Eur Arch Psychiatry Clin Neurosci (1997) 247: 162–172

ORIGINAL PAPER

Annette Greifenhagen · Manfred Fichter

Mental illness in homeless women: an epidemiological study in Munich, Germany

Received: 2 October 1996 / Accepted: 26 March 1997

Abstract In an epidemiological survey of the prevalence of mental illness in homeless individuals in Munich, Germany, a probability sample of 32 homeless women were interviewed using a standardized diagnostic instrument (Diagnostic Interview Schedule for DSM-III diagnoses). Results point to very high prevalence rates of mental disorders among homeless women. The most frequent diagnostic groups were alcohol and drug abuse (lifetime prevalence rate 90.6%), affective disorders (50.0%), anxiety disorders (43.8%) and schizophrenia (21.9%). Prevalence rates are compared with a female household sample (Epidemiological Catchment Area Study in New Haven, Connecticut). All disorders tended to be more frequent in homeless women as compared with the household sample. Our results show the urgent need to provide medical and other assistance to homeless women. There is a need for adequate psychiatric care, supply with food and housing and the development of concepts for personal and vocational rehabilitation considering the specific needs of women.

Key words Homeless women · Homeless mentally ill · Homeless persons psychology · Use of health care services · Demand for psychiatric services

A. Greifenhagen (✉)
Department of Psychiatry, Technical University Munich, Ismaningerstrasse 22, D-81675 Munich, Germany

M. Fichter
Department of Psychiatry, Ludwig-Maximilians University Munich, Nußbaumstrasse 7, D-80336 Munich, Germany

M. Fichter
Klinik Roseneck, Am Roseneck 6, D-83209 Prien, Germany

"A woman must have money and a room of her own..."
Virginia Woolf, A Room of One's Own (1927)

Introduction

The number of homeless individuals has been growing in the past decade challenging communities and the social welfare system in many European countries. Of the approximately 480000 homeless individuals in Germany, 10% are women (Bundesarbeitsgemeinschaft für Wohnungslosenhilfe 1994). They are a subgroup with special problems and needs who have not yet drawn much public and scientific attention. In the United States, however, where homelessness is considered one of the major social problems, sociologists, anthropologists and psychiatrists in the past decade have studied the living conditions of homeless women and the prevalence of psychiatric disorders among them (Bassuk 1986; Breakey et al. 1989; Koegel 1989; Marshall and Reed 1992; Smith et al. 1993; North and Smith 1993a, b; Virgona et al. 1993).

In Germany psychiatric interest in the homeless goes back to the turn of this century when Bonhoeffer (1901) and Wilmanns (1906) studied the "Psychopathologie des Landstreichers" (psychopathology of the vagabond). They described a high prevalence of "dementia praecox" and alcoholism among the formerly homeless inmates of prisons and workhouses. Especially Wilmanns pleaded for human treatment of the homeless mentally ill. Homeless women are not mentioned in these publications, although they were part of the "vagrant population" from medieval times on (Hoffmann 1927). Their position in society was even lower than that of homeless men (Bender 1988). In the 1920s and 1930s Kurt Schneider's concept of psychopathy (1923) was applied to homeless persons by several psychiatrists, e.g. Kurt Kolle (von Behr and Kolle 1932) and Carl Schneider (Scheffler 1987), branding the homeless as "asocial, abnormal and inferior". This combination of psychiatric diagnosis and social prejudice was used as a justification for the persecution of the homeless in Germany after 1933. Several thousand homeless per-

sons were deported to concentration camps (Ayass 1984), and homeless women were subject to sterilization (Zürn 1986). Only few of them received reparation after 1945. Until the 1980s psychiatric research about the homeless was still characterized by a one-sided perspective focussing on the psychic abnormalities that might account for an individual's homelessness. Only in recent years have researchers broadened their perspective beyond the homeless individual. They have studied the living conditions and social networks of homeless men and women taking into account the current socioeconomical situation (e.g. Steinert 1990).

In the U.S. and the U.K. the prevalence of mental illness among the homeless has been the subject of a number of epidemiological studies (for reviews see Dennis et al. 1991; Scott 1993). For homeless women the prevalence rates of mental illness differ from 27% (Bassuk 1986) to 74% (Breakey et al. 1989). This variance might be due to different sampling methods and diagnostic criteria. Almost all studies comparing homeless men and women found higher prevalence rates for women. Most frequent were substance abuse, personality disorders and severe mental disorders such as schizophrenia. Most authors, however, interpret their data very cautiously since psychiatric diagnosis in a subculture group, such as the homeless, might be difficult (Bachrach 1992). Snow and coworkers (1986) warn about the "myth of pervasive mental illness among the homeless", and a recent study in St. Louis, Missouri, tried to point out that the majority of homeless women do not suffer from severe mental illness (Smith et al. 1993).

In our research we studied the prevalence of mental illness among homeless women in a German city (Munich). We were interested in the frequency, severity and course of specific psychiatric disorders (schizophrenia, mood disorders, anxiety disorders, substance abuse and antisocial personality disorder) using a standardized diagnostic instrument (Diagnostic Interview Schedule/DSM-III).We tried to view the problem of mental illness within the context of socioeconomical characteristics and the individual's history. Homeless women are compared with a female household sample from the NIMH Epidemiological Catchment Area (ECA) study in New Haven, Connecticut (Robins et al. 1984; Myers et al. 1984). In this study a large representative community sample of females (and males) was assessed with the same interview (DIS) which was used in our study on homeless women. From the multi-site ECA study we selected the site New Haven, Connecticut, since the ethnic composition of this sample (only 10% non-whites) seemed very comparable to our German sample.

In a parallel design we also studied the prevalence of psychiatric disorders in homeless men in Munich. The results of this study in comparison with a German male household sample and with a sample of homeless men in Los Angeles, California, are described in a previous issue of this journal by Fichter et al. (1996).

Methods

Prerequisites for an epidemiological study among the homeless are (a) a representative sample, (b) a reliable standardized diagnostic instrument and (c) cooperation with social workers working with the homeless. The study design was modelled after the study by Farr et al. (1986) in Los Angeles. The instrument used by Farr et al. was translated into German and modified to German conditions where necessary.

According to statistics of the Munich city council and records of streetworkers working with the homeless there were approximately 1000 homeless people living in Munich at the time of the study (1989). The entire population of Munich is 1.1 million. Approximately 10% of the homeless can be assumed to be women (Bundesarbeitsgemeinschaft für Wohnungslosenhilfe 1994; Romaus 1990). Homelessness in the context of this study was defined as not having had permanent lodging for the past 30 days. For homeless women an additional criterion was having slept rough at least once or having changed lodgings at least five times in a month. This definition allowed us to exclude women who lived in shelters for battered women. This group is not considered homeless in the narrower sense neither by the women themselves nor by the streetworkers in the homelessness scene. In order to establish contacts with the homeless we accompanied streetworkers regularly once a week for approximately 1 year. Thus, we became acquainted with shelters, soup kitchens and outdoor meeting and sleeping places.

The data collected in this study were obtained through face-to-face interviews. A sample of 32 women were interviewed, each interview lasting 1–4 h (average 1.5 h). In a parallel study 146 homeless men were interviewed using the same instrument.

Sample

For sampling purposes we conceived of the homeless population as comprising three overlapping sectors of people: (a) the "bed sector" of people who use shelters for the homeless; (b) the "meal sector" of people who only use soup kitchens; and (c) the "outdoor sector" of people who congegrate on the streets or other outdoor areas. In order to determine the size of each sector we applied a short screening interview to 437 persons at outdoor meeting places of the homeless. Of these, 299 (271 men and 28 women) fulfilled the criteria of "homelessness". Each of them was asked for his/her sleeping and eating places ("presampling"). For homeless women in Munich there are relatively plenty of beds in shelters available, so that 43% of the interviewed women slept in shelters, 18% used only soup kitchens and 39% used no facilities at all. For homeless men we found that only 20% availed themselves of shelter beds, 45% used soup kitchens but not the shelters and 35% were "autonomous", using neither shelters nor soup kitchens. The sampling for the actual diagnostic interview took place (a) in shelter locations, (b) in soup kitchens, where only those who did not use bed services were sampled, and (c) in outdoor congregating areas, where only those who used neither bed nor meal services were sampled. The number of interviews allocated to each sector (and the facilities that constituted each sector) was proportional to the number of *different* people in the sector as estimated from facility records and the preliminary screening survey ("presampling"). Participants in the survey were randomly selected within each of the sectors and settings (shelters and soup kitchens). In shelters we interviewed 14 women (and 30 men), in front of soup kitchens 6 women (66 men) and in the streets or other outdoor places 12 women (50 men). Of 36 women who were invited to participate, 32 agreed (89%).

The comparison group was a sample of 1767 women living in New Haven, Connecticut, from the studies by Robins et al. (1984) and Myers et al. (1984). As part of the Epidemiological Catchment Area Program adults (male and female, 18 years and older) had been selected from a systematic sample of household clusters (using a random starting point). They were interviewed by trained lay interviewers with the third version of the Diagnostic Interview Schedule (DIS-3; Robins et al. 1981). In this article we only refer to the data on women.

Table 1 Sociodemographic characteristics of homeless women in Munich, housed women in New Haven (Epidemiological Catchment Area study, ECA; Robins et al. 1984) and population survey in Germany (Statistisches Bundesamt 1989)

	Homeless women in Munich (n = 32)		Housed women ECA study, New Haven (n = 1767)		Population survey Germany (women only; %)
	N	%	*N*	%	
Age (years)					
18–25	7	22	247	14.0	11.2
26–45	19	59	692	39.2	26.5
46–65	6	19	453	25.6	25.6
> 65	0	0	375	21.2	19.4
Mean	35.5				
SD	10.6				
Range	19–57				
Marital status					
Unknown	1	3	–	–	–
Single	16	50	–	–	34.4
Married	3	9	–	–	46.6
Separated	4	13	–	–	–
Divorced	1	22	–	–	4.4
Widowed	7	3	–	–	14.6
Level of education					
Very low (left school without qualification)	7	22		No college degree 73%	–
Low (9 years "Qualifizierender Abschluss")	13	41			63.0
Medium (10 years "Mittlere Reife")	8	25			24.3
High (13 years "Abitur")	2	6		College degree 27%	12.7
Very high (University degree)	0	0			–
No information	2	6			

Table 1 shows demographic characteristics of the Munich homeless women in comparison with (a) the German general population (Germany-wide census in 1987) and (b) the ECA New Haven female household sample.

Instruments

In the interview data was obtained on psychiatric diagnoses, physical illnesses, use of health and mental health services, current life situation, socioeconomical status and the individual's history. Interviews with women included additional questions on sexual and physical abuse, experiences with relationships and the role as mother. The interviews with the homeless were conducted by three specially trained medical students. Psychiatric diagnoses were made on the basis of the data obtained with the third version of the Diagnostic Interview Schedule (DIS-3; Robins et al. 1981). This instrument enables trained lay interviewers (e.g. medical students) to collect information on past and current psychiatric symptoms. Analysed with a scoring algorithm, the data allow to make lifetime and current diagnoses based on the criteria of DSM-III. The instrument is especially useful in samples where the base rate of the disorder is high (Helzer et al. 1981). Since in a homeless sample disorders evidently occur at high rates, the validity and reliability of the instrument may therefore reach a high level. As the entire interview is lengthy, only the diagnostic sections on schizophrenia, major depression and dysthymia, mania, generalized anxiety disorder, panic disorder, cognitive impairment, substance abuse or dependency and antisocial personality disorder were selected (excluding somatization disorder, phobia, obsessive-compulsive disorder and anorexia). None of the studied disorders (also listed in the prevalence tables of this report) are mutually exclusive: The estimate for each disorder gives the proportion of subjects who met criteria for it, regardless of whether they met criteria for other disorders as well. Neither in Munich nor in New Haven were exclusion criteria used in arriving at diagnoses because of the difficulty in making the DSM-III exclusion concepts operational in a structured interview. Thus, also less severe syndromes (e.g. mild depression or hypomanic states) were included. In addition to DSM-III diagnoses we tried to rate "cognitive impairment" based on the Mini-Mental State Examination (MMSE) by Folstein et al. (1975). The term "cognitive impairment" refers to poor performance on this test (i.e. a score of less than 23–30 possible points), not to diagnostic entities such as dementia, delirium or other specific organic brain syndromes.

The processing of the diagnostic data with a computerized scoring algorithm was performed with the SAS statistical software package (SAS Institute Inc. 1989).

Results

Demographic characteristics, socioeconomic status and history of homelessness

Table 1 shows data on sociodemographic characteristics, Table 2 on employment and history of homelessness. The mean age of homeless women in our sample was 35.5 years (range 19–57 years). In comparison with the female general population in Germany (1987 census, Statistisches Bundesamt 1989) and the New Haven household sample, older women were underrepresented. Half of the interviewed homeless women were single; only 9% were

Table 2 Employment status and onset and duration of homelessness

	Homeless women in Munich (n = 32)	
	N	%
Employment status (multiple answers possible)		
Registered job	1	3
Unregistered job	2	6
Jobbing and welfare	1	3
Jobless, searching	7	22
Jobless, non-searching	12	38
Unable to work	6	19
In pension	2	6
Other	1	3
Unknown	0	0
Age at onset of first homelessness (years)		
< 20	8	25
21–30	11	34
31–40	7	22
41–50	3	9
51–60	0	3
> 60	0	0
No information	2	6
Mean	28.4	
SD	10.5	
Range	14–56	
Duration of homelessness (years)		
< 1	2	6
1–2	8	25
3–5	5	16
6–10	9	28
11–20	1	13
> 20	3	3
No information	3	9
Mean	6.6	
SD	6.5	
Range	0–28	

married (46.6% in the total German population). Of the homeless, 84% women originated from Germany, the rest came mainly from formerly German-speaking areas in eastern European countries. One fifth of the homeless women had left school without any qualification; only 2 of 32 reached a college degree. More than two thirds of the interviewed homeless women were (mostly long-term) unemployed. Sixty percent lived on social welfare at the time and 25% claimed to have less than 5000 Deutsche Mark (≈ 3000 U.S. dollars) at their disposal per year, an amount far below the poverty line. Most women had become homeless for the first time at an early age, one fourth below the age of 20 years.The women had been homeless on the average for 6.6 years, homelessness being a "stable" condition. The majority of the homeless women (66%) were not vagrant but had lived in Munich at least for the past 5 years, many for their entire life. Only two women had been wandering from one place to another in the past year. Asked for subjective reasons for their homelessness, most women reported lack of money and family problems; interestingly, over one third reported problems with mental illness or alcohol/drugs.

Lifetime and current prevalence of DIS/DSM-III disorders

Lifetime and 6-month prevalence rates of DIS/DSM-III disorders for homeless women and women from the household sample (ECA study) are shown in Tables 3 and 4. In the following text data from the ECA New Haven study (housed women) are given in parenthesis. Risk ratios (homeless/housed women) indicate the extent to which homeless women are more or less likely than household respondents to have a specific disorder.

The most frequent *lifetime diagnosis* was alcohol abuse/dependence in 91% of the homeless women (4.8%) and drug abuse/dependence in 41% (5.1%). Especially the proportion of homeless women suffering from severe mental disorders was very high in comparison with rates in the general population: 50% of the homeless met the diagnostic criteria for major depressive episode (8.7%), 44% for manic episode (1.3%) and 25% for schizophrenia (2.6%). Of the homeless women, 41% had a panic disorder (2.1%). Antisocial personality disorder was not as frequent as might have been expected. However, we had adjusted the scoring algorithm to make this diagnosis more sensitive to the unique living conditions of the homeless (Koegel 1989). But even without adjustment, only 3% of the women met the criteria for this diagnosis. Of the women, 34% suffered from "dual diagnosis", the comorbidity of a severe mental disorder and substance dependence. Of the homeless women, 52% had at least once attempted to commit suicide. We had expected to find a number of individuals suffering from cognitive impairment as a consequence of long-term alcohol/drug dependence, but the criteria for this condition as used in the ECA study (our reference group) demanded at least mild (MMSE less than 23 points) or moderate (MMSE less than 17 points) impairment, which none of the homeless had.

The lifetime prevalence of any of the covered DSM-III-diagnosis was 100%: according to these criteria there was no homeless woman in our sample without a psychiatric condition. For homeless men the prevalence rate was slightly lower (94.5%). Housed women in the ECA study showed a prevalence rate of 27.3%, resulting in a relative risk of 3.7 for homeless women.

Current prevalence rates, i.e. the presence of a disorder within the past 6 months, were lower. The prevalence of schizophrenia remained constant in the homeless sample (34%), indicating that all schizophrenic women in our sample had recently suffered from symptoms of their illness. Also the prevalence of major depressive episode remained stable with a rate of 41% (4.6%), depression obviously being a current problem for homeless women. Interestingly, substance abuse was "only" present in 66%; not in all cases was substance abuse associated with the present homelessness. Also anxiety disorders were a current

Table 3 Lifetime prevalence rates of mental disorders according to DIS-DSM-III: homeless women in Munich, Germany, and housed women in New Haven (ECA study; Robins et al. 1984). MMSE = Mini-Mental State Examination

Disorder	Homeless women (Munich; $n = 32$)		Housed women (ECA study, New Haven; $n = 1766$)	Risk ratio (Homeless/ housed women)
	N	%	% (SE)	
Schizophrenic disorders	11	34	2.6 (0.4)	13.2
Schizophrenia	8	25	2.6 (0.4)	9.6
Schizophreniform disorder	3	9	n.a.	n.a.
Affective disorders	26	81	n.a.	n.a.
Manic episode	14	44	1.3 (0.3)	33.6
Major depressive episode	16	50	8.7 (0.8)	5.8
Dysthymia	2	6	3.7 (0.4)	1.7
Anxiety disorders	19	59	n.a.	n.a.
Panic disorder	13	41	2.1 (0.4)	19.3
Generalized anxiety disorder	10	31	n.a.	n.a.
Cognitive impairment (MMSE ≤ 23)	0	0	1.2 (0.3)[b]	n.a.
Substance-use disorders	29	91	n.a.	n.a.
Alcohol abuse/dependence	29	91	4.8 (0.5)	18.9
Drug abuse/dependence	13	41	5.1 (0.6)	8.0
Antisocial personality disorder (symptoms specific for homeless people excluded)	1	3[a]	0.5 (0.2)	6.2
Any of the covered diagnoses	32	100	27.3 (1.3)[c]	3.7

NOTE: Exclusion criteria not used, DIS code 2–5; n.a. = not assessed or calculated

[a] The following three symptoms were not considered in the assessment of the antisocial personality disorder in the homeless sample: 1. frequent job change during the past 5 years; 2. unemployment lasting 6 months or longer during the past 5 years, not justified by illness; 3. homelessness during at least 1 month. All persons who met the criteria for antisocial personality disorder also have a diagnosis on DSM-III axis 1

[b] Moderate or severe impairment only (MMSE ≤ 17 points)

[c] Including also simple phobia, social phobia, agoraphobia, obsessive-compulsive disorder and somatization disorder

Table 4 Six-month prevalence rates of mental disorders according to DIS-DSM-III: Homeless women in Munich, Germany, and housed women in New Haven (ECA study; Myers et al. 1984)

Disorder	Homeless women; Munich ($n = 32$)		Housed women (ECA study, New Haven; $n = 1766$)	Risk ratio (Homeless/ housed women)
	N	%	%	
Schizophrenic disorders	11	34	1.6[b]	21.5
Schizophrenia	8	25	n.a.	n.a.
Schizophreniform disorder	3	9	n.a.	n.a.
Affective disorders	15	47	8.2[c]	5.7
Manic episode	3	9	0.9	10.4
Major depressive episode	13	41	4.6	10.0
Dysthymia	2	6	3.7	1.7
Anxiety disorders	9	28	n.a.	n.a.
Panic disorder	8	25	0.9	27.8
Generalized anxiety disorder	2	6	n.a.	n.a.
Cognitive impairment (MMSE ≤ 23)	0	0	5.3[d]	n.a.
Substance-use disorders	21	66	n.a.	n.a.
Alcohol abuse/dependence	18	56	1.9	29.6
Drug abuse/dependence	7	22	1.3	16.9
Antisocial personality disorder	1	3[a]	0.3	10.3
Any of the covered diagnoses	30	94	12.1[e]	7.8

NOTE: Exclusion criteria not used, DIS code 2–5; n.a. = not assessed or calculated

[a] Symptoms specific for homeless people were excluded in the homeless sample. The following three symptoms were not considered in the assessment of the antisocial personality disorder: 1. frequent job change during the past 5 years; 2. unemployment lasting 6 months or longer during the past 5 years, not justified by illness; 3. homelessness during at least 1 month. All persons who met the criteria for antisocial personality disorder also have a diagnosis on DSM-III axis 1.

[b] Including schizophrenia and schizophreniform disorder

[c] Including also bereavement

[d] Including mild, moderate and severe cognitive impairment (MMSE ≤ 23)

[e] Including also bereavement, obsessive-compulsive disorder and somatization disorder

problem only in 28%. Thus, substance abuse and anxiety disorders were past problems in many cases and appear to have preceded the homelessness. A pattern of elevated risk of current psychiatric disorder among those with past disorder was apparent across almost all disorders. For each diagnosis assessed, prevalence was higher in the homeless sample than in the household sample. This was most apparent for the 6-month prevalence of DSM-III diagnostic categories of substance abuse, panic disorder, major depression and schizophrenia.

Use of mental health services

Table 5 gives data on the history of psychiatric treatment of the homeless. Almost two thirds of the homeless women had already been in a psychiatric hospital. Reasons for admission were mostly intoxication or withdrawal syndromes, suicide attempts or acute psychotic exacerbations. Five women had undergone forced remittal. Considering the high prevalence of substance abuse disorders, it is surprising to see how few of the homeless have undergone treatment in a long-term drug or alcohol clinic, although there are special clinics for homeless addicts in the Munich area.

Almost two thirds of the homeless women had already seen a psychiatrist in the community or in an outpatient clinic. The main reason for the consultation was in most cases the craving for psychotropic medication (clomethiazol, benzodiazepines, dehydrocodein). These figures show that many homeless women get in contact with the psychiatric service system. This could imply that psychiatric services should not only play an important role in the medical treatment of a mental disorder, but also in the care for socioeconomical and psychosocial needs of individuals who are threatened by homelessness or are already homeless.

Table 5 Use of medical, psychiatric and other services

Inpatient treatment because of mental or substance-abuse problems (lifetime; multiple answers possible)

	Homeless women (n = 32)	
	N	%
General hospital	16	50
Psychiatric hospital	20	63
Alcoholism rehabilitation centre	4	12
Drug addiction rehabilitation centre	6	19
Social rehabilitation centre	17	53
Total	26	81

Use of inpatient psychiatric services (lifetime)

	Homeless women (n = 32)	
	N	%
Never	12	38
Once	12	38
2–5 times	5	16
6–10 times	1	3
More than 10 times	2	6
Total	32	100

Use of outpatient services (lifetime; multiple answers possible)

	Homeless women (n = 32)	
	N	%
Psychiatrist	19	59
Other physician	17	53
Counselling for drug problem	7	22
Counselling for alcohol problem	6	19
Self-help group	6	19
Priest	4	13
Confidant (friend)	17	53
Social worker	18	56
Other	4	13

Relationship between mental disorder and homelessness

In order to find some clues on the relationship between the psychiatric disorder and the status of homelessness, we compared the age at the onset of the psychiatric disorder and the age at the first episode of homelessness (see Table 6). Most of the women reported to have been ill *before* they became homeless (38–89% depending on diagnosis). Several women, especially with affective disorders, experienced their first episode of homelessness around the same time as the onset of the mental disorder. Also substance abuse in most cases preceded the state of being homeless. In these cases a direct coincidence or even causal relationship between illness and homelessness can be suspected. Only very few women reported the first symptoms of a mental disorder after they had become homeless. The concept that psychiatric disorders are caused or elicited by homelessness cannot be strengthened by our data. In most cases a long history of mental illness precedes the homelessness.

Physical health

Almost all homeless women (97%) had at least one physical complaint; only 19% thought of their health as good. The most common complaints were respiratory problems (53%), skin diseases (44%), injuries and wounds (16%). Severe chronic diseases, such as AIDS (3%), epilepsy (6%) or tuberculosis (6%), were also reported. Considering their bad physical health only few women sought medical help regularly (16%). Self-treatment, even of severe ailments, was very common (treatment of broken limbs with self-made splints, self-amputation of frozen toes, etc). Some women reported to have given up taking prescribed medication (e.g. tuberculostatics) since medication was stolen from them regularly. General practitioners who dispense drug substitutes (tranquillizers,

Table 6 Coincidence of manifestation of psychiatric disorder and homelessness (n = 32)

Disorder	Sample (%)					
	Onset of disorder *before* first homelessness		Onset of disorder at *the same time* as first homelessness (± 1 year)		Onset of disorder *after* first homelessness	
	N	%	*N*	%	*N*	%
Anxiety disorders (n = 16)[a]	6	38	6	38	1	25
Affective disorders (n = 22)[b]	16	72	5	23	1	5
Schizophrenic disorders (n = 6)[c]	3	50	2	33	1	17
Substance-use disorders (n = 28)[d]	25	89	3	11	0	0

[a] Of the 19 women with anxiety disorders, 3 could not give their age at the onset of the disorder
[b] Of the 26 women with affective disorders, 3 could not give their age at the onset of the disorder, 1 woman could not give her age at the onset of homelessness
[c] Of the 11 women with schizophrenic disorders, 5 could not give their age either at the onset of the disorder or at the onset of homelessness
[d] Of the 29 women with substance-use disorders, 1 could not give her age at the onset of homelessness

codein, methadone) were frequented most often. The interviewed women complained about unfriendly treatment by medical personnel in many cases. Causes for the bad health condition of the homeless are the living conditions with lack of hygiene, bad nutrition, substance abuse, lack of sleep, exposure to cold and humidity, and certainly also the avoidance of medical help.

Experiences with violence, sexual harassment and delinquency

Since most of the interviewed women (72%) had experienced living in the streets at some point of their homelessness, they also had experienced crime and violence (see Table 7). Fifty-six percent had been robbed at least once in the past 12 months; 34% became victims of bodily injury; 34% victims of sexual harassment in the past year. Almost two thirds had been sexually abused at some point in their life; one third had been raped. Twenty-two percent reported to have been sexually abused in their childhood, the perpetrators being members of the family in all cases. Sixty-nine percent reported physical or sexual violence in their marriages or relationships prior to becoming homeless. Of the interviewed women, 19% reported to prostitute themselves for lodging and food. One fourth had been arrested in the past year, mostly for petty crimes such as theft of food. Sixteen percent had been in prison for capital crimes such as robbery or bodily injury. Two women had become homeless after their release from prison.

Social contacts and childhood experiences

According to a stereotype homeless individuals are generally looked upon as outcast and uprooted, unable to keep stable social contacts. However, 71% of the homeless women in our sample had contacts with their family, most of whom found the contacts positive and helpful. Almost all women stated that they had good friends; only 3 women lived totally isolated. Half of the women had a current partnership, mostly with a homeless man. Half of the women had children who stayed with relatives or in

Table 7 Stressful life events

Victim of crime in the past 12 months (multiple answers possible)	Homeless women (n = 32)	
	N	%
Bodily injury	11	34
Robbery	18	56
Theft	9	28
Sexual harrassment	11	34

Sexual abuse (lifetime)	Homeless women (n = 32)	
	N	%
No sexual abuse	11	34
Attempted rape	8	25
Rape with penetration	12	38
No information	1	3

Stressful events in childhood (multiple answers possible)	Homeless women (n = 32)	
	N	%
Loss of parent because of:		
Separation	4	13
Divorce	7	22
Death	11	34
Placement in:		
Nursing home	5	16
Adoptive family	1	3
Foster family	5	16
Alcohol abuse/dependece of parents:		
Mother	4	13
Father	10	31

nursing homes. The homeless women themselves originate from "broken homes": half of the women lost one or both parents (through death, divorce etc.) before the age of 18 years; one fourth experienced out-of-home placement; one third had an alcoholic father or mother; 22% had a tendency of mental illness in the family.

Discussion

It is certainly difficult to assess whether our sample of homeless women, although carefully drawn, is representative for the female homeless population in Germany in general. Particularly the small number of homeless women limits the generalizability of our findings. Only further studies with larger numbers of participants will show whether our estimates about the prevalence of mental disorders are correct. A study with a larger sample is presently being conducted within the Munich Public Health Research Division. However, the overall number of women living in the streets is – fortunately – still relatively small which restricts the possibilities of epidemiological research.

In order to reach an approximation to representativeness we developed a sampling plan that ensured that all respondents, both sheltered and unsheltered, had an equal probability of being selected. A standardized instrument of known reliability and validity, yielding estimates of disorders according to DSM-III criteria, was employed. The ECA study sample from New Haven was chosen because it provided a community comparison against which to evaluate findings. Limitations for comparing are different size of the two samples. However, at least both studies used DSM-III and the DIS. Even if both groups can be compared with limitations only, there is no doubt that the prevalence of psychiatric disorders is considerably higher in the homeless group. Our data show that both lifetime and current prevalence of psychiatric disorders were extremely high among homeless women. Prevalence estimates were most disproportionately high for major mental illnesses such as depression, schizophrenia and mania. It appears very likely that individuals with a mental illness have a heightened vulnerability to homelessness. The finding that 91% of the homeless women had a lifetime diagnosis of substance abuse seems to confirm a stereotype about the homeless. However, looking at the current status, 34% of the women did not have an alcohol or drug problem in the current situation of homelessness. Most startling in our findings is the high proportion of individuals (50%) characterized by severe and chronic mental illness (schizophrenia or recurrent major depression). This estimate is probably conservative since four homeless women with very disturbed behaviour, possibly caused by schizophrenia, could not be approached by the interviewers and were not included in the study. In addition, our interview data rely on the subject's report (and behavioural observations), which is vulnerable to denial and social desirability. On the other hand, the estimate might be inflated by the overjudgement of symptoms by the lay interviewers (final-semester medical students trained in using the DIS) and by the difficulty of assessing disorders in a situation in which environmental pressures and adaptive strategies produce behaviours that can be mistaken for mental illness (Koegel 1989, 1992). Somatic factors, such as malnutrition, lack of sleep and hypothermia, could possibly explain some of the observed symptoms (e.g. apathy or psychomotor agitation). From an "insider perspective" deviant behaviour could be a sign of adaptation to the living conditions, rather than a deficit: the several layers of clothes – often regarded as a sign of mental illness in homeless women – are a useful precaution against potential rapists. In the streets, individuals who seem severely mentally ill are not necessarily the most disabled (Cohen and Thompson 1992).

Our study about homeless women is generally comparable in method and diagnostic classification to those of Bassuk et al (1986), Breakey et al (1989), Marshall and Reed (1992), Smith et al. (1993), North and Smith (1993a, b) and Virgona (1993). Most studies on homeless women found lower prevalance rates of mental disorders than we did.

Bassuk et al. (1986) diagnosed DSM-III axis-1 disorders in 27% of their sample of 80 homeless women. Estimates for substance abuse were very low (only 9%). This might be explained, on the one hand, by the different composition of Bassuk's sample and ours: Bassuk had interviewed sheltered women with children, not single homeless women who live in the streets like the majority of our sample. Even in our small sample the sheltered women tended to be less severly ill than the unsheltered. On the other hand, there might be a difference in attributing certain symptoms to a specific psychiatric disorder: Bassuk's semistructured clinical interview also screened for personality disorders (DSM-III axis 2), present in 70% of the women. Our study did not include the personality disorders (except for antisocial personality disorder). Bassuk might have attributed the observed psychopathology to personality disorders, rather than to major mental illnesses.

Breakey and coworkers (1989) sampled 79 sheltered and unsheltered homeless women in Baltimore. They found higher prevalence rates: 80% of the women had at least one DSM-III axis-1 diagnosis, severe mental disorders were found in 48.7%. The estimate of 17.1% schizophrenia is lower than our estimate of 34%. Our findings about anxiety disorders (59%) are also higher than those of Breakey et al (43.9%). Substance abuse was less frequent in Baltimore (38.2%). Also in keeping with our findings the authors observed a higher morbidity among the homeless women in comparison to homeless men.

Smith et al. (1993) and North and Smith (1993a, b) interviewed 300 predominantly young adults, single and black women, mostly with children, who lived in shelters. They found that the majority did not show signs of a major mental illness. Substance abuse was observed in one third of the women; one third met lifetime criteria for posttraumatic stress disorder. Schizophrenia and bipolar affective disorder account only for a small portion of the mental illness in these women. The authors underline their re-

silience despite the severity of the stressors these women face and assume that important factors other than mental illness contributed to their homelessness.

Marshall and Reed (1992) from the U.K. found a very large number of schizophrenics among their sample of homeless women (64%). Their sample was drawn from two shelters for elderly long-term homeless. One of the shelters was situated next to a psychiatric hospital that might have referred patients to the shelter. This fact could account for the high estimate of schizophrenics.

Virgona and coworkers (1993) from Sydney, Australia, found a high rate of schizophrenia (30%) among the women residents in shelters for the homeless. "Dual diagnosis" (concurrent substance abuse and psychosis) was rare. The authors postulate that subjects with substance abuse might have drifted to city centres and sought refuge accommodation rather than a shelter bed.

Comparing the three studies from the U.S. with our German study, and Marshall and Reed's study from the U.K. it can be assumed that the threshold for becoming homeless might be lower in the U.S. The social welfare system in most European countries, e.g. in Germany, is more elaborate, the overall number of persons living under the poverty level is smaller and there are no marginalized ethnic groups such as African-Americans or Latin Americans who make up the majority of America's homeless. Especially in the past years of economical recession in the U.S. the homeless comprised more and more indigent individuals and families who had been members of the lower middle class until a few years ago (Bassuk 1993). In Germany the majority of the homeless still seem to be persons who are not only impoverished, but also mentally ill. One reason for the high prevalence of alcohol abuse/dependence in our sample might be the fact that Germans are worldwide among the highest per capita alcohol consumers per year. Alcohol is more easily accessible and cheaper than in most other European countries.

The study on mental illness in a representative sample of homeless men in Munich (by Fichter et al. 1996) shows considerable differences in homeless men and women. Homeless men were older than homeless women (mean 43.0 years, range 19–68 years) and had been homeless longer (average duration 9.0 years). Based on interviews with 146 homeless males (using the DIS) the following lifetime prevalence rates were obtained: 91.8% for substance-use disorder (82.9% alcohol dependence), 41.8% for affective disorders, 22.6% for anxiety disorders and 12.4% for schizophrenia. Of the homeless males in Munich, 94.5% had at least one DIS/DSM-III axis-1 diagnosis (Fichter et al. 1996). Mental illness was more frequent in homeless men than in community samples (Germany and U.S.), but less frequent than in our sample of homeless women in Munich.

According to many studies homeless women are more often affected by mental illness than men (Breakey et al. 1989). There could be several explanations for the higher prevalence rates among women: women generally tend to be more open about psychological problems in interviews than men, which might cause higher prevalence rates in female samples (Lempert 1986). Most of the homeless women we interviewed had already gone through a social decline along the "home-to-homelessness continuum" (Watson 1986). When loosing their home most of them at first were "hidden homeless" staying with various friends and relations. It could be assumed that women only go to shelters or sleep in the streets when they have arrived at a very low level of functioning possibly caused by mental illness. The threshold for men to sleep in a shelter or in the streets might be lower also because homelessness is more consistent with the male role concept than with the female. Certain specific problems faced by women might also contribute to the higher prevalence rates: in our sample of homeless women sexual abuse in childhood and/or adult life had taken place in 66%, almost as often as in samples of female psychiatric inpatients (70%; Mullen et al. 1988). Other authors report an equally high prevalence of violence against homeless women (e.g. rape in 58% of 141 women in a Manhattan shelter; D'Ercole and Struening 1990). More than two thirds of the women in our sample had become homeless when they separated from their partners. Since they were economically dependent, separation meant loss of their home and source of income. The limited options for women on the job market might fasten the process of impoverishment, too. Women with children in 80% did not receive financial support from the father, which led to separation from the children due to lack of resources, another psychologically distressing factor.

There is controversy about whether homelessness is caused by mental illness or whether homelessness might cause mental illness. Our data about the homeless women suggest that the majority of women were suffering from a psychiatric disorder before they became homeless for the first time. The association of poverty and mental illness is an often described phenomenon (Cohen 1993). Our data are just another documentation of the devastating effect a mental disorder can have on an individual's life: loss of housing, financial resources and disruption of social ties, e.g. in a manic episode. It would be a mistake, however, to individualize the problem of homelessness and to assume that all homeless individuals are disabled. It would be another mistake to hope that the problems of homeless individuals with mental illness can be solved by the mental health system alone. It cannot be denied however that there are faults in psychiatric after-care and relapse prevention: almost two thirds of our homeless sample had already been in psychiatric hospitals. Most of them were not discharged into a stable setting but onto the streets.

Cohen and Thompson (1992) point out that mentally ill homeless share much in common with the non-mentally ill homeless, especially their difficulty in securing and maintaining affordable housing in the face of extreme poverty and a dwindling low-income housing supply. The high rates of homeless persons with psychiatric disorders indicate that the most vulnerable suffer most when times are hard (Breakey et al. 1989). A useful analogy is the game of musical chairs in which the number of individuals left standing when the music stops is predetermined by the imbalance of supply and demand. The weakest and the

slowest (in this context the mentally ill) will be left standing. But even if they became more competent, i.e. less individually disturbed, there still would only be a limited number of chairs (housing). The same number of people will be left standing. This illustrates that homelessness and mental illness is complex and that only a reduction of supply – demand imbalance (i.e. more housing) can guarantee a solution (Buckner et al. 1993). Improving the mental health status alone will not have a significant impact on the prevalence of homelessness.

The priority of basic needs (Linn and Gelberg 1989) has to be considered when designing programs for the mentally ill homeless. A multilevel concept is needed: an immediate-aid program should comprise adequate shelters which are also available for mentally ill individuals. Medical and psychiatric outreach programs, where doctors do streetwork, might correspond better to the needs of the homeless than the current mental health system which poses a high threshold to this population. Improvement of community mental health services may also prevent some individuals from becoming homeless. The long-term perspective has to attend to the pressing social welfare and housing issues that affect all homeless people regardless of mental illness. As long as we have not yet solved these shortcomings in our social system we have to attend to the individual suffering of the homeless.

Acknowledgements This study was supported by a grant from the Münchner Medizinische Wochenschrift (MMW). We thank the homeless women and men in Munich who took part in our interviews, the social workers and other persons engaged in improving the living conditions of the homeless for their support. Without their help this study woud not have been posssible.

References

American Psychiatric Association (1980) Diagnostic and statistical manual of mental disorders (DSM-III), 3rd edn. American Psychiatric Press, Washington DC

Ayass W (1984) Die Verfolgung der Nichtseßhaften im Dritten Reich. In: Zentralverband Deutscher Arbeiterkolonien (ed) Ein Jahrhundert Arbeiterkolonien. Verlag Soziale Hilfe, Bielefeld

Bachrach LL (1992) What we know about homelessness among mentally ill persons: an analytical review and commentary. Hosp Community Psychiatry 43(5):453–464

Bassuk EL (1986) Homeless families: single mothers and their children in Boston shelters. New Dir Ment Health Serv 30:55–61

Bassuk EL (1993) Social and economic hardships of homeless and other poor women. Source 63(3):340–347

Behr D von, Kolle K (1932) Staat und Bettler. Monatsschrift Kriminalpsychologie 23:99–103

Bender U (1988) Das Neunzehnte Jahrhundert und die Jahrhundertwende: Die Prostituierten. In: Frauenkommunikation-e.V. (ed) Zierlich und zerbrechlich. Zur Geschichte der Frauenarbeit am Beispiel Düsseldorf. Volksblatt, Köln

Bonhoeffer K (1901) Ein Beitrag zur Erkenntnis des großstädtischen Bettel- und Vagabundentums. Z Ges Strafrechtswissenschaft 21:1–65

Breakey WR, Fischer PJ, Kramer M et al(1989) Health and mental health problems of homeless men and women in Baltimore (see comments). J Am Med Assoc 262(10):1352–1357

Buckner JC, Bassuk EL, Zima BT (1993) Mental health issues affecting homeless women: implications for intervention. Am J Orthopsychiatry 63(3):385–398

Bundesarbeitsgemeinschaft für Wohnungslosenhilfe (1994) Modellschätzung und Projektion der Zahl der Wohnungslosen in der Bundesrepublik Deutschland 1992–1994. Eigenverlag, Bielefeld

Cohen CI (1993) Poverty and the course of schizophrenia: implications for research and policy. Hosp Community Psychiatry 44(10):951–958

Cohen CI, Thompson KS (1992) Homeless mentally ill or mentally ill homeless? Am J Psychiatry 149(6):816–823

Dennis DL, Buckner JC, Lipton FR, Levine IS (1991) A decade of research and services for homeless mentally ill persons. Where do we stand? Am Psychol 46(11):1129–1138

D'Ercole A, Struening E (1990) Victimization among homeless women: implications for service delivery. J Community Psychol 18:141–152

Farr RK, Koegel P, Burnam A (1986) A study of homelessness and mental illness in the skid row area of Los Angeles. Los Angeles County Department of Mental Health, Los Angeles

Fichter M, Koniarczyk M, Greifenhagen A, Wittchen HU, Koegel P, Wolz J (1996) Mental illness in a representative sample of homeless men in Munich, Germany. Eur Arch Psychiatry Clin Neurosci 246:185–196

Folstein MF, Folstein SE, McHugh PR (1975) Mini-Mental State: a practical method for grading the cognitive state of patients for the clinician. J Psychiat Res 12:189–198

Helzer JE, Robins LN, Croughan JL, Welner A (1981) Renard Diagnostic Interview: its reliability and procedural validity with physicians and lay interviewers. Arch Gen Psychiatry 38:393–398

Hoffmann H (1927) Hilfe für unsere stellen- und obdachlosen Frauen. Caritas 32:377–386

Koegel P (ed) (1986) Ethnographic perspectives on homeless and mentally ill women. Proceedings of a Workshop of the National Institutes of Mental Health. National Institute of Mental Health, Bethesda

Koegel P (1989) Understanding homelessness: an ethnographic approach. In: Jahiel R (ed) Homelessness: a prevention-oriented approach. John Hopkins, Baltimore

Koegel P (1992) Through a different lens: an anthropological perspective on the homeless mentally ill. Cult Med Psychiatry 16(1):1–22

Lempert LB (1986) Women's health from a woman's point of view: a review of the literature. Health Care Women Int 7(3): 255–275

Linn LS, Gelberg L (1989) Priority of basic needs among homeless adults. Soc Psychiatry Psychiatr Epidemiol 24(1):23–29

Marshall EJ, Reed JL (1992) Psychiatric morbidity in homeless women. Br J Psychiatry 160(761):761–768

Mullen PE, Romans-Clarkson SE, Walton V, Herbison GP (1988) Impact of sexual and physical abuse on women's mental health. Lancet 1(8590):841–845

Myers JK, Weissman MM, Tischler GL, Holzer CE, Leaf PJ, Orvaschel H, Anthony JC, Boyd JH, Burke JD, Kramer M, Stoltzman R (1984) Six-month prevalence of psychiatric disorders in three communities. Arch Gen Psychiatry 41:959–967

North CS, Smith EM (1993a) A comparison of homeless women and men: different populations, different needs. Community Ment Health J 29(5): 423–431

North CS, Smith EM (1993b) A systematic study of mental health services utilization by homeless men and women. Soc Psychiatry Psychiatr Epidemiol 28(2):77–83

Robins LN, Helzer JE, Cronghan J, Ratcliffe KS (1981) National Institutes of Mental Health Diagnostic Interview Schedule. Arch Gen Psychiatry 38:381–389

Robins NR, Helzer JE, Weissman MM, Orvaschel H, Gruenberg E, Burke JD, Regier DA (1984) Lifetime prevalence of specific disorders in three sites. Arch Gen Psychiatry 41:949–958

Romaus R (1990) Alleinstehende wohnungslose Frauen in München. Eine empirische Untersuchung der sog. weiblichen Nichtseßhaften. Sozialreferat der Landeshauptstadt München, München

SAS Institute Inc. (1989) SAS/STAT Users' Guide Version 6, 4th edn, vol 1 + 2. Cary, N.C.

Scheffler J ed (1987) Bürger und Bettler. Materialien und Dokumente zur Geschichte der Nichtseßhaftenhilfe. Verlag Soziale Hilfe, Bielefeld

Schneider K (1923) Die Psychopathischen Persönlichkeiten. In: Aschaffenburg G (ed) Handbuch der Psychiatrie, 7. Abteilung, 1. Teil. Deuticke, Leipzig

Scott J (1993) Homelessness and mental illness. Br J Psychiatry 162:314–324

Smith EM, North CS, Spitznagel EL (1993) Alcohol, drugs, and psychiatric comorbidity among homeless women: an epidemiologic study. J Clin Psychiatry 54(3):82–87

Snow DA, Baker SG, Anderson L, Martin M (1986) The myth of pervasive mental illness among the homeless. Soc Problems 33(5):408–423

Statistisches Bundesamt (1989) Statistisches Jahrbuch für die Bundesrepublik Deutschland, 1989. Metzler Poeschel, Stuttgart

Steinert E (1990) Weibliches Unbehaustsein: Wohnungslose Frauen im Spiegel des Selbst und der Helfenden. In: Bundesarbeitsgemeinschaft-für-Nichtseßhaftenhilfe (ed) Materialien zur Wohnungslosenhilfe Heft 11. VSH-Verlag, Bielefeld

Virgona A, Buhrich N, Teesson M (1993) Prevalence of schizophrenia among women in refuges for the homeless. Aust NZ J Psychiatry 27(3):405–410

Watson S (1986) Housing and homelessness. A feminist perspective. Routledge and Kegan Paul, Boston

Wilmanns K (1906) Zur Psychopathologie des Landstreichers. Eine klinische Studie. Barth, Leipzig

Zürn G (1986) "A. ist Prostituiertentyp". Zur Ausgrenzung und Vernichtung von Prostituierten und moralisch nichtangepaßten Frauen im nationalsozialistischen Hamburg. In: Projektgruppe-für-die-vergessenen-Opfer-des-NS-Regimes (ed) Verachtet – verfolgt – vernichtet. VSA-Verlag, Hamburg