on Factor 3 encompassing mental health and treatment difficulties. A low internal consistency was determined by Cronbach's alpha of 0.562, which is not dissimilar to studies with a low internal consistency of 0.44.[16] Low internal consistency may be due to the heterogenous nature of the constructs.

Multivariate logistic regression was performed to examine the effects of Factor 1 Disruption in relationships, education, age, caste, prevalence of wandering and diagnosis on the odds of becoming homeless. The variables were entered into the model in a single step and the odds ratios were computed in SPSS 22. Odds ratios were considered statistically significant when the P value was < 0.05. Factor 2 Socio economic difficulties and Factor 3 Mental Health and Treatment were included in the initial analysis and did not contribute to the model, their removal did not affect the other variables in the model and therefore were not included in the final analysis.

Ethics and consent

The study proposal was reviewed and approved by The Banyan's Research Review Board (RRB). Participants were informed about the purpose of research and right to confidentiality and to refuse to respond to any or all questionnaire items. Informed consent was obtained from all participants prior to the interview. Raw data for analysis eliminated any personally identifying information.

Results

Characteristics

In this study, 32.65% of survey participants reported one or more episodes of homelessness in their lifetime. The socio demographic characteristics of the 346 participants are presented in Table 2—participants who experienced homelessness ($N = 113$) and participants who have not ($N = 233$).

There was a statistically significant difference in diagnosis between the two groups with a greater proportion of those who have experienced homelessness recording diagnoses of serious mental illnesses than those who have never been homeless. A little more than half (58 out of 113, 51.3%) of the population that experienced homelessness attained between one and 5 years of formal education or no education at all, as opposed to 67 out of 233 (28.8%) of those who never experience homelessness. Over 90% of the participants in both groups belonged to backward or most backward classes or from scheduled caste or scheduled tribe and a statistically significant difference was observed between the two groups and caste. All the participants who experienced homelessness in their lifetime also said they had experience of wandering in the past whereas 34.3% of the participants who never experienced homelessness said they had no prevalence of wandering.

The average number of stressful life events reported by the participants who experienced homelessness was 1.3 times more than those who never experienced homelessness with

Table 2 Socio-demographic characteristics of homeless and never homeless population (N = 346)

Characteristics	Homeless history (N = 113)		Never homeless (N = 233)		Analysis		
	N	%	N	%	χ^2	df	P
Diagnosis					14.139	3	0.003
Schizophrenia	63	55.8	104	44.6			
Psychosis NOS	17	15.0	35	15.0			
Bipolar disorder	21	18.6	29	12.4			
Common mental disorder	12	10.6	65	27.9			
Marital status					10.28	3	0.016
Single	14	12.4	44	18.9			
Married	38	33.6	105	45.1			
Separated	31	27.4	45	19.3			
Widowed	30	26.5	39	16.7			
Religion [a]					0.632	2	0.729
Hindu	84	75.0	181	77.7			
Muslim	9	8.0	20	8.6			
Christian	19	17.0	33	13.7			
Caste [a]					9.945	3	0.019
Schedule Cast/Scheduled Tribe	37	34.6	46	20.4			
Most backward classes	18	16.8	59	26.1			
Forward classes	43	40.2	107	47.3			
Forward caste	9	8.4	14	6.2			
Education					22.604	3	0.0001
Less than 5 years	58	51.3	67	28.8			
6–8 years	14	12.4	51	21.9			
9–10 years	27	23.9	50	21.5			
Over 10 years	14	12.4	65	27.9			
Prevalence of wandering					133.025	1	0.0001
Prevalent	113	100.0	80	34.3			
Not prevalent	0	0.0	153	65.7			
Access treatment at onset of mental illness					1.441	1	0.23
Yes	101	89.4	217	93.1			
No	12	10.6	16	6.9			
	M	SD	M	SD	t	df	P
Age	43.37	11.647	40.68	11.647	1.961	344	0.051
Age at onset of mental illness [a]	27.09	10.671	30.84	13.585	−2.537	241.712	0.012
Current caregiver age [a]	49.54	15.670	47.56	14.166	1.171	338	0.242
Total number of stressful life events	0.16	1.760	2.46	1.621	−4.103	344	0.0001
	Mdn	IQR	Mdn	IQR	U	Z	P
Household income in Indian Rupees [a]	8000	7625	10 000	10 000	11820.5	−1.423	0.155
Factor 1—Disruption in dependent relationships	0	2	0	1	10633.5	−3.404	0.001
Factor 2—Socio-economic difficulties	2	2	2	4	11609.0	−1.831	0.067
Factor 3—Mental health and treatment difficulties	0	0	0	0	12557.0	−1.025	0.305

[a]Religion—N = 112 for homeless history; caste—N = 107 for homeless history, N = 226 for never homeless; age at onset of mental illness—N = 98 for homeless history, N = 180 for never homeless; current caregiver age—N = 112 for homeless history, N = 228 for never homeless; household income in Indian Rupees—N = 78 for homeless history, N = 132 for never homeless.

[b]Factor 1—disruption in relationships—breaking up of a steady relationship, abandonment, separation due to marital difficulties; factor 2—socio-economic difficulties—lack of living in proper housing, unemployment or seeking work unsuccessfully, major financial crisis, death of a parent, partner or child; factor 3—mental health and treatment—poor treatment adherence, experiencing chronic and severe symptoms of mental illness.

Table 3 Logistic regression predicting homelessness among women accessing outpatient services ($n = 346$)

Factor	Odds ratio	95% CI	P
Disruption in relationships	1.807	1.23–2.655	<0.01
Education			
0–5 years	2.914	1.027–8.269	<0.05
6–8 years	0.903	0.296–2.753	0.857
9–10 years	2.814	0.941–8.414	0.064
Over 10 years (reference)			
Wandering			
Prevalent (reference)			
Not prevalent	0	0	0.994
Diagnosis			
Schizophrenia	1.529	0.548–4.263	0.417
Psychosis NOS	1.775	0.477–6.603	0.392
Bipolar disorder	1.758	0.509–6.073	0.373
Common mental disorders (reference)			
Age	1.047	1.013–1.082	<0.05
Caste			
Scheduled caste/scheduled tribe	0.789	0.789–3.775	0.767
Most backward classes	0.264	0.264–1.238	0.091
Backward classes	0.474	0.474–2.073	0.321
Forward caste (reference)			

a statistical significant difference in mean. Factor 1 (Disruption in Relationships) showed a significant difference between those who experienced homelessness and those who never experienced homelessness.

Factors associated with homelessness

A multivariate logistic regression was performed to determine the effects of wandering, diagnosis, disruption in relationships (Factor 1) and education while controlling for age and caste on the likelihood that participants become homeless. This regression model was statistically significant, $\chi^2 = 209.257$, df $= 12$, $P < 0.0001$. The model explained 65.2% (Nagelkerke R^2) of the variance in homeless numbers and correctly classified 86.2% of the cases. Of the predictors in the model, disruption in relationships (Factor 1), education and age were statistically significant while frequency of wandering, diagnosis and caste did not contribute to the model (Table 3). An increase in the number of experiences of disrupted dependent relationships increases the likelihood of becoming homeless by a factor of 1.8. Participants who had less than 5 years of schooling have 2.9 times higher odds of becoming homeless than those who with 11 or more years of education. Older participants were more likely to have experienced homelessness with odds of 1.04.

Discussion

The investigation examined the prevalence of and factors underlying homelessness among women with mental illness attending outpatient clinics of a non-profit organization in South India. The study compared cohorts of women accessing outpatient services with and without histories of homelessness.

Main findings

A substantial proportion of the study participants, 32.65% of women with mental illness surveyed, reported a history of homelessness. The findings from the logistic regression model revealed that low educational attainment and relational disruptions were associated with higher odds of having experienced homelessness, factors that suggest gender disadvantage and the consequent liabilities underlying the phenomenon. Age was associated with slightly higher odds of homelessness. Older participants were perhaps more likely to have a history of homelessness due to living longer with the diagnosis.

What is known

Previous studies from low to medium income countries found prevalence rates for homelessness among people with mental

health conditions in the range of 2.3–8.2%.[3] Some literature points to the interplay of relationship issues and gender biases with mental ill health in pathways to homelessness among women with mental illness,[17–19] consistent with the findings of this study. Domestic violence has been implicated with homelessness among women in several studies, which posit the linkage with the need for women to escape violence from spouses, partners or former partners.[20–23]

What this study adds

Given the current scenario of limited literature on homelessness, gender and mental health in India, these findings offer a small initial contribution. The findings cast the experience of homelessness among women living with mental illness as a phenomenon that manifests beyond the clinical interpretations of symptomatic incidence owing to lack of treatment or undertreatment or income-based poverty. Most of the women who experienced homelessness in the study's cohort had accessed prior treatment, but despite this found themselves in the precarious situation of being on the streets.

Further, the study shows that within a largely homogenous group of low-income families, predominantly from disadvantaged castes, there are indications of differences in women's educational attainment, which was associated with higher odds of homelessness, and perhaps the role of neighborhood deprivation in perpetuating inequities and risks for homelessness needs to be examined. Geographical variances and relative deprivation may determine multidimensional poverty and manifestation of social disadvantage. Inequality across multiple domains leads to the formation of disadvantage and the experience of marginalization from societal gains. A recent systematic review of literature points to the primacy of inequality and effects in inducing unfavorable health outcomes disproportionately among those who live amidst wider gaps in resources than those who live in homogenous circumstances.[24] Neighborhoods with higher income differentials are more prone to poor educational health outcomes among low income groups along with other disruptive social circumstances such as violence, crime and low quality sanitation and housing.[25] Future research may examine the effect of geographical variances in social disadvantage, caste and gender intersections on homelessness among those with mental illness.

Educational attainment serves as an important correlate of socio economic status and women's participation in intra-households decision-making, determining access, autonomy and control over a wide variety of resources.[26] Significantly, caste remains an important determinant of educational attainment and access.[27] Gaps in access to schooling may also be explained by generational differences in access to education or unfavorable geographical variables. However, in this sample, the effect of education on odds of having been homeless remained after accounting for generational and caste differences by controlling for these variables.

In the study sample, there were significant differences in caste between women who experienced homelessness and those who did not. A greater proportion of women with a history of homelessness were from the disadvantaged castes, which indicates potential caste and gender intersections that may be engaged in homelessness. In the Indian context, a case control study conducted in Delhi, found a significant interaction effect of stigma, mental illness, caste and gender, with women from disadvantaged castes with a mental illness more likely to experience poverty as a consequence of stigma than male control.[28] However, in the present analysis, caste failed to show up with significant associations possibly because low sample size in the reference category of forward caste prevented meaningful comparisons.

Implications

Eliminating gender-based differences in education may be an important policy and practice direction to reduce risks of homelessness on account of mental illness. Education may serve as a protective factor for women absorbing social and economic impacts of any interpersonal strife as it may enhance their ability to forge ahead with self-identified pursuits and sustain themselves. While evidence demonstrates that early treatment in psychosis is associated with superior outcomes,[29–31] forms of early treatment accessed by marginalized communities may not have sufficiently mirrored the best possible evidence, and treatment alone appears insufficient in the face of concurrent social adversities. Health systems that offer proximal medical care, neglecting women's narratives of enduring social disadvantage, may not be sufficient to prevent homelessness among women with mental illness. Interconnected service supports, derived from integrated, personalized formulations of presenting distress, that range from clinical to social may be investigated as potential preventive strategies for positive gains among those who face multiple jeopardies. Implications for practice further indicate the need for preventive interventions that specifically target girls and young women in fostering an empowered sense of identity that helps them define themselves in ways beyond the male biased societal norms and articulating control over self in relationships.

Limitations

The present study has its limitations. The cohort examined was drawn from clinics for low-income households run by a non-profit organization in Tamil Nadu, and therefore generalizability of findings is uncertain. Data, including the history of homelessness, were based on participants self-reports.

Diagnoses were drawn from clinical records and were made by a number of psychiatrists with no common diagnostic instrument. The cross-sectional design limits temporal observations and therefore it may not be possible to directly infer the causality of uncovered factors associated with homelessness.

Conclusion

In our study, a sizeable proportion of women with mental illness accessing outpatient clinics, from predominantly low-income and disadvantaged caste backgrounds, were found to have a history of homelessness. Associated factors of low educational attainment and disruption in relationships were primarily rooted in gender-based disadvantage. Broader interventions to address structural oppression may offer a promising approach to end homelessness among women who receive diagnoses of mental illness.

Data availability statement

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

Author contributions

Krishnadas, Narasimhan and Joseph had full access to all the data in the study and take responsibility for the integrity of the data and the accuracy of the data analysis. Krishnadas and Narasimhan are joint first authors and contributed equally to the paper.

Concept and design: Krishnadas, Narasimhan, Bunders, Regeer.

Acquisition, analysis or interpretation of data: Krishnadas, Narasimhan, Joseph.

Drafting of manuscript: Narasimhan, Joseph.

Critical revision of the manuscript for important intellectual content: All authors.

Statistical analysis: Narasimhan, Joseph.

Administrative, technical or material support: Authors institutions.

Study supervision: Regeer, Bunders.

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Conflict of interest disclosure

None reported.

Ethics approval statement

Ethics approval was obtained from the External Review Board of The Banyan Academy of Leadership in Mental Health (BALM) and The Banyan, which consists of external professionals representing a range of professions related to social work and mental health.

Patient consent statement

Consent was verbally administered to and signed by all participants. Consent forms were translated to the local language (Tamil) from English. If participants were unable to write, they acknowledged their consent via a thumbprint.

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Annexure

Additional items suggested by local experts for the LTE-Q
    Lack of access to mental health care

Poor treatment adherence/Drug compliance
Abandonment
Experiencing symptoms of serious mental illness/severity of illness
    Abuse (emotional, sexual, physical)
    Lack of living in proper housing
    Increased hostility
    Social isolation
    Substance abuse
    Substance abuse by a family member.