Original Article

Prevalence of Psychiatric Disorders in Homeless Population in Bangkok, Thailand

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Objective: To find the prevalence of psychiatric disorders in the homeless population in Bangkok, Thailand

Materials and Methods: In an epidemiological survey of the prevalence of psychiatric disorders in homeless individuals at Lan Khon Meaung, Sao Chingcha in Bangkok, Thailand, a probability sample of 113 homeless people were interviewed using a Mini-International Neuropsychiatric Interview [MINI].

Results: There was a high prevalence rates of psychiatric disorders among homeless people (76%). The most frequent psychiatric disorders were major depressive episode (current two weeks prevalence rate 35.7%) psychotic disorders (lifetime prevalence rate 31.0%), psychotic disorders (current two weeks prevalence rate 23%), alcohol dependence (past 12 months prevalence rate 22.1%), and major depressive episode melancholic features (current two weeks prevalence rate 19.5%). The prevalence of suicidal risk and two or more psychiatric comorbidities factors in severe psychiatric disorders group were higher than the others, with a statistical significance (*p*-value 0.003 and 0.001, respectively).

Conclusion: Prevalence of psychiatric disorders in homeless population in Bangkok is higher among the homeless than in the general population, especially severe psychiatric disorders. An urgent need for adequate medical and psychiatric care and the development of concepts for rehabilitation should be established.

Keywords: Homeless, Prevalence, Psychiatric disorders, Mental illness, Mental health care system, Rehabilitation

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Homeless people are often found in large cities in many countries around the world. The causes of homelessness are derived from social, and personal factors. Social factors include social exclusion, unfairness, and economic policy, or lack of adequate social welfare. Personal factors include physical and mental illness, and family conflicts. In particular, mental illness is one of the most important factors contributing to homeless population[1].

Many previous studies have revealed high rates of mental illness among homeless people. A systematic review of serious mental disorders in homeless persons in Western Europe and North America identified 29 surveys including 5,684 individuals from seven countries. The most common mental disorders were alcohol dependence, which ranged from 8.1% to 58.5%, and drug dependence, which ranged from 4.5% to 54.2%. For psychotic illness, the prevalence ranged from 2.8% to 42.3%, with similar findings for major depression[2]. A study was conducted in 2009 in the Greater Paris area to estimate the prevalence of psychiatric disorders in homeless people. The proportion of homeless people with at least one severe psychiatric disorder was 31.5%. These disorders consisted of psychotic disorders (13.2%, mostly schizophrenia at 8.4%), anxiety disorders (12.3%, including post-traumatic syndromes at 4.2%), and severe mood disorders (6.7%, including depression at 4.5%). Non-severe mood disorders (mainly mild to moderate depressions) were found in 15.8% of people. Addictions, in more than a quarter of the population, presented a regular consummation of psychoactive

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substances (28.6%). Alcohol dependence was found at 21.0% and a daily or almost daily consumption of marijuana was found at 16.1%[3].

An epidemiological survey of the prevalence of mental illness in homeless individuals in Munich, Germany found 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%). All disorders tended to be more frequent in homeless women as compared with the household sample[4].

There was a survey conducted to comprehensively assess the prevalence of mental illness among homeless individuals living in Nagoya, Japan. The prevalence of mental illness among the homeless in Nagoya, Japan was 42.1%, schizophrenia was 4.4%, mood disorder was 17.5%, anxiety disorders was 2.6%, substance-related disorder was 14.0%, and personality disorder was 3.5%. This report shows that the prevalence of mental illness among homeless individuals is much higher than in the general Japanese population[5]. A study in Hong Kong used standardized diagnostic instruments to investigate the prevalence of mental illness among homeless individuals. The study found a high prevalence of mental illness among the homeless population[6].

From these finding, high rates of psychiatric disorders among our sample of homeless population indicate a high severity of mental problems, which needs to be considered in both assessment and treatment.

This study was aimed to assess lifetime and current prevalence rates of psychiatric disorders and concurrent mental and substance use disorders in a sample of homeless people in Bangkok, Thailand. This study was conducted to understand the mental health issues of this population and to inform mental healthcare organizations about the development of psychiatric treatment strategies.

Materials and Methods

Study design

This was a cross-sectional prevalence study. Subjects were recruited through an advertisement of Thai Health Promotion Foundation (Just Society network and International Health Policy Program Foundation) and non-governmental organization [NGO]. A 'homeless person' was defined as a person who had slept in a public place, street, shelter, abandoned building, or places not intended to be dwellings. Potential subjects were drawn from those who came to receive food at the place provided[1,6,7].

Targeted subjects were invited for an interview by psychiatric nurses, psychologists, and social workers who had been trained by a psychiatrist from the Department of Psychiatry, Faculty of Medicine, Ramathibodi Hospital, Mahidol University. All of the interviews were conducted in person and written informed consent was obtained for participation in the study, even if the interview was not complete. Interviewers provided dinner to the subject without any obligation. Thai ethnicity-speaking homeless individuals, as defined above, were identified as potential subjects. Individuals with reduced communication ability were excluded from the study.

Duration for the interview session was 30 minutes. If a subject refused or did not turn up for the interview, it was counted as "lost contact", as shown in Figure 1. The ethical approval for the study was obtained from the Ethic Committee, Faculty of Medicine, Ramathibodi Hospital, Mahidol University (IRB ID 09-58-60).

Outcome and assessments

Psychiatric disorders were investigated through the Mini-International Neuropsychiatric Interview [MINI][8]. The MINI is a short structured diagnostic interview for Diagnostic and Statistical Manual, Fourth Edition [DSM-IV] and International Classification of Disease, Tenth Edition [ICD10] for psychiatric disorders. It covers 17 Axis 1 categories in a shortened format and is designed to meet the need for a short but accurate structured interview. It was developed to address the shortcomings of Structured Clinical Interview for DSM-IV [SCID-1] and Composite International Diagnostic Interview [CIDI], with which

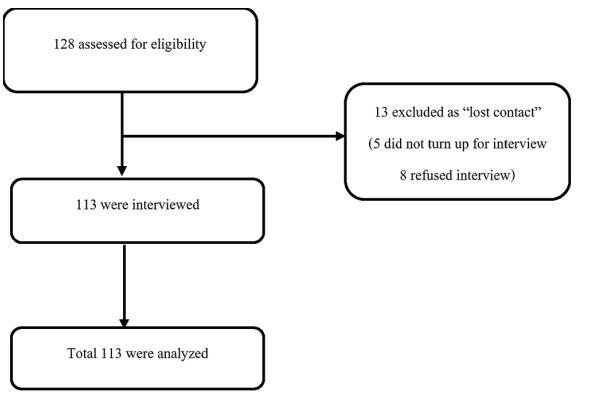

Figure 1. Flow of study.

it shows good correlations, and has higher reliability and validity scores than either of them. With an administration time of approximately 15 minutes, it was designed to meet the need for a short but accurate structured psychiatric interview for multicenter clinical trials and epidemiology studies[9].

Demographic questionnaires were administered before diagnostic interview of participants. It consisted of age, sex, marital status, and total duration of homelessness.

Finally, all the questionnaires and clinical reports had been systematically reviewed by a psychiatrist, out of the subject's presence, to get a final "diagnosis" based on the DSM-IV.

Statistical analysis

Completed forms were checked for completeness, consistency, and accuracy, daily, and before data entry into a computer. The authors used Microsoft Excel for data entry and the descriptive data analysis and calculation of frequencies and percentages. To compare the prevalence of homeless people in many factors such as sex, marital status, total duration of homelessness, suicidal risk, substance use, and psychiatric comorbidities between severe psychiatric disorders (psychotic and related disorders), and non-severe psychiatric disorders groups (non-psychotic disorders), the authors used Pearson's Chi-square tests and odds ratios (95% confidence interval). Differences were considered significant at *p*-value of less than 0.05. All statistical analysis was performed by Stata Data Analysis and Statistical Software version 15 (College Station, TX: StataCorp LP).

Results

The number of subjects coming from an advertisement via the Thai Health Promotion Foundation, or via the Just Society network and International Health Policy Program Foundation and NGO was 128 subjects. Among the 128 invited individuals, eight refused to participate in the study and another seven agreed initially but did not turn up for the interview. Therefore, the number of interviewed subjects was 113 subjects, a response rate of 88.3%.

The demographic data is shown in Table 1 and includes sex, age and mean age, marital status, total duration of homelessness, and numbers of psychiatric comorbidities. The authors found that the populations in this group were mainly male (82.3%) and single (65.5%), and the mean age ± SD was 48.6±11.6 years old.

Table 1. Demographic characteristics of homeless subjects in Bangkok

Demographic characteristics	Total sample (n = 113) n (%)
Male	93 (82.3)
Age (years), mean ± SD	48.6±11.6
<40	26 (23.0)
40 to 60	55 (48.7)
>60	32 (28.3)
Single	74 (65.5)
Total duration of homelessness	
<1 year	39 (34.5)
1 to 5 years	37 (32.7)
>5 years	37 (32.7)
Numbers of psychiatric comorbidities	
0	44 (38.9)
1	23 (20.4)
≥2	46 (40.7)

Table 2. Prevalence of psychiatric disorders in homeless population in Bangkok, Thailand

Psychiatric disorders	Total sample (n = 113) n (%)
Any psychiatric disorders	86 (76.1)
Depressive disorders	
Major depressive episode (current, 2 weeks)	40 (35.7)
Major depressive episode with melancholic features (current, 2 weeks)	22 (19.5)
Major depressive episode (recurrent)	16 (14.2)
Dysthymia (current, past 2 years)	3 (2.7)
Suicidality (current, past month)	33 (29.2)
Low risk	25 (22.1)
Medium risk	4 (3.5)
High risk	4 (3.5)
Bipolar disorders	
Manic episode (current)	3 (2.7)
Manic episode (past)	8 (7.1)
Hypomanic episode (current)	4 (3.5)
Hypomanic episode (past)	9 (8.0)
Anxiety disorders	
Panic disorder (current, past month and life time)	6 (5.3)
Agoraphobia (current)	11 (9.7)
Social phobia (social anxiety disorder) (current, past month)	10 (8.8)
Obsessive-compulsive disorder (current, past month)	7 (6.2)
Post-traumatic stress disorder (current, past month)	6 (5.3)
Generalized anxiety disorder (current, past 6 months)	4 (3.5)
Substance-related disorders	
Alcohol dependence (past 12 months)	25 (22.1)
Alcohol abuse (past 12 months)	7 (6.2)
Substance dependence (non-alcohol) (past 12 months)	6 (5.3)
Substance abuse (non-alcohol) (past 12 months)	3 (2.7)
Psychotic and related disorders	
Psychotic disorders (lifetime)	35 (31.0)
Psychotic disorders (current)	26 (23.0)
Mood disorder with psychotic features (lifetime)	15 (13.3)
Mood disorder with psychotic features (current)	12 (10.6)
Eating disorder	
Anorexia nervosa (current, past 3 months)	0 (0.0)
Bulimia nervosa (current, past 3 months)	2 (1.8)
Personality disorders	
Antisocial personality disorder (lifetime)	2 (1.8)

Prevalence rates of psychiatric disorders in homeless population in Bangkok, Thailand are shown in Table 2. The prevalence rate of psychiatric disorders among homeless people was high (76.1%). The highest prevalence rates of psychiatric disorders were found in three groups, which were depressive disorder, psychotic and related disorders, and substance-related disorders. The top five most found psychiatric disorders were major depressive episode (current two weeks, 35.7%), psychotic disorders (lifetime, 31.0%), psychotic disorders (current two weeks, 23%), alcohol dependence (past 12 months, 22.1%), and major depressive episode melancholic features (current two weeks, 19.5%).

In addition, the 1-month prevalence of suicidal risk, which is a serious psychiatric problem, was found at 29.2%. Among this groups, the present study showed 3.5% was found in the category of highest risk of suicide.

Table 3 results showed the comparisons between severe and non-severe psychiatric disorders groups. The severe psychiatric disorders were psychotic and related disorders such as schizophrenia and schizoaffective disorder. Severe form of other disorders was mood disorder with psychotic features. Other group was non-severe psychiatric disorders (psychiatric disorders with non-psychotic symptoms).

The prevalence of suicidal risk and two or more psychiatric comorbidities factors in severe psychiatric disorders group were higher than the others, with a statistical significance (*p*-value 0.003 and 0.001, respectively). On the other hand, the prevalence of duration of homelessness of longer than five years and substance use factors in severe group were higher than the others but the differences were not statistically significant. Other factors such as sex and marital status gave similar prevalence.

Discussion

The present study shows that the prevalence rate of psychiatric disorders in homeless subjects was 79.1%, three times higher than the general Bangkok population (prevalence rate of 25.3%)[10]. The result is similar to the previous studies conducted in USA, England, Germany, France, Scotland, Australia, Canada, Japan, and Hong Kong in the way that the prevalence of psychiatric disorders in homeless group is 1 to 40 times higher than the general population[2-6,11-17].

The reports of top-three prevalence of psychiatric disorders were psychotic and related disorders, depressive disorder, and substance-related disorders. Furthermore, all their prevalence also had higher prevalence than general population. The psychotic and related disorders such as psychotic disorders had lifetime prevalence of 31.0%, and psychotic disorders had 2-week prevalence of 23%, while

Table 3. Comparison between non-severe psychiatric disorders and severe psychiatric disorders groups

	Non-severe psychiatric disorders (n = 45), n (%)	Severe psychiatric disorders (n = 68), n (%)	OR	95% CI	*p*-value
Sex					
Male	38 (40.9)	55 (59.1)	1	-	0.802
Female	7 (35.0)	13 (65.0)	1.28	0.46 to 3.53	
Status					
Single	30 (40.5)	44 (59.5)	1	-	0.443
Couples	15 (44.1)	19 (55.9)	0.86	0.38 to 1.97	
Total duration of homelessness					
<1 year	19 (48.7)	20 (51.3)	1	-	0.24
1 to 5 years	15 (40.5)	22 (59.5)	1.39	0.56 to 3.49	
>5 years	11 (29.7)	26 (70.3)	2.24	0.85 to 5.92	
Suicidal risk					
No	39 (48.7)	41 (51.3)	-	-	0.003*
Yes	6 (18.2)	27 (81.8)	4.28	1.52 to 12.04	
Substance use					
No	36 (43.9)	46 (56.1)	-	-	0.20
Yes	9 (29.0)	22 (71.0)	1.91	0.78 to 4.71	
Numbers of comorbid psychiatric disorders					
No	35 (79.5)	9 (20.5)	1	-	0.001*
Yes	10 (14.5)	59 (85.5)	22.94	6.20-84.98	

* *p*-value <0.05 was statistically significant

general population had lifetime prevalence of 4.4% and 1-year prevalence of 1.7%. Depressive disorder such as major depressive episode had 2-week prevalence of 35.7%, and major depressive episode melancholic features had 2-week prevalence of 19.5%, while general population had lifetime prevalence of 1.2% and 1-month prevalence of 0.1%.

Substance-related disorders such as alcohol dependence had 1-year prevalence of 22.1%, while general population had lifetime prevalence of 4.4% and 1-year prevalence of 2.9%. And substance dependence (non-alcohol) had 1-year prevalence of 5.3%, while general population had lifetime prevalence of 2.1% and 1-year prevalence of 0.1%[10].

These psychiatric disorders were the main causes that force the patients to become homeless more than any other psychiatric disorders because disorders that affect psychopathology. Brain pathology reduce the patients' ability to take care of themselves. Another important psychiatric problem was suicidality, which was high in the homeless (29.2%) while it was only 1.0% in the general population[10]. Other psychiatric disorders such as mania and anxiety disorders were 24 and 4 times higher than the general population, respectively. Antisocial personality disorders were relatively equal to the general population, while eating disorders were found less in the homeless group[10].

All of the findings in the present study were corresponding to researches conducted in USA, England, Germany, France, Scotland, Australia, Canada, Japan, and Hong Kong as mentioned above[2-6,11-17].

When analyzing some factors to find correlation with the prevalence in severe psychiatric disorder (psychotic related disorders) that affect normal life functions, this study found that suicidal risk and two or more psychiatric comorbidities factors had strong correlation with severe psychiatric disorders with statistical significance. Total duration of homelessness and substance use tended to have high prevalence in severe psychiatric disorders but with no statistical significance. Other factors such as sex and marital status had no correlation with severe psychiatric disorders.

In addition, this study showed a great amount of the homeless in Bangkok were affected by psychiatric illnesses, especially severe psychiatric disorders. Severe psychiatric disorders such as psychotic related disorders, depressive disorder, substance, and alcohol-related disorder were found more than 60.2% of the total subjects. In addition, suicidal tendency was higher than one forth (29.2%). Homeless participants with one or more psychiatric comorbidities were found at 61.1%. Suicidal risk and two or more psychiatric comorbidities factors had correlation with severe psychiatric disorders mentioned above and this could reflect the severity of psychopathology.

Effective psychiatric treatment and follow-up care play a significant factor that leads this group back to their society as it should have been. From literature review, the authors found evidence for the effectiveness of standard case management. Standard case management improved housing stability, reduced mental illness and substance use, and removed employment barriers. Standard case management leads to substantial and rapid improvement in housing stability in homeless adults with mental illness. The intervention also leads to significant reductions in probability of hospitalization, psychiatric problems, and improving of community functioning[18-21].

This study indicated the prevalence rate of mental illness requiring treatment was higher among the homeless than in the general population. The homeless population needed to be assessed medically and have proper treatment. The development and implementation of suitable care models for this marginalized and vulnerable group are essential if their elevated morbidity and mortality are to be reduced.

The strength of this study is that it is the first systematic face-to-face field survey of psychiatric disorders in Thai homeless people by psychiatric nurses, psychologists, and social workers who had been trained by a psychiatrist. The assessments were made with standard diagnostic tools through live interviews that were conducted on the street sites. In addition, the quality of the diagnosis was held up to the highest standard possible. Because this research was the first study of mental illness of the homeless people in Thailand, it could inspire the health researchers and social workers to study further about psychiatric or mental problems of this group in the future.

A limitation to this study was that potential subjects were drawn from those who came to receive food at the place provided. There could be a substantial loss of subjects representing the severe mental disability. Therefore, the results might only reflect the condition of subjects with better functioning. The prevalence of intellectual disability was likely to be grossly underestimated. Furthermore, only Thai homeless individuals with good enough communication ability were recruited to the study. The mental health characteristics of homeless ethnic minority and refugee

population remained unknown.

Conclusion

Prevalence of psychiatric disorders in homeless population in Bangkok was higher among the homeless than in the general population, especially severe psychiatric disorders.

This result reflected that the mental health care system was failing to provide proper care for the most seriously ill people on the street.

An urgent need for adequate medical and psychiatric care, both assessment and treatment, and the development of concepts for standard case management and rehabilitation is required.

What is already known on this topic?

Previous studies, conducted outside Thailand, shows high prevalence of psychiatric disorders or mental illness in homeless population. Physical and mental assessment and treatment including providing proper housing are necessary to look after this group and bring them back to their society. Therefore, a study of prevalence of psychiatric disorders could be viewed as the first step.

What this study adds?

Target subjects in this study were drawn from those who came to receive food at the place provided. In the future, the authors plan to recruit and assess a large sample of homeless people from a broad geographic area, including both street and shelter-based individuals. The author will use comprehensive and standardized measures to assess psychiatric disorders, mental problems, and service utilization. It would be helpful for researchers in this area to consider modifying the techniques used to assess psychiatric disorders in future studies.

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Potential conflicts of interest

The authors declare no conflict of interest.

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