**Supplementary file 1: Detailed search strategy\***

**Key concepts:** Homelessness; severe mental disorders; low- and middle-income countries

The key concepts will be combined as follows:

(“Homelessness” AND

“Low- and middle-income countries”)

AND (“Severe mental disorders”

AND “Low- and middle-income countries”)

(1 AND 2 AND 3)

**1. Homelessness**

(exp Homelessness)

OR

(Homeless person/ OR Homeless persons/ OR Homeless man/ OR Homeless woman/ OR Vagabond/ OR Destitution/ OR Person, homeless.mp/ OR Persons, homeless.mp/ OR Street people.mp/ OR people, street.mp)

**2. Severe mental disorders**

(exp Mental disease/ OR exp Schizophrenia/ OR exp Psychosis/ OR exp Bipolar disorder/ OR Affective disorders, psychotic/ OR exp Major depression/

OR

(Mental disorder OR Mental disorders OR Mental illness OR Mental illnesses OR Severe mental disorder OR Severe mental disorders OR Severe mental illness OR Severe mental illnesses).mp

**3. Low- and Middle-income countries**

(exp Developing countries)

OR

(Developing OR Less developed OR Under developed OR Underdeveloped OR Middle income OR Low income OR Lower income).mp AND (Countr\* OR Nation\* OR World).mp

OR

(Transitional OR developing OR less developed OR lesser developed OR under developed OR underdeveloped OR middle income OR low income OR lower income).mp. AND (economy OR economies).mp.

OR

((Low\*).mp. AND (gdp OR gnp OR gross domestic OR gross national).mp.) OR (lmic OR lmics OR lamics OR lamic OR third world OR lami countries OR lami country).mp. OR (transitional country OR transitional countries).mp.

OR

(Afghanistan or Albania or Algeria or Angola or Antigua or Barbuda or Argentina or Armenia or Armenian or Aruba or Azerbaijan or Bangladesh or Benin or Byelarus or Byelorussian or Belarus or Belorussian or Belorussia or Belize or Bhutan or Bolivia or Bosnia or Herzegovina or Hercegovina or Botswana or Brazil or Bulgaria or Burkina Faso or Burkina Fasso or Upper Volta or Burundi or Urundi or Cambodia or Khmer Republic or Kampuchea or Cameroon or Cameroons or Cameron or Camerons or Cape Verde or Central African Republic or Chad or Chile or China or Colombia or Comoros or Comoro Islands or Comores or Mayotte or Congo or Zaire or Costa Rica or Cote d Ivoire or Ivory Coast or Croatia or Cuba or Cyprus or Czechoslovakia or Czech Republic or Slovakia or Slovak Republic or Djibouti or French Somaliland or Dominica or Dominican Republic or East Timor or East Timur or Timor Leste or Ecuador or Egypt or El Salvador or Eritrea or Estonia or Ethiopia or Fiji or Gabon or Gabonese Republic or Gambia or Gaza or Georgia Republic or Georgian Republic or Ghana or Gold Coast or Grenada or Guatemala or Guinea or Guam or Guiana or Guyana or Haiti or Honduras or India or Maldives or Indonesia or Iran or Iraq or Jamaica or Jordan or Kazakhstan or Kazakh or Kenya or Kiribati or Korea or Kosovo or Kyrgyzstan or Kirghizia or Kyrgyz or Kirghiz or Kirgizstan or Lao PDR or Laos or Latvia or Lebanon or Lesotho or Basutoland or Liberia or Libya or Lithuania or Macedonia or Madagasca or Malagasy or Malaysia or Malaya or Malay or Sabah or Sarawak or Malawi or Nyasaland or Mali or Marshall Islands or Mauritania or Mauritius or Agalega Islands or Mexico or Micronesia or Middle East or Moldova or Moldovia or Moldovian or Mongolia or Montenegro or Morocco or Ifni or Mozambique or Myanmar or Myanma or Burma or Namibia or Nepal or Netherlands Antilles or New Caledonia or Nicaragua or Niger or Nigeria or Mariana Islands or Oman or Muscat or Pakistan or Palau or Palestine or Panama or Paraguay or Peru or Philippines or Philipines or Phillipines or Phillippines or Romania or Rumania or Roumania or Russia or Russian or Rwanda or Ruanda or Saint Kitts or St Kitts or Nevis or Saint Lucia or St Lucia or Saint Vincent or St Vincent or Grenadines or Samoa or Samoan Islands or Navigator Island or Navigator Islands or Sao Tome or Senegal or Serbia or Montenegro or Seychelles or Sierra Leone or Slovenia or South Africa or Sri Lanka or Ceylon or Solomon Islands or Somalia or Somaliland or South Africa or Sudan or Suriname or Surinam or Swaziland or Syria or Tajikistan or Tadzhikistan or Tadjikistan or Tadzhik or Tanzania or Thailand or Togo or Togolese or Tonga or Trinidad or Tobago or Tunisia or Turkey or Turkmenistan or Turkmen or Uganda or Ukraine or Uruguay or USSR or Soviet Union or Union of Soviet Socialist Republics or Uzbekistan or Uzbek or Vanuatu or New Hebrides or Venezuela or Vietnam or Viet Nam or West Bank or Yemen or Yugoslavia or Zambia or Zimbabwe or Rhodesia).mp.

**Supplementary file 2: Data extraction items**

|  |
| --- |
| **Reference information*** Article ID
* Author
* Title
* Year
* Country of origin
* Country income category
 |
| **Study design*** Study design
* Study setting
* How well resourced
 |
| **Study population*** Operationalisation of homelessness
* Operationalisation of SMI
* Sample selection
* Initial sample
* Retention
* Duration of follow-up
 |
| **Study measures*** Study measures
* Assessment and/or analyses performed
 |
| **Study results*** Primary outcome
* Secondary outcomes/s
 |
| **Quality appraisal** * MMAT score
* Strengths
* Weaknessess
 |
| **References** |

**Supplementary file 3: Studies with comorbid health and disability variables**

|  |  |  |  |
| --- | --- | --- | --- |
| Reference  | Sample (N) | Study design | Findings |
| Cardiovascular risk factors |
| Chen (China, 2014)  | Psychiatric inpatients with schizophrenia or schizophreniform disorder (N=362Ω) | Retrospective chart review | Total number of risk factorsß in homeless patients (N=181): 0—26.5%, 1—47.5%; 2—21.5%; 3—3.9%; 4—0.6% (ns)Hypertension: 19.3% were hypertensive (ns)Hyperglycemia: 13.8% had hyperglycemia (ns)Hyperlipidemia: 20.4% had hyperlipidemia (ns)Smoking: 56.4% were either current or lifetime smokersHypertensive medication: Fewer homeless patients were taking anti-hypertensive medication (1.7% vs. 8.3%; p<0.001)Anti-diabetic medication: Fewer homeless patients were taking anti-diabetic medication (0.6% vs. 4.4%; p=0.037) |
| Onofa (Nigeria, 2012)  | Psychiatric inpatients(N=183) | Retrospective chart review | Hypertension: More homeless patients (N=61) were hypertensive(31.1% vs. 9.9%; p=0.005)Diabetes: More homeless patients were diabetic (4.9% vs. 0%; p=0.014) |
| Ekpo (Nigeria, 2005)  | Homeless individuals being admitted for psychiatric treatment(N=43) | Cross-sectional survey | QTc prolongation prior to medication initiation¥: 46.6% of patients had QTc prolongation. Greater prolongation was seen in women (48.3%, ns) and individuals ≥ 40 years old (65%, ns) High blood pressure: 16.3% had elevated blood pressure (none of these had QTc prolongation) |
| General medical status |
| Singh (India, 2016)  | Homeless psychiatric inpatients (N=82) | Retrospective chart review | Physical examination: abnormal systemic examination—25.6%; skin or scalp infection—67.1%; open wounds—35.4%; injury marks—71.9%; malnutrition and pallor—78.0%Pregnancy: 11.1% of females were pregnant (N=4/36)Investigations: abnormal CBC, LFT, RFT, chest X-Ray or ECG—40.2%; viral markers (HBsAg, HCV, HEV, HIV)—30.5%; abnormalities on CT or MRI scans—39.0% (N=41 total scans) |
| Tripathi (India, 2013)  | Homeless psychiatric inpatients(N=140) | Retrospective chart review | Medical and surgical problems: 75.4% of the total sample had at least one medical or surgical problem: anemia—37.9%; skin diseases—32.9%; respiratory illnesses—18.6%; polio, club-foot, other congenital limb abnormalities, osteoporosis and fractures—10.0%; neurological illnesses—8.6%; cardiovascular illnesses—7.1%; diabetes—6.4%; STDs—5.7%; genitourinary problems—2.9% |
| Disability |  |  |  |
| Fekadu (Ethiopia, 2014 | Street homeless with psychosis (N=89) | Cross-sectional survey | 29.4% had some form of disability, 53.3% of whom had significant physical impairments (visual and sensory impairment and impaired mobility |
| Lovisi (Brazil, 2011) | Residents of hostels for the homeless (N=330)  | Cross-sectional survey | Individuals with schizophrenia (N=34) had higher levels of social disability: 29.4% had >5 identified social behavioral problems (vs. 6.3%, p<0.001) |
| Schizophrenia was associated with significantly more social behavioral problemsξ: socially embarrassing behavior—70.6%, OR=7.9 (95%CI=4.6-15.2, p<0.01); socially unacceptable behavior—47.1%, OR=2.6 (95%CI=1.6-4.8, p<0.01); depression and anxiety—41.2%, OR=2.3 (95%CI=1.3-4.2, p<0.01); psychotic social behavioral problems—50%, OR=5.2, (95%CI=3.1-9.9, p<0.01) |
| Tripathi (India, 2013) | Homeless psychiatric inpatients (N=140) | Retrospective chart review | Any intellectual disability—38.6% (mental retardation—25.7%; low average intelligence—12.8%) |

ßHypertension, hyperglycemia, hyperlipidemia, smoking

ΩSample matched for gender

ξOR adjusted for gender

**Supplementary file 4: Studies with comorbid alcohol/substance abuse**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Reference  | Sample (N) | Study design | AUD/SUD | Findings |
| Heckert (Brazil, 1999)  | Long-term street homeless (N=83) | Cross-sectional survey | AUD | None of those diagnosed with schizophrenia (N=8) had alcohol-related diagnoses |
| Da Silva (Brazil, 2012) | Outpatients with schizophrenia attending mental health services (N=79) | Cross-sectional survey | AUD | 29% of those reporting a history of homelessness (N=17) had comorbid AUD (ns) |
| SUD | 18% had a comorbid SUD (ns) |
| Fekadu (Ethiopia, 2014)  | Street homeless (N=217) | Cross-sectional survey | AUD | Those with psychosis (N=89) were significantly less likely to have an AUD compared to people without psychosis (p<0.001) |
| AUD was comorbid in 74.6% with psychosis  |
| Tripathi (India, 2013)  | Homeless inpatients (N=140) | Retrospective chart review | SUD | Substance use/dependence was present in 44.3% |
| 9.3% used two or more substances |

**Supplementary file 5: Diagnostic assessments of homeless people entering inpatient psychiatric treatment**

|  |  |  |  |
| --- | --- | --- | --- |
| Reference  | Sample (N) | Study design | Findings |
| Gouveia (Mozambique, 2017) | Homeless psychiatric inpatients (N=71) | Prospective | Schizophrenia or other psychosis—64.8%; mental/behavioral disorder related to substance use—29.6%; intellectual disability—5.6% |
| Singh (India, 2016) | Homeless psychiatric inpatients (N=82) | Retrospective chart review | Schizophrenia—54.9%; psychosis NOS—26.8%; bipolar disorder—12.2%; mental retardation—8.5%; substance-related disorders—6.1%; brief psychotic episode—2.4%ψ |
| Tripathi (India, 2013) | Homeless psychiatric inpatients (N=140) | Retrospective chart review | 77.9% had SMI: schizophrenia—30.9%; other non-organic psychotic disorders—15%; bipolar disorder—12.9%; psychosis NOS—12.9%; schizoaffective disorder—4.3%; acute psychosis—2.1% |
| Other psychiatric diagnosesψ: substance use/dependence—44.3%; anxiety NOS—2.1%; personality disorder—0.7%  |
| 55.7% had comorbid mental health conditions |
| 2.1% of patients had no psychiatric illness |
| Baasher (Egypt, 1983) | Homeless psychiatric inpatients (N=141) | Mixed methods | Cairo (N=117): schizophrenia—66.7%; bipolar disorder—18.8%; mental retardation—10.2%; dementia—2.6%; epilepsy—1.7%  |
| Alexandria (N=24): schizophrenia—66.7%; bipolar disorder—28.3%; mental retardation—12.5% |
| Asuni (Nigeria, 1971) | Homeless psychiatric inpatients (N=25) | Mixed methods | Schizophrenia—92%; schizoaffective disorder—4%; “had hypomanic features alongside schizophrenia” –4% |
| Martyns-Yellowe (Nigeria, 1993) | Homeless individuals relocated from streets to prison asylum (N=103) | Double-blind RCT | 37.8% of homeless individuals met DSM-III criteria for schizophrenia  |
| Chen (China, 2014) | Psychiatric inpatients with schizophrenia or schizophreniform disorder (N=362) | Retrospective chart review | 34.8% of homeless patients (N=181) were diagnosed with schizophrenia (vs. 32.6% of non-homeless inpatients, ns) |
| Onofa (Nigeria, 2012) | Psychiatric inpatients (N=183) | Retrospective chart review | More homeless patients (N=61) had schizophrenia: 80.3% vs. 62.3% (p=0.005) |

ψMultiple diagnoses possible

**Supplementary file 6: Studies describing course of illness**

|  |  |  |  |
| --- | --- | --- | --- |
| Reference | Sample (N) | Study design | Findings |
| Age of onset |  |  |  |
| Ran (China, 2006) | Individuals with schizophrenia living in the community (N=510) | Cohort  | 46.2% of individuals experiencing homelessness over the 10-year follow-up (N=39) had an age of onset ≤25 years of age (ns) |
| Course of illness |
| Ran (China, 2006) | Individuals with schizophrenia living in the community (N=510) | Cohort  | Number of years ill at baseline among individuals experiencing homelessness over the 10-year follow-up: ≤9 years—51.3%; 10-19 years—33.3%; ≥20 years—15.4% (ns) |
| Tripathi(India, 2013) | Homeless psychiatric inpatients (N=140) | Retrospective chart review | >5 years—57.5%; 2-5 years—21.3%; 6 months-2 years—9.5%; <6 months—3.2%; information unavailable—8.7%  |
| Asuni(Nigeria, 1971) | Homeless psychiatric inpatients (N=25) | Mixed methods |  Patients’ duration of illness ranged from 6-25 years |
| Baseline clinical status |
| Chen(China, 2015) | Psychiatric inpatients with schizophrenia (N=3584) | Cross-sectional survey | The mean BPRS score among homeless patients (N=1856) was 27.9 (SD=2.8) (vs. 28.0 (SD=3.2) in non-homeless patients, ns) |
| Higher BPRS scores were associated with homelessness in multivariate regression models: OR(BPRS total score)=1.84 95% CI=1.68-2.01 |
| Ran (China, 2006) | Individuals with schizophrenia living in the community (N=510) | Cohort | Individuals experiencing homelessness over the 10-year follow-up were more ill at baseline: 82.0% had “marked symptoms/deteriorated” (vs. 59.7%, ns); 7.7% were in partial remission (vs. 14.1%, ns); 10.3% were in complete remission (vs. 26.2%, ns) |
| Relative risk of homelessness in those with a baseline status of “marked symptoms/deteriorated” was RR=3.3 (95% CI=1.2 – 9.0), p<0.05 |
| Tripathi(India, 2013) | Homeless psychiatric inpatients (N=140) | Retrospective chart review | (CGI-S scores): “normal, not at all ill”— 0%; “borderline mentally ill”— 3.1%; “mildly ill”—43.3%; “moderately ill”— 28.3%; “markedly ill”—21.3%: “severely ill”— 3.9% |
| Symptom profile |
| Singh (India, 2016) | Homeless psychiatric inpatients (N=82) | Retrospective chart review | Negative symptoms: blunted affect—63.4%; emotional withdrawal—32.9%; lack of spontaneity—53.6%; poor rapport—58.5%  |
| Positive symptoms: delusion—13.4%; grandiosity—12.2%; excitement—25.6%; hostility—15.8%  |
| Cognitive symptoms: poor attention and concentration—50%; poor social judgment—69.5%; impaired memory—25.6%; motor retardation—58.5% |
| Other symptoms: neglected self-care—65.9%; absconding tendency—37.8%; urinary or fecal incontinence—26.8%; self-harming behavior—6.1%; sleep disturbances—50% |
| Suicidality/risk of harm |
| Ran(China, 2006) | Individuals with schizophrenia living in the community (N=510) | Cohort | 7.7% of individuals experiencing homelessness over the 10-year follow-up had made previous suicide attempt/s at baseline (ns) |
| Risk of homelessness at 10-years was not associated with previous suicide attempt/s at baseline |
| Fekadu (Ethiopia, 2014) | Street homeless (N=217) | Cross-sectional survey | Suicidality was lower among those with psychosis (N=89): 14.0% made ≥1 suicide attempt in the previous month (vs. 30.6% of those without psychosis, p=0.008); 18.0% had frequent or persistent suicidal thoughts in the previous month (vs. 30.2%, p=0.060); 37.7% reported having a death wish (vs. 50.8%, p=0.088) |
| 12% of those with psychosis were considered to be at immediate risk of self-harm/exploitation |

**Supplementary file 7: Studies describing treatment history**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Reference | Sample (N) | Study design | Previous treatment experience | Findings |
| Tripathi(India, 2013) | Homeless psychiatric inpatients (N=140) | Retrospective chart review | Mental health care | 10.2% of those who had developed mental illness prior to homelessness had prior treatment by mental health professionals - none had received adequate treatment |
| Traditional medicine and faith healing | 11.9% had been treated in the Ayurvedic, Homeopathic or Unani systems of medicine or by “quacks” |
| 51.7% sought help from faith, religious or spiritual healers |
| Fekadu(Ethiopia, 2014) | Street homeless (N=217) | Cross-sectional survey | Mental health care  | 89.5% of those with psychosis (N=89) had never received mental health treatment |
| Martyns-Yellowe(Nigeria, 1993) | Homeless men with schizophrenia relocated from streets to prison asylum (N=36) | Double-blind RCT  | Mental health care | 47.2% had never received mental health treatment, the remaining 52.8% had not been treated for ≥ 3 years |
| Heckert(Brazil, 1999) | Long-term street homeless (N=83) | Cross-sectional survey | Psychiatric admission | Individuals with schizophrenia (N=8) had lower rates of psychiatric admission, p=0.003  |
| Outpatient service use | Individuals with schizophrenia had greater outpatient mental health service use, p=0.002 |
| Lovisi(Brazil,2003) | Residents of hostels for the homeless (N=330) | Cross-sectional survey | Psychiatric admission | 82.4% of those with schizophrenia (N=34) had been hospitalized (vs. 16.5%, p<0.01) |
| Schizophrenia was associated with previous psychiatric hospitalization: OR=23.63 (95%CI = 9.27-60.22 |
| Da Silva(Brazil, 2012) | Outpatients with schizophrenia attending mental health services (N=79) | Cross-sectional survey | Psychiatric admission | 41.2% of those with a history of homelessness (N=17) had been hospitalized ≥5 times  |
| Ran(China, 2006 and 2015) | Individuals with schizophrenia living in the community (N=510) | Cohort (10-and 14-year follow-ups) | Psychiatric admission | 33.3% of those who had been or were currently homeless at 10-years (N=39) had a history of psychiatric hospitalization at baseline (ns) |
| Antipsychotic medication | 25.6% had never received antipsychotic medication at baseline (ns) |
| Being homeless and lost to follow-up at 14-years (N=40) was more likely in never-treated/remaining untreated patients vs. treated patients: 13.6% vs. 6.5%, p=0.01 |

**Supplementary file 8: Studies describing treatment outcomes**

|  |  |  |  |
| --- | --- | --- | --- |
| Reference | Sample (N) | Study design | Findings |
| Length of hospitalization |
| Chen(China, 2014) | Psychiatric inpatients with schizophrenia or schizophreniform disorder (N=362) | Retrospective chart review | Among homeless patients (N=181), the mean length of index hospitalization was significantly shorter: 36.9 days (SD=44.9) vs. 61.9 days (SD=58.6), p<0.001 |
| Tripathi(India, 2013) | Homeless psychiatric inpatients (N=140) | Retrospective chart review | Mean length of hospitalization = 236 days (SD=178); range: 3 days - 38 months |
| Clinical improvement |
| Singh(India, 2016) | Homeless psychiatric inpatients (N=82) | Retrospective chart review | 70-100% improvement—28.0%; 30-70% improvement—24.4%; 10-30% improvement—31.7%; 0-10% improvement—8.5%; stayed < 2 months and were judged too early to comment—7.3% |
| Tripathi(India, 2013) | Homeless inpatients (N=140) | Retrospective chart review | (CGI-I scores): “very much improved”—24.4%; “much improved”—58.3%; “minimally improved”—16.5%; “no change”—0.8%; “minimally, much and very much worse”—0% |
| (CGI-S scores at discharge): “normal, not at all ill”—0%; “borderline mentally ill”—10.2%; “mildly ill”—70.1%; “moderately ill”—14.2%; “markedly ill”—4.7%; “severely ill”—0.8%; “among the most extremely ill patients”—0% |
| Asuni(Nigeria, 1971) | Homeless psychiatric inpatients (N=25) | Mixed methods | 72% were considerably improved  |
| Martyns-Yellowe(Nigeria, 1993) | Homeless men with schizophrenia relocated from streets to prison asylum (N=36) | Double-blind RCT | (BPRS scores): 24 weeks after beginning treatment with flupenthixol, subjects experienced a 57.1% drop in symptoms†† (p<0.01); those treated with clopenthixol experienced a 43.4% drop in symptoms†† (p<0.01)) |
| Onofa(Nigeria, 2012) | Psychiatric inpatients (N=183) | Retrospective chart review | Homeless patients (N=61) had significantly worse outcomes: 91.8% vs. 97.5% were considered improved |
| Rehabilitative and discharge outcomes |
| Singh(India, 2016) | Homeless psychiatric inpatients (N=82) | Retrospective chart review | Discharged to relatives—41.5%; still hospitalized—26.8%; moved to a government shelter home—11.0%; absconded from treatment—9.7%; moved to a government psychiatric hospital—8.5%; moved to an NGO—3.6% |
| Tripathi(India, 2013) | Homeless psychiatric inpatients (N=140) | Retrospective chart review | Discharged to relatives—68.6%; still hospitalized—15.7% (10.2% recovered and awaiting transfer, 5.5% too unwell for discharge); moved to other psychiatric institutions or NGOs for long-term rehabilitation—9.4%; absconded from treatment—3.1%; moved to a city-based women’s welfare organization—2.4%; sent to live with “benevolent families”—2.4%; died while in the hospital—1.6% |
| Martyns-Yellowe(Nigeria, 1993) | Homeless men with schizophrenia relocated from streets to prison asylum (N=36) | Double-blind RCT | 44.4% were clinically recovered and discharged during the 24-week medication trial period (55.6% of those on 40mg depot flupenthixol and 33.3% of those on 200 mg depot clopenthixol, ns). 55.6% made clinical progress but not enough for discharge |
| Asuni(Nigeria, 1971) | Homeless psychiatric inpatients (N=25) | Mixed methods | Considerably improved—72%; died—12%; escaped from the hospital—12%; remained psychotic—4% |
| Discharged to the community—68%; remained in hospital—8% (1 unrecovered, 1 requiring treatment for physical health problems) |
| Information on patient follow-up |
| Singh(India, 2016) | Homeless psychiatric inpatients (N=82) | Retrospective chart review | Status quo—41.7%; off medication—23.3%; unable to be contacted—23.3%; worsened—11.7% |
| Asuni(Nigeria, 1971) | Homeless psychiatric inpatients (N=25) | Mixed methods | 75% of those released to the community never returned for follow-up treatment |
| Mortality while in hospital |
| Tripathi(India, 2013) | Homeless psychiatric inpatients (N=140) | Retrospective chart review | 1.6% died while in hospital |
| Asuni(Nigeria, 1971) | Homeless psychiatric inpatients (N=25) | Mixed methods | 4% died while in hospital |
| Onofa(Nigeria, 2012) | Psychiatric inpatients (N=183) | Retrospective chart review | 8.2% of homeless patients (N=61) died while in hospital vs. no non-homeless patients (N=122) |
| Escaped from hospital |
| Singh(India, 2016) | Homeless psychiatric inpatients (N=82) | Retrospective chart review | 9.7% absconded from treatment |
| Tripathi(India, 2013) | Homeless psychiatric inpatients (N=140) | Retrospective chart review | 3.1% absconded from treatment |
| Asuni(Nigeria, 1971) | Homeless psychiatric inpatients (N=25) | Mixed methods | 12% escaped from the hospital |
| Time to improvement |
| Onofa(Nigeria, 2012) | Psychiatric inpatients (N=183) | Retrospective chart review | Median time to improvement was significantly longer in homeless patients†: 211 days (IQR 21-229) vs. 34 days (IQR 4-43), p<0.05 |
| Homeless status significantly influenced time to improvement in Cox proportional hazard regression analysis: HR (non-homeless status)=0.31, 95%CI=0.18-0.53 |
| Antipsychotic medication side effects |
| Martyns-Yellowe(Nigeria, 1993) | Homeless men with schizophrenia relocated from streets to prison asylum (N=36) | Double-blind RCT | Flupenthixol produced fewer (10 vs. 16 total side effect events among N= 18 individuals in each arm) and more manageable side effects (8/10 were managed with a single benztropine injection vs. injection + oral benztropine required for clopenthixol side effects) |

†Indicates a significant difference in time to improvement using Kaplan-Meier survival analysis: Log Rank test, p <0.05

††T-test: p <0.01

**Supplementary file 9: Studies describing aspects of the experience of homelessness**

|  |  |  |  |
| --- | --- | --- | --- |
| Reference(country, year) | Sample (N) | Study design | Findings |
| Duration of homelessness |
| Heckert (Brazil, 1999) | Long-term street homeless (N=82) | Cross-sectional survey | Schizophrenia (N=8) was associated with longer duration of homelessness,p=0.03 |
| Fekadu(Ethiopia, 2014) | Street homeless with psychosis (N=89) | Cross-sectional survey | >5 years—54.8%; 2-5 years—24.7%; 1-2 years—6.8%; 6-12 months—8.2%; <6 months—5.5%; no information available—18.0%: |
| Tripathi(India, 2013) | Homeless psychiatric inpatients (N=140) | Retrospective chart review | >5 years—12.15%; 1-5 years—24.3%; 6-12 months—37.1%; <6 months—19.3%; no information available—7.1% |
| Mean length of homelessness before hospitalization was 1.32 years (SD=0.52 years) |
| Men had longer duration of homelessness: 1.46 years (SD=0.48) vs. 0.72 years (SD=0.23) in women, p<0.001 |
| Martyns-Yellowe(Nigeria, 1993) | Homeless men with schizophrenia relocated from streets to prison asylum (N=36) | Double-blind RCT | 66.7% had been homeless for ~ 3 years |
| Da Silva(Brazil, 2012) | Outpatients with schizophrenia attending mental health services (N=79) | Cross-sectional survey | Among those with a history of homelessness (N=17), 94.1% reported being homeless for < 1 year |
| Previous history of homelessness |
| Fekadu(Ethiopia, 2014) | Street homeless with psychosis (N=89) | Cross-sectional survey | 40.4% reported having been previously homeless |
| Chen(China, 2014) | Psychiatric inpatients with schizophrenia or schizophreniform disorder (N=362) | Retrospective chart review | Significantly more homeless patients (N=181) reported a having a previous episode of homelessness: 61.3% vs. 37.6% of non-homeless patients, p<0.001 |
| Da Silva(Brazil, 2012) | Outpatients with schizophrenia attending mental health services (N=79) | Cross-sectional survey | 21.5% (N=17) said they had been homeless at some point in their lives |
| 64.7% of these reported being homeless on more than one occasion |
| Reasons for homelessness |
| Fekadu(Ethiopia, 2014) | Street homeless with psychosis (N=89) | Cross-sectional survey | Disagreement with family—24.6%; in search of a job or education—19.7%; economic problem—13.1%; death of a primary caregiver—8.2%; mental illness—4.9%; after leaving the army—4.9%; ran away from home—4.9%; separation from family—3.3%; in search of treatment—3.3%; no reason—3.3%; unknown—9.8% |
| Tripathi(India, 2013) | Homeless psychiatric inpatients (N=140) | Retrospective chart review |  Left home on their own due to mental illnessŸ—54.3%; expulsion from home—9.3%; no one left in the family to care for them—3.6%; unknown reasons—32.8% |
| 84.3% had developed mental illness prior to becoming homeless (all those with information available) |
| Life experiences while homeless |
| Heckert (Brazil, 1999) | Long-term street homeless (N=82) | Cross-sectional survey | Schizophrenia was associated with lower attendance at community services, p<0.002 |
| Schizophrenia was associated with more interest in religious issues, p=0.001 |
| Ran (China, 2010) | Individuals with schizophrenia living in the community (N=510) | Cohort | 20.0% of homeless individuals (N=40) had engaged in criminal behavior at 14-years (vs. 9.1%, p=0.028) |
| Fekadu(Ethiopia, 2014) | Street homeless with psychosis (N=89) | Cross-sectional survey | Basic needs: unmet basic needs—95-100%; unmet social needs—70-95%; unmet rehabilitation needs—50-70%; unmet health and safety needs—20-80%  |
| Disability: 29.4% had some form of disability, 53.3% of whom had significant physical impairments (visual and sensory impairment and impaired mobility) |
| History of imprisonment: 19.0% reported a history of imprisonment since becoming homeless |
| Self-harm/exploitation: 12% were considered to be at immediate risk of self-harm/exploitation |
| Sexual abuse: 6.7% reported being sexually abused (50% of female respondents) |
| Sources of support: charity organizations—6.5%; from the neighborhood—4.9%; churches—3.3%; mosques—1.6%; family—0% |
| Suicidality: Suicidality in the previous month was lower among those with psychosis: 14.0% vs. 30.6% made ≥1 suicide attempt (p=0.008); 18.0% vs. 30.2% had frequent or persistent suicidal thoughts (p=0.060); 37.7% vs. 50.8% reported having a death wish (p=0.088) |
| Sense of hopelessness |
| Heckert(Brazil, 1999) | Long-term street homeless (N=82) | Cross-sectional survey | Schizophrenia was associated with having no hope of a status change, p=0.009 |
| Fekadu(Ethiopia, 2014) | Street homeless with psychosis (N=89) | Cross-sectional survey | 55.0% reported having no place to return to  |
| Living situation prior to homelessness |
| Ran(China, 2006) | Individuals with schizophrenia living in the community (N=510) | Cohort | Relative risk of homelessness at 10-years (N=39) in those living alone at baseline was RR = 2.0 (95% CI=1.0-3.7), p<0.05 |
| Relative risk of homelessness in those with poor quality housing at baseline was RR=7.0 (95% CI=4.0 – 12.2), p<0.005 |
| Living in a “shabby or unstable house or shelter” was a predictor of homelessness at 10-years§: OR = 6.9 (95% CI = 3.2 – 14.9) |
| Onofa(Nigeria, 2012) | Psychiatric inpatients (N=183) | Retrospective chart review | Homeless patients (N=61) were more likely to have no accommodation and live alone: 42.6% vs. 1.6% had no accommodation; 37.7% vs. 95.1% lived with others; 19.7% vs. 3.3% lived alone (p=0.0001 across categories) |
| Quality of life in previously homeless individuals |
| Da Silva(Brazil, 2011) | Outpatients with schizophrenia attending mental health services (N=79) | Cross-sectional survey | Those with a history of homelessness were significantly more likely to have impaired quality of life: OR=4.4 (95%CI = 1.3-14.0), p=0.01 |

ŸReported by patients and/or their family members

**Supplementary file 10: Studies with variables related to the family**

|  |  |  |  |
| --- | --- | --- | --- |
| Reference | Sample (N) | Study design | Findings |
| Family reintegration |
| Singh (India, 2016) | Homeless psychiatric inpatients (N=82) | Retrospective chart review | 41.3% of patients were discharged to their families |
| Tripathi(India, 2013) | Homeless psychiatric inpatients (N=140) | Retrospective chart review | 68.6% were reintegrated with their families following treatment |
| Gouveia(Mozambique, 2017) 59 | Homeless psychiatric inpatients(N=71) | Prospective | 52.2% of those with a diagnosis of schizophrenia or other psychosis (N=46) were successfully reintegrated with their families 3 months post-discharge |
| A diagnosis of schizophrenia was associated with greater reintegration than intellectual disability (0%) and lesser reintegration than AUD/SUD (66.7%) |
| Having a family caregiver |
| Ran(China 2006, 2016) | Individuals with schizophrenia living in the community (N=510) | Cohort  | Relative risk of homelessness at 10-years (N=39) in those without a family caregiver at baseline was RR = 3.3 (95%CI=1.7-6.4), p<0.005  |
| Those without a family caregiver had higher rates of homelessness at 10- (14.8% vs. 4.3%, p<0.01) and 14-years (23.8% vs. 5.1%, p<0.01, N=40 individuals homeless and lost to follow-up at 14-years) |
| More homeless individuals were without family caregivers at both 10- (40% vs. 16.2%, p<0.01) and 14-years (47.5% vs. 16.3%, p<0.01) |
| Family history of mental illness |
| Ran(China, 2006) | Individuals with schizophrenia living in the community (N=510) | Cohort  | Family history of mental illness was a predictor of homelessness at 10-years§: OR=2.3 (95% CI=1.1–4.8) |
| Relative risk of homelessness was RR = 2.2 (95% CI = 1.2 – 4.0)\*\* |
| Relative risk of homelessness in those with family history of schizophrenia was RR = 2.4 (95% CI = 1.3 – 4.4)\* |
| Family environment |
| Chen(China, 2015) | Psychiatric inpatients with schizophrenia (N=3584) | Cross-sectional survey | Homelessness (N=1856) was associated with higher achievement orientation (OR=1.31, 95% CI= 1.18-1.46); intellectual-cultural orientation (OR=1.86, 95%CI=1.68-2.06); organization (OR=1.98, 95% CI=1.80-2.19); and control (OR=1.12, 95% CI=1.03-1.23) subscale scores on the Family Environment Scale-Chinese Versionø (FES-CV) and lower coherence (OR=0.59, 95% CI=0.54-0.65); independence (OR=0.44, 95% CI=0.38-0.50); active-recreational orientation (OR=0.62, 95% CI=0.57-0.67); and moral-religious emphasis (OR=0.72, 95% CI=0.65-0.81) subscale scoresø |
| Contact with family while homeless |
| Heckert(Brazil, 1999) | Long-term street homeless (N=82) | Cross-sectional survey | Individuals with schizophrenia (N=8) had significantly less contact with family, p=0.005 |
| Fekadu(Ethiopia, 2014) | Street homeless (N=217) | Cross-sectional survey | 58.3% of those with psychosis (N=89) had never seen their family since leaving home; > 1 year since last visit: 35.0%; 7-12 months: 3.3%; 1-6 months: 3.3% |
| Children |
| Da Silva(Brazil, 2012) | Outpatients with schizophrenia accessing mental health services (N=79) | Cross-sectional survey | Most of those with histories of homelessness (N=17) had children |
| Fekadu(Ethiopia, 2014) | Street homeless (N=217) | Cross-sectional survey | 20.4% of those with psychosis had children |

§Indicates a significant independent predictor of homelessness at 10-years in multivariate logistic regression modeling

øIndicates an association between FES-CV subscales with homelessness in multivariate logistic regression after controlling for socio-demographic variables (age, gender, severity of psychiatric symptoms at time of assessment, education, marital status, and occupational status)

**Supplementary file 11: Studies with socio-demographic variables**

|  |  |  |  |
| --- | --- | --- | --- |
| Reference | Sample (N) | Study design | Findings |
| Gender |
| Ran (China 2006, 2015a) | Individuals with schizophrenia (N=510) | Cohort  | Among individuals who had been or were currently homeless at 10-years (N=39), 56.4% were men (ns) |
| The rate of 10-year homelessness in men was 1.1/100 person-years (95% CI = 0.7 – 1.6) |
| The rate of 10-year homelessness in women was 0.7/100 person-years (95% CI = 0.4 – 1.0) |
| Men were more likely to be homeless and lost-to follow-up at 14-years (N=40 individuals homeless): 11.2% of men vs. 5.7% of women were homeless, p<0.05 |
| Chen(China, 2015) | Psychiatric inpatients with schizophrenia (N=3584) | Cross-sectional survey | 65.5% of homeless patients (N=1856) were male (ns) |
| Being female was associated with increased odds of being homeless: OR=4.84, 95% CI=3.56-6.55 |
| Chen(China, 2014) | Psychiatric inpatients with schizophrenia or schizophreniform disorder (N=362) | Retrospective chart review | 66.3% of homeless patients (N=181) were maleΩ  |
| Da Silva(Brazil, 2012) | Outpatients with schizophrenia attending mental health services (N=79) | Cross-sectional survey | Most of those reporting history of homelessness (N=17) were female |
| Lovisi(Brazil, 2002, 2003) | Residents of hostels for the homeless (N=330) | Cross-sectional survey | Women were more than three times as likely to have schizophrenia as men: 23.7% of women vs. 6.6% of men had schizophrenia (N=34 individuals with schizophrenia), p<0.0001 |
| Baasher(Egypt, 1983) | Homeless individuals with mental illness (N=141) | Mixed methods | 64% of homeless patients with mental illness admitted to hospital in Cairo (N=117) between 1978-1979 were women |
| 62.5% of those admitted in Alexandria (N=24) were women |
| Fekadu(Ethiopia, 2014) | Street homeless (N=217) | Cross-sectional survey | 89.9% of those with psychosis (N=89) were male (ns) |
| Singh(India, 2016) | Homeless psychiatric inpatients (N=82) | Retrospective chart review | 56.1% were male |
| Tripathi(India, 2013) | Homeless psychiatric inpatients (N=140) | Retrospective chart review | 82.9% were male |
| Onofa(Nigeria, 2012) | Psychiatric inpatients (N=183) | Retrospective chart review | More homeless inpatients (N=61) were male: 67.2% (vs. 55.7%, ns) |
|  |
| Ekpo(Nigeria, 2005) 75 | Homeless individuals being admitted for psychiatric treatment (N=43) | Cross-sectional survey | 67.5% were female |
| Asuni(Nigeria, 1971) | Homeless psychiatric inpatients (N=25) | Mixed methods | 57% were male |
| Age |
| Chen (China, 2015) | Psychiatric inpatients with schizophrenia (N=3584) | Cross-sectional survey | Homeless patients were older: the mean age of homeless patients was 39.1 years (SD=7.9) vs. 36.5 years (SD=8.7) in non-homeless patients, p<0.001  |
| Older age was associated with increased odds of being homeless: OR = 1.29, 95% CI=1.25-1.32 |
| Chen(China, 2014) | Psychiatric inpatients with schizophrenia or schizophreniform disorder (N=362) | Retrospective chart review | The mean age of homeless patients was 33.8 years (SD=12) (ns) |
| Ran(China,2006) | Individuals with schizophrenia (N=510) | Cohort  | Older age was protective against experiencing homelessness at 10-years: Relative risk in those >60 years was RR=0.1 (95% CI = 0.0 – 0.9), p<0.05 |
| Fekadu(Ethiopia, 2014) | Street homeless (N=217) | Cross-sectional survey | Those with psychosis were older: the mean age of those with psychosis was 37.1 years (SD=14.0) vs. 29.1 years (SD=13.2 years) in the remaining homeless population, p<0.001 |
| Singh(India, 2016) | Homeless psychiatric inpatients (N=82) | Retrospective chart review | Most patients were between 20-50 years old: 4.9% were 15-20 years old; 37.8% were 20-30; 30.5% were 30-40; 17.1% were 40-50; 9.7% were ≥ 50 years old |
| Tripathi(India, 2013) | Homeless psychiatric inpatients (N=140) | Retrospective chart review | Mean age = 34.6 years (SD=12.4) |
| Onofa(Nigeria, 2012) | Psychiatric inpatients (N=183) | Retrospective chart review | Homeless patients were older: the mean age of homeless patients was 50.6 years (SD=16.3) vs. 35.2 years (SD=10.9) in non-homeless patients, p=0.001 |
| Martyns-Yellowe(Nigeria, 1993) | Homeless men with schizophrenia relocated from streets to prison asylum (N=36) | Double-blind RCT | 83.3% were aged between 21-40 years |
| Marital status |
| Heckert(Brazil, 1999) | Long-term street homeless (N=82) | Cross-sectional survey | Schizophrenia (N=8) was associated with single marital status (p=0.02) |
| Chen (China, 2015) | Psychiatric inpatients with schizophrenia (N=3584) | Cross-sectional survey | Homeless patients were more likely to be married and less likely to be single: 24.1% vs. 18.5% were married; 62.1% vs. 66.7% were single; 13.8% vs. 14.8% were divorced or widowed (p<0.001 across categories) |
| Being married or remarried (OR=2.68, 95%CI = 2.01-3.58) and being divorced (OR=21.61, 95%CI = 14.21-32.85) were associated with significantly increased odds of homelessness |
| Chen(China, 2014) | Psychiatric inpatients with schizophrenia or schizophreniform disorder (N=362) | Retrospective chart review | 35.4% of homeless patients were currently married (ns) |
| Ran(China, 2006) | Individuals with schizophrenia living in the community (N=510) | Cohort  | Being unmarried, divorced or separated at baseline was a predictor of homelessness at 10-years§: OR = 1.6 (95% CI= 1.1-2.3) |
| Being widowed was protective against homelessness: RR = 0.2 (95% CI = 0.0 – 0.7), p<0.01 |
| Being currently married was protective against homelessness: RR = 0.3 (95% CI = 0.2 – 0.6), p<0.005 |
| Fekadu(Ethiopia, 2014) | Street homeless (N=217) | Cross-sectional survey | Among those with psychosis, 88.1% were single; 8.5% were divorced; 3.4% were separated |
| Tripathi(India, 2013) | Homeless psychiatric inpatients (N=140) | Retrospective chart review | 68.6% were never married, 31.4% were separated or divorced; the marital status of 10% was not known |
| Onofa(Nigeria, 2012) | Psychiatric inpatients (N=183) | Retrospective chart review | Homeless patients were more likely to be divorced or separated and less likely to be married: 23.0% vs. 5.7% were divorced; 9.8% vs. 1.6% were separated; 1.6% vs. 25.4% were married; 65.6% vs. 67.2% were single (p=0.0001 across categories) |
| Martyns-Yellowe(Nigeria, 1993) | Homeless men with schizophrenia relocated from streets to prison asylum (N=36) | Double-blind RCT | 83.3% had never been married |
| Residency |
| Chen(China, 2015) | Psychiatric inpatients with schizophrenia (N=3584) | Cross-sectional survey | More homeless patients had rural residency: 86.6% vs. 70.3%, p<0.001 |
| Rural residency was associated with increased odds of being homeless: OR=2.74, 95% CI=2.00-3.75 |
| Fewer homeless patients were from Xiangtan province: 37.9% vs. 88.9%, p<0.001 |
| Being from outside of Xiangtan was associated with increased odds of being homeless: OR=69.12, 95%CI = 48.99-97.53) |
| Chen (China, 2014) | Psychiatric inpatients with schizophrenia or schizophreniform disorder (N=362) | Retrospective chart review | Fewer homeless patients had an urban household registration: 17.7% vs. 39.8%, p<0.001 |
| Baasher(Egypt, 1983) | Homeless individuals with mental illness (N=141) | Mixed methods | ~2/3 of admitted homeless patients with mental illness in Cairo between 1978-1979 (N=117) were from governorates other than Cairo |
| Fekadu(Ethiopia, 2014) | Street homeless (N=217) | Cross-sectional survey | Among those with psychosis, 76.9% reported having an address outside Addis Ababa prior to becoming homeless |
| Tripathi(India, 2013) | Homeless psychiatric inpatients (N=140) | Retrospective chart review | 60% had a rural domicile; urban: 20.7%; semi-urban: 11.4%; not known: 7.9% |
| 75.9% came from Uttar Pradesh (location of study); other states: 18.6%; other country (Nepal): 1.4%; not known: 4.3%  |
| Education |
| Da Silva(Brazil, 2012) | Outpatients with schizophrenia attending mental health services (N=79) | Cross-sectional survey | Most of those reporting a history of homelessness had little schooling |
| Heckert(Brazil, 1999) | Long-term street homeless (N=83) | Cross-sectional survey | Schizophrenia was associated with lower literacy, p=0.003 |
| Chen(China, 2015) | Psychiatric inpatients with schizophrenia (N=3584) | Cross-sectional survey | Homeless patients had lower levels of education: 95.1% vs. 52.8% were illiterate or had attended primary school only; 3.4% vs. 23.9% had attended middle school; 1.5% vs. 23.3% had attended high school or beyond (p<0.001 across categories) |
| Having a middle school or higher education was associated with decreased odds of homelessness: OR (middle school education)=0.14, 95%CI = 0.10-0.21); OR (high school or beyond)=0.02, 95%CI = 0.01-0.03 |
| Chen(China, 2014) | Psychiatric inpatients with schizophrenia or schizophreniform disorder (N=362) | Retrospective chart review | More homeless individuals had not completed high school: 81.2% vs. 71.8%, p=0.035 |
| Ran(China, 2006) | Individuals with schizophrenia (N=510) | Cohort  | Years of formal education was not associated with risk of homelessness at 10-years  |
| Fekadu(Ethiopia, 2014) | Street homeless (N=217) | Cross-sectional survey | Among those with psychosis, 55.0% were illiterate; 33.3% had been to primary school only; 8.3% had attended secondary school; 3.3% had a post-secondary education (ns) |
| Tripathi(India, 2013) | Homeless psychiatric inpatients (N=140) | Retrospective chart review | 39.3% were uneducated; up to 5th standard: 35%; 6th – 12th standard: 12.9%; above 12th: 2.8%; not known: 10% |
| Onofa(Nigeria, 2012) | Psychiatric inpatients (N=183) | Retrospective chart review | Homeless patients had lower levels of education: 62.3% vs. 13.9% had no formal education; 19.7% vs. 23.0% had been to primary school only; 9.8% vs. 32.0% had attended secondary school; 1.6% vs. 11.5% had a post-secondary education; 6.6%: vs. 19.7% had attended university (p=0.0001 across categories) |
| Employment |
| Chen (China, 2015) | Psychiatric inpatients with schizophrenia (N=3584) | Cross-sectional survey | More homeless patients were employed: 17.2% vs. 14.8% had a stable job; 51.7% vs. 37.0% had a temporary job; 31.0% vs. 48.1% were unemployed (p<0.001 across categories) |
| Having a temporary job was associated with increased odds of homelessness in multivariate logistic regression: OR=6.82, 95%CI = 4.58-10.19) |
| Chen(China, 2014) | Psychiatric inpatients with schizophrenia or schizophreniform disorder (N=362) | Retrospective chart review | 12.2% of homeless patients reported being currently employed (ns) |
| Fekadu(Ethiopia, 2014) | Street homeless (N=217) | Cross-sectional survey | Among those with psychosis, 47.5% had never been employed |
| Tripathi(India, 2013) | Homeless psychiatric inpatients (N=140) | Retrospective chart review | Occupational status prior to the onset of mental illness was: unemployed: 42.1%; self-employed: 18.6%; student: 17.1%; housewife: 4.3%; not known: 30.7% |
| Onofa(Nigeria, 2012) | Psychiatric inpatients (N=183) | Retrospective chart review | Homeless patients were more likely to be unemployed: 91.8% vs. 57.4% were unemployed; 3.3% vs. 38.5% were employed; 4.9% vs. 3.3% were retired (p=0.0001 across categories) |
| Homeless patients were lower-skilled: unskilled: 86.9% vs. 32.0% were unskilled; 9.8% vs. 37.7% were semi-skilled; 3.3% vs. 22.1% were highly skilled professional II status; 0% vs. 8.2% were highly skilled professional I status (p=0.0001 across categories) |
| Martyns-Yellowe(Nigeria, 1993) | Homeless men with schizophrenia relocated from streets to prison asylum (N=36) | Double-blind RCT | 58.3% had never been employed |
| Other socio-economic variables |
| Chen (China, 2014) | Psychiatric inpatients with schizophrenia or schizophreniform disorder (N=362) | Retrospective chart review | 85.6% of homeless patients had a monthly income below 1000 Renminbi (ns) |
| Ran (China, 2006) | Individuals with schizophrenia (N=510) | Cohort  | Being without an individual income was a predictor of homelessness at 10-years§: OR = 2.2 (95% CI = 1.0 – 4.5) |
| Relative risk of homelessness was RR = 2.8 (95% CI = 1.5 – 5.1), p<0.01 |
| Homelessness was not associated with family economic status  |
| Tripathi(India, 2013) | Homeless psychiatric inpatients (N=140) | Retrospective chart review | 55.7% had a monthly family income <5000 Indian rupees; 5000-10,000 rupees: 18.6%; >10,000 Indian rupees: 8.6%; not known: 17.1% |
| Other demographic variables |
| Chen (China, 2015) | Psychiatric inpatients with schizophrenia (N=3584) | Cross-sectional survey | More homeless patients were of non-Han ethnicity: 10.2% vs. 3.4%, p<0.001 |
| Singh(India, 2016) | Homeless psychiatric inpatients (N=82) | Retrospective chart review | The predominant languages spoken by patients were: Gujarati – 37.8%; Hindi – 25.6%; Marathi – 11.0%; Oriya – 4.9%; Bhojpuri – 4.9%; Bengali – 3.6%; Telugu – 3.6%; Tamil – 2.4%; not known – 6.1% |
| Onofa(Nigeria, 2012) | Psychiatric inpatients (N=183) | Retrospective chart review | 83.6% of homeless patients were Yoruba; 9.8% were Ibo; 3.3% were Hausa; 3.3% were from other ethnic group (ns)  |
| 67.2% of homeless patients were Christian; 32.8% were Muslim; 0% practiced traditional religions (ns) |

**Supplementary file 12: Ethical appraisal of publications reporting human participant data**

|  |  |  |  |
| --- | --- | --- | --- |
| **Reference** | **Ethical approval documented?** | **Informed consent given?** | **Additional ethical considerations/precautions taken?** |
| Alem49 | X | X | X |
| Asuni42 |  |  |  |
| Ayano50 | X | X | X |
| Baasher57 |  |  |  |
| Binbay41 |  |  |  |
| Borysow60 | X |  |  |
| Cao19 | X | X |  |
| Chen 201421 | X |  |  |
| Chen 201520 |  | X | X |
| de-graft Aikins58  |  |  |  |
| Ekpo44 |  |  |  |
| Fekadu51 | X | X | X |
| Fu22 | X | X |  |
| Gopikumar35 | X | X |  |
| Gouveia59 | X | X | X |
| Gowda 2017a37 | X |  |  |
| Gowda 2017b36 | X |  | X |
| Gureje45 |  |  |  |
| Harding69 |  |  |  |
| Heckert61 | X | X | X |
| Kebede52 | X |  |  |
| Lovisi 200263 |  |  |  |
| Lovisi 200362 |  | X |  |
| Martyns-Yellow47 |  |  |  |
| Moquillaza-Risco66 | X |  |  |
| Onofa48 | X |  |  |
| Ran 200623 |  | X |  |
| Ran 200925 |  | X |  |
| Ran 201026 | X | X |  |
| Ran 2015a28 | X | X |  |
| Ran 2015b29 | X | X |  |
| Ran 2015c24 | X | X |  |
| Ran 201627 | X | X |  |
| Ran 2017a30 | X | X |  |
| Ran 2017b32 | X | X |  |
| Ran 201831 | X | X |  |
| Rao38 |  |  |  |
| Sarmiento65 | X | X |  |
| Shibre 201453 | X | X | X |
| Shibre 201554 | X | X | X |
| Silva64 | X | X |  |
| Singh39 | X |  |  |
| Teferra55 | X | X | X |
| Tripathi40 |  |  |  |
| Wang33 |  |  |  |