**SUPPLEMENTARY MATERIAL**

**Site Recruitment Flow Charts**

1. Chengalpet, India

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | |  | screened for inclusion  n 480 | |  |  |
|  | |  |  |  |  |  |
|  | |  |  |  |  | no information  n 18 |
|  |  |  |
| not eligible  n 398 | |  |  |  |  |  |
|  |  |  |
|  |  |  |  |  |  |  |
|  |  |  | eligible (included)  n 64 | |  |  |
| reasons | |  |  |  |  |  |
| 162\*\* outside area  15\*\* age > 64  12 organic  194\* px >3 months  16 (3\*\*) no px  10\*\* not fep    \*\*multiple reasons | |  |  |  |  | not assessed‡  n 19 |
|  |  |  |
|  |  |  |  |  |
|  | assessed  n 45 | |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |
|  |  |  |  |  |
|  | |  | complete  n 45 | |  |  |

px, psychotic

‡ 7 wandering; 10 refused; 2 unable to approach

(2) Ibadan, Nigeria

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | |  | screened for inclusion  n 559 | |  |  |
|  | |  |  |  |  |  |
|  | |  |  |  |  | no information  n 0 |
|  |  |  |
| not eligible  n 511 | |  |  |  |  |  |
|  |  |  |
|  |  |  |  |  |  |  |
|  |  |  | eligible (included)  n 48 | |  |  |
| reasons | |  |  |  |  |  |
| 239 outside area  43 age > 64  0 organic  221 px >3 months  4 no px  3 retardation | |  |  |  |  | not assessed‡  n 11 |
|  |  |  |
|  |  |  |  |  |
|  | assessed  n 37 | |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |
|  |  |  |  |  |
|  | |  | complete  n 37 | |  |  |

px, psychotic

‡ 2 refused; 3 relocated; 3 absconded

(3) Trinidad

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | |  | screened for inclusion  n 117 | |  |  |
|  | |  |  |  |  |  |
|  | |  |  |  |  | no information  n 9 |
|  |  |  |
| not eligible  n 73 | |  |  |  |  |  |
|  |  |  |
|  |  |  |  |  |  |  |
|  |  |  | eligible (included)  n 35\* | |  |  |
| reasons | |  |  |  |  |  |
| 10 outside area  13 age >64  0 organic  34 px >3 months  13 no px  3 retardation | |  |  |  |  | not assessed‡  n 15 |
|  |  |  |
|  |  |  |  |  |
|  | assessed  n 20 | |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |
|  |  |  |  |  |
|  | |  | complete  n 19† | |  |  |

px, psychotic

‡ 7 refused; 5 unable to make contact; 3 functional refusal

† 1 incomplete

**Supplementary Table S1.** Economic, development, and health indicators. (from Morgan et al, 2015)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | | India | | Nigeria | | Trinidad and Tobago |
|  | | National | Tamil Nadu† | National | Oyo State†† | National††† |
| Urban population (a, b)  (2011) | | 31.2%  (3.8% increase since 2001) | 48.5%  (4.4% increase since 2001) | 49.6%  (5.7% increase since 2001) | no data^ | 13.7%  (2.9% increase since 2001) |
| Projected annual rate of urbanization (a)  (2010 to 2015, estimated) | | 2.4% | no data\*\* | 3.8% | no data^ | 2.9% |
| Economic (GDP) growth (d) | |  |  |  |  |  |
|  | 2006 to 2010 (average per year) | 7.1% | 9.5% | 4.1% | no data | 3.0% |
|  | 2012 | 3.2% | 9.4% | 6.5% | no data | 1.5% |
| Poverty (c)  (i.e. living on less than $1.25 per day)  (2010) | | 32.7% | 32.4% | 68.0% | no data | 4.0% |
| Income Gini‡ Coefficient (c)  (2010) | | 33.4 | no data | 48.8 | no data | no data |
| Human Development Index (c)  (2012) | | 0.55 | 0.74 | 0.47 | no data | 0.76 |
| Infant mortality per 1,000 live births (c) (2010) | | 47 | 22 | 78 | 22 | 25 |
| Life expectancy at birth (years) (c)  (2012) | | 65.8 | 72.4 | 52.3 | no data | 70.3 |
| Literacy, 15+ years (c, e, f) (2010-2011) | |  |  |  |  |  |
|  | Men | 82.1% | 86.9% | 72.1% | 76.3% | 99.2% |
|  | Women | 65.5% | 73.9% | 50.4% | 65.8% | 98.5% |

† Our catchment area in India (Chengalpet taluk) is in Tamil Nadu state

†† Our catchment area in Nigeria (Ibadan South East and Ona Ara) is in Oyo state

††† There are no data available for regions in Trinidad and Tobago

\*\* Information on projected rate of urbanisation not available. Between the 1991 and 2011 census, the urban population in Tamil Nadu grew by 14.3% (from 34.2% to 48.5%)

^ Directly comparable information on urban populations in Oyo State not available. Ibadan is the third largest city in Nigeria (after Lagos and Kano), with (at 2006 census) a population of around 2,338,659

(a) World Urbanisation Prospectus, 2011 Revision. United Nations (<http://esa.un.org/unpd/wup/CD-ROM/Urban-Rural-Population.htm>)

(b) 2011 Indian Census

(c) Human Development Report 2013

(d) The World Bank (<http://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG>)

(e) Report of the National Literacy Survey, 2010. Abuja, Nigeria: National Bureau of Statistics (<http://resourcedat.com/wp-content/uploads/2012/04/National-Literacy-Survey-2010.pdf>.)

(f) The World Factbook; 2013. CIA (<https://www.cia.gov/library/publications/the-world-factbook/fields/2103.html>)

**Supplementary Table S2.** Information on population at risk (denominator) and eligible cases identified (numerator).\*

|  |  |  |  |
| --- | --- | --- | --- |
|  | Chengalpeta | Ibadanb | Tunapuna-Piarcoc |
| Denominator |  |  |  |
| Population | 412,289 | 532,208 | 248,656 |
| Population age 18 - 64 | 255,362† | 270,471 | 168,448 |
| Start date | 01-02-2013 | 03-04-2013 | 01-03-2013 |
| End date | 31-08-2013 | 03-10-2013 | 01-10-2013 |
| Period at risk, months | 7 | 6 | 7 |
| Person years at risk | **148,961** | **135,240** | **98,260** |
| Numerator |  |  |  |
| Screened | 480 | 559 | 117 |
| Not eligible | 398 | 511 | 73 |
| Insufficient information | 18 | 0 | 9 |
| Eligible | **64** | **48** | **35** |
| Eligible, schizophrenia  Eligible, other  Eligible, DUP < 2 yr  Eligible, DUP > 2 yr | 37  27  23  41 | 43  5  45  3 | 18  17  25  10 |
| Leakage | 9 | 4 | 8 |
| Cases identified via ... |  |  |  |
| MH service (public) | 6 (9.4%) | 22 (45.8%) | 33 (94.3%) |
| Healer, etc. | 0 (0.0%) | 26 (54.2%) | 2 (5.7%) |
| Key informant | 28 (43.8) | 0 (0.0%) | (0.0%) |
| Survey | 30 (46.8) | - | - |

\* See also site specific flow charts documenting case finding

† Population aged 18-65 estimated using proportions in this age group for Kancheepuram District (i.e., 63% aged 18-65; same for men and women)

a Census of India. Provisional Population Totals - Tamil Nadu-Census 2011 Sub District (Taluk) Level. [cited 2013 25 August]; Available from: <http://www.census.tn.nic.in/census2011data/PPT_taluk_data_final.pdf>

b National Population Commission of Nigeria. Population Distribution by Sex, State, LGA & Senatorial District. Abuja, Nigeria: National Population Commission of Nigeria; 2010.

c Central Statistical Office, Ministry of Planning and Sustainable Development. Trinidad and Tobago 2011 Population and Housing Census Demographic Report. Port of Spain, Trinidad: Government of Trinidad and Tobago; 2012.

**Supplementary Table S3.** Demographic and clinical characteristics of eligible cases by site.

|  | | Chengalpet  n 64 | Ibadan  n 48 | Tunapuna-Piarco  n 35 |
| --- | --- | --- | --- | --- |
|  | | mean (sd) | mean (sd) | mean (sd) |
| Age at detection | | 39.81 (10.89) | 31.00 (7.61) | 33.43 (11.26) |
| Age at onset | | 33.85 (10.80) | 30.28 (7.62) | 31.60 (9.86) |
|  | | n (%) | n (%) | n (%) |
| Sex | |  |  |  |
|  | Men | 28 (43.8) | 15 (31.3) | 20 (57.1) |
|  | Women | 36 (56.2) | 33 (68.8) | 15 (42.9) |
|  | | median (iqr) | median (iqr) | median (iqr) |
| DUP, weeks | | 232 (50-484) | 13 (4-40) | 38 (5-104) |
|  | | n (%) | n (%) | n (%) |
| DUP, dichotomised | |  |  |  |
|  | Less than 2 years | 23 (35.9) | 45 (93.8) | 25 (71.4) |
|  | More than 2 years | 41 (64.1) | 3 (6.3) | 10 (28.6) |
| Mode of onset\* | |  |  |  |
|  | Acute | 4 (8.9) | 32 (68.1) | 16 (59.3) |
|  | Gradual, insidious | 41 (91.1) | 15 (31.9) | 11 (40.7) |
| Diagnosis | |  |  |  |
|  | Schizophrenia | 37 (57.8) | 43 (89.6) | 18 (51.4) |
|  | Other | 27 (42.2) | 5 (10.4) | 17 (48.6) |
| Pathway, first† | |  |  |  |
|  | Mental health prof. | 7 (15.9) | 11 (23.4) | 14 (42.4) |
|  | Other health prof. | 1 (2.3) | 10 (21.3) | 7 (21.2) |
|  | Police, court | 1 (2.3) | 0 (0.0) | 5 (15.2) |
|  | Folk | 35 (79.6) | 26 (55.3) | 5 (15.2) |
|  | Other | 0 (0.0) | 0 (0.0) | 2 (6.1) |
| Ever professional† | |  |  |  |
|  | No | 16 (36.4) | 18 (38.3) | 2 (6.1) |
|  | Yes | 28 (63.6) | 29 (61.7) | 31 (93.9) |
| Ever folk† | |  |  |  |
|  | No | 3 (6.8) | 12 (25.5) | 27 (81.8) |
|  | Yes | 41 (93.2) | 35 (74.5) | 6 (18.2) |
| Identified via ... | |  |  |  |
|  | MH service (public) | 15 (20.6) | 22 (45.8) | 41 (95.4) |
|  | Healer, etc. | 0 (0.0) | 26 (54.2) | 2 (4.7) |
|  | Key informant | 28 (38.3)‡ | 0 (0.0) | 0 (0.0) |
|  | Gatherings of residents | 30 (41.1)^ | na | na |

\* Missing: 19 Chengalpet; 1 Ibadan; 8 Tunapuna-Piarco

† Missing: 20 Chengalpet; 1 Ibadan; 2 Tunapuna-Piarco

‡8 Balwadi teacher; 7 village leaders; 7 family of other identified cases; 6 village health nurses

^ villagers met at gathering spots

**Supplementary Table S4.** Rates of psychosis, by sex.

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Person years at risk | All cases | Rate (1) | 95% CI | IRR\* | 95% CI | Short duration cases | Rate (1) | 95% CI | IRR\* | 95% CI |
| All psychoses |  |  |  |  |  |  |  |  |  |  |  |
| Chengalpet |  |  |  |  |  |  |  |  |  |  |  |
| men | 75,480 | 28 | 39.5 | 24.8-54.3 | 1.00 | - | 9 | 11.4 | (3.9-18.9) | 1.00 | - |
| women | 73,481 | 36 | 52.3 | 34.9-69.7 | 1.33 | 0.81-2.17 | 14 | 19.6 | (9.1-30.1) | 1.60 | 0.69-3.69 |
| Ibadan |  |  |  |  |  |  |  |  |  |  |  |
| men | 64,448 | 15 | 21.0 | 10.3-31.7 | 1.00 | - | 14 | 19.4 | (9.2-29.6) | 1.00 | - |
| women | 70,792 | 33 | 41.4 | 26.8-56.1 | 1.97 | 1.07-3.63 | 31 | 38.8 | (24.7-52.9) | 1.98 | 1.05-3.73 |
| Tunapuna-Piarco |  |  |  |  |  |  |  |  |  |  |  |
| men | 48,935 | 20 | 41.6 | 23.3-59.8 | 1.00 | - | 11 | 23.1 | (9.4-36.7) | 1.00 | - |
| women | 49,325 | 15 | 32.2 | 15.8-48.5 | 0.75 | 0.39-1.47 | 14 | 29.9 | (14.2-45.7) | 1.28 | 0.58-2.82 |
| Schizophrenia |  |  |  |  |  |  |  |  |  |  |  |
| Chengalpet |  |  |  |  |  |  |  |  |  |  |  |
| men | 75,480 | 21 | 29.8 | (17.0-42.6) | 1.00 | - | 7 | 9.0 | (2.3-15.7) | 1.00 | - |
| women | 73,481 | 16 | 24.5 | (12.4-36,7) | 0.79 | 0.41-1.51 | 5 | 7.7 | (1.0-14.5) | 0.74 | 0.23-2.32 |
| Ibadan |  |  |  |  |  |  |  |  |  |  |  |
| men | 64,448 | 15 | 21.0 | (10.3-31.7) | 1.00 | - | 14 | 19.4 | (9.2-29.6) | 1.00 | - |
| women | 70,792 | 28 | 34.1 | (21.1-47.1) | 1.67 | 0.89-3.12 | 27 | 33.1 | (20.3-46.0) | 1.72 | 0.90-3.28 |
| Tunapuna-Piarco |  |  |  |  |  |  |  |  |  |  |  |
| men | 48,935 | 12 | 25.4 | (11.0-39.8) | 1.00 | - | 8 | 17.0 | (5.2-28.7) | 1.00 | - |
| women | 49,325 | 6 | 13.5 | (2.7-24.2) | 0.50 | 0.19-1.33 | 6 | 13.5 | (2.7-24.2) | 0.75 | 0.26-2.16 |
| Other psychoses |  |  |  |  |  |  |  |  |  |  |  |
| Chengalpet |  |  |  |  |  |  |  |  |  |  |  |
| men | 75,480 | 7 | 9.7 | (2.5-17.0) | 1.00 | - | 2 | 2.4 | (0.1-5.8) | 1.00 | - |
| women | 73,481 | 20 | 27.8 | (15.4-40.2) | 2.94 | 1.24-6.95 | 9 | 11.9 | (4.0-19.9) | 4.61 | 1.00-21.34 |
| Ibadan |  |  |  |  |  |  |  |  |  |  |  |
| men | 64,448 | 0 | - | - | **-** | **-** | 0 | - | - | **-** | **-** |
| women | 70,792 | 5 | 7.3 | (1.0-14.0) | **-** | **-** | 4 | 5.6 | (0.1-11.4) | **-** | **-** |
| Tunapuna-Piarco |  |  |  |  |  |  |  |  |  |  |  |
| men | 48,935 | 8 | 16.1 | (4.9-27.4) | 1.00 | - | 3 | 6.1 | (0.1-16.1) | 1.00 | - |
| women | 49,325 | 9 | 18.7 | (6.4-31.0) | 1.13 | 0.44-2.94 | 8 | 16.5 | (5.0-27.9) | 2.71 | 0.72-10.20 |

(1) All cases

(2) Short duration (i.e., duration of psychosis of less than 2 years) cases only

\* Adjusted for age; modelled using Poisson regression

**Supplementary Table S5.** Age (at detection) specific unstandardised rates of psychosis.

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | chengalpet | | | | ibadan | | | | tunapuna-piarco | | | |
| Age | **Cases** | **Person years at risk** | **Rate** | **95% CI** | **Cases** | **Person years at risk** | **Rate** | **95% CI** | **Cases** | **Person years at risk** | **Rate** | **95% CI** |
| 18-19 | 2 | 10,925 | 18.3 | 4.6-73.2 | 3 | 10,274 | 29.2 | 9.4-90.5 | 2 | 6,850 | 29.2 | 7.3-116.7 |
| 20-24 | 3 | 24,236 | 12.4 | 4.0-38.4 | 4 | 23,861 | 16.8 | 6.3-44.7 | 8 | 12,815 | 62.4 | 31.2-124.8 |
| 25-29 | 7 | 23,400 | 29.9 | 14.3-62.8 | 11 | 24,292 | 45.3 | 25.1-81.8 | 4 | 12,983 | 30.8 | 11.6-82.1 |
| 30-34 | 7 | 18,574 | 37.7 | 18.0-79.1 | 16 | 19,824 | 80.7 | 49.5-131.7 | 9 | 10,989 | 81.9 | 42.6-157.4 |
| 35-39 | 10 | 18,935 | 52.8 | 28.4-98.2 | 9 | 15,608 | 57.7 | 30.0-110.8 | 3 | 10,553 | 28.4 | 9.2-88.1 |
| 40-44 | 11 | 14,268 | 77.1 | 42.7-139.2 | 2 | 12,817 | 15.6 | 3.9-62.4 | 2 | 9,493 | 21.1 | 5.3-84.2 |
| 45-49 | 10 | 13,198 | 75.8 | 40.8-140.8 | 1 | 9,799 | 10.2 | 1.4-72.5 | 4 | 10,093 | 39.6 | 14.9-105.6 |
| 50-54 | 7 | 10,276 | 68.1 | 32.5-142.9 | 2 | 8,449 | 23.7 | 5.9-94.7 | 1 | 9,379 | 10.7 | 1.5-75.7 |
| 55-59 | 5 | 7,813 | 64.0 | 26.7-153.8 | 0 | 4,807 | - | - | 1 | 7,810 | 12.8 | 1.8-90.9 |
| 60-64 | 2 | 7,336 | 27.3 | 6.8-109.0 | 0 | 5,509 | - | - | 1 | 7,295 | 13.7 | 1.9-97.3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 18-34 | 19 | 77,135 | 24.6 | 15.7-38.6 | 34 | 78,251 | 43.4 | 31.1-60.8 | 23 | 43,637 | 52.7 | 35.0-79.3 |
| 35-64 | 45 | 71,826 | 62.7 | 46.8-83.9 | 14 | 56,989 | 24.6 | 14.6-41.5 | 12 | 54,623 | 22.0 | 12.5-38.7 |

**Supplementary Figure S1.** Age (at detection) specific unstandardised rates of psychosis.

a) Chengalpet

b) Ibadan

c) Tunapuna-Piarco

**Supplementary Table S6.** Age (at onset) specific unstandardised rates of psychosis.

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | chengalpet | | | | ibadan | | | | tunapuna-piarco | | | |
| Age | **Cases** | **Person years at risk** | **Rate** | **95% CI** | **Cases** | **Person years at risk** | **Rate** | **95% CI** | **Cases** | **Person years at risk** | **Rate** | **95% CI** |
| 18-19 | 7 | 10,925 | 64.1 | 30.6-134.4 | 5 | 10,274 | 48.7 | 20.3-116.9 | 3 | 6,850 | 43.8 | 14.1-135.8 |
| 20-24 | 7 | 24,236 | 28.9 | 13.8-60.6 | 8 | 23,861 | 33.5 | 16.8-67.0 | 11 | 12,815 | 85.8 | 47.5-155.0 |
| 25-29 | 12 | 23,400 | 51.3 | 29.1-90.3 | 12 | 24,292 | 49.4 | 28.1-87.0 | 3 | 12,983 | 23.1 | 7.5-71.7 |
| 30-34 | 7 | 18,574 | 37.7 | 17.8-79.1 | 12 | 19,824 | 60.5 | 34.4-106.6 | 9 | 10,989 | 81.9 | 42.6-157.4 |
| 35-39 | 11 | 18,935 | 58.1 | 32.2-104.9 | 8 | 15,608 | 51.3 | 25.6-102.5 | 2 | 10,553 | 19.0 | 4.7-75.8 |
| 40-44 | 8 | 14,268 | 56.1 | 28.0-112.1 | 1 | 12,817 | 7.8 | 1.1-55.4 | 4 | 9,493 | 42.1 | 15.8-112.3 |
| 45-49 | 9 | 13,198 | 68.2 | 35.5-131.1 | 1 | 9,799 | 10.2 | 1.4-72.5 | 2 | 10,093 | 19.8 | 5.0-79.2 |
| 50-54 | 1 | 10,276 | 9.7 | 1.4-69.1 | 1 | 8,449 | 11.8 | 1.7-84.0 | 0 | 9,379 | - | - |
| 55-59 | 1 | 7,813 | 12.8 | 1.8-90.9 | 0 | 4,807 | - | - | 1 | 7,810 | 12.8 | 1.8-90.9 |
| 60-64 | 1 | 7,336 | 13.6 | 1.9-96.8 | 0 | 5,509 | - | - | 0 | 7,295 | - | - |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 18-34 | 33 | 77,135 | 42.8 | 30.4-60.2 | 37 | 78,251 | 47.3 | 34.3-65.3 | 26 | 43,637 | 59.6 | 40.6-87.5 |
| 35-64 | 31 | 71,826 | 43.2 | 30.4-61.4 | 11 | 56,989 | 19.3 | 10.7-35.9 | 9 | 54,623 | 16.5 | 8.6-31.8 |

**Supplementary Figure S2.** Age (at onset) specific unstandardised rates of psychosis.

a) Chengalpet

b) Ibadan

c) Tunapuna-Piarco

**Supplementary Table S7.** Unstandardised rates of psychosis, including leakage cases.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Cases | Person years at risk | Unstandardised rate | 95% CI |
| All psychoses |  |  |  |  |
| Chengalpet | 73 | 148,961 | 49.0 | (40.0-61.6) |
| Ibadan | 52 | 135,240 | 38.5 | (29.3-50.5) |
| Tunapuna-Piarco | 43 | 98,260 | 43.8 | (32.5-59.0) |