

those seen in the primary care setting. We believe, however, that our findings would need to be assessed in the primary care setting before implementation is considered.

Contributors: See [bmj.com](http://bmj.com)

Funding: No pharmaceutical company or other commercial entity provided funding or other resources for the study.

Competing interests: None declared.

Ethical approval: The local ethics committee approved the trial.

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## Evaluation of suicide rates in rural India using verbal autopsies, 1994-9

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Suicide rates have increased in many developing countries.<sup>1</sup> But the reported rates are misleading because population counts are unreliable, and identifying suicides is problematic because of inefficient civil registration systems, non-reporting of deaths, variable standards in certifying death, and suicide's legal and social consequences.

Suicide rates were between 8.1 and 58.3/100 000 population for different parts of India.<sup>2</sup> Police records, which under-report, were used to calculate these rates.

We used verbal autopsies in the 85 villages of the Kaniyambadi region of southern India (area 127 km<sup>2</sup>; population 108 873 in 1999) to calculate mean age and sex specific suicide rates for the period 1994-9.

### Methods and results

A community health worker (a resident of the village), health aide, community nurse, and doctor reached a consensus on the cause of death. The community health worker, health aide, and nurse independently visited the home of the deceased and collected information from relatives and neighbours of the deceased, traditional healers, and village leaders. These health professionals discussed the circumstances of the death with the doctor. The doctor independently collected information from the different sources in the village in case of any doubts about cause of death.<sup>3</sup> The system was evaluated by independent interviewers in

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*BMJ* 2003;326:1121-2

Age and sex specific suicide rates in the Kaniyambadi region of southern India, 1994-9

	Age* (years)						
	15-24	25-34	35-44	45-54	55-64	65-74	≥75
<b>Men:</b>							
No of suicides	58	63	62	58	37	31	22
Person years	60 192	55 710	40 980	29 777	22 412	13 073	6 725
Age specific suicide rate†	96	113	151	195	165	237	327
<b>Women:</b>							
No of suicides	102	64	29	21	17	25	20
Person years	62 085	55 044	38 403	31 044	23 042	14 721	7 041
Age specific suicide rate†	164	116	76	68	74	170	284
<b>Total:</b>							
No of suicides	160	127	91	79	54	56	42
Person years	122 277	110 754	79 383	60 821	45 454	27 794	13 766
Age specific suicide rate†	131	115	115	130	119	201	305

\*There were no suicides among people younger than 15 years.

†Age specific suicide rate=(No of suicides for an age group×100 000)/(Total person years in that age group).

1994 and 1996-7; they concluded that the method does not over-report the number of suicides. We estimated population using census data (from 1994), which are updated regularly.

The mean suicide rate for the 6 year period was 95.2/100 000 (range 83.7-106.3/100 000) and did not change significantly over time (96.7, 106.3, 83.7, 103.6, 89.8, and 90.9 in each 100 000 population for each year 1994-9). Suicides accounted for between 8% (89/1057) and 12% (112/940) of total deaths. Suicides in women were 0.84 times as likely as suicides among men; this ratio did not change significantly over time.

Older men were more likely to commit suicide than younger men (table). Most women who committed suicide were aged 15-24 or older than 65. We found more suicides among women (102/278) than among men (58/331) in the 15-24 years age group ( $\chi^2$  for linear trend=15.5;  $P < 0.001$ ).

Poisoning (275/609; 45%) and hanging (248/609; 41%) were the commonest methods overall. A greater proportion of women chose drowning or burning ( $\chi^2=52.2$ ;  $df=1$ ;  $P < 0.0001$ ) than men, who more often chose poisoning or hanging. People younger than 44 years tended to use poison; older people tended to choose hanging ( $\chi^2=44.1$ ;  $df=18$ ;  $P < 0.001$ ). From 1994 until 1999, the proportion of suicide by poisoning, hanging, and drowning did not change significantly. The number of suicides by burning increased from 4 in 1994 to 11 in 1999 ( $\chi^2$  for linear trend=7.25;  $P=0.007$ ). No sutī—a widow committing suicide by burning in her husband's funeral pyre—was recorded.

## Comment

Verbal autopsies can give a good idea of the cause of death from suicide in the developing world, where coroners' verdicts are not available. A community health programme in the Kaniyambadi region of India found that recent studies in India have under-reported suicide rates by two to three times.<sup>2</sup> The independently verified method used verbal autopsies and found the rate in 1994-9 was 95.2/100 000 population—nine times the national average. The high rates are not likely to be peculiar to Kaniyambadi; they reflect more accurate data collection. Sentinel centres that accurately monitor suicide are needed in the developing world.

We thank the staff of the Department of Community Health for the census, data collection, computerisation, and verbal autopsies.

Contributors: AJ, SA, JPM, and KG designed and monitored the project and contributed to writing the paper. JP, SM, and VJA monitored the programme, reviewed verbal autopsies, and helped write the paper. KSJ analysed the data and wrote the paper. AJ is guarantor.

Funding: No additional funding.

Competing interests: None declared.

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## Participation in screening for cardiovascular risk by people with schizophrenia or similar mental illnesses: cross sectional study in general practice

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BMJ 2003;326:1122-3

People with severe mental illnesses are at increased risk for physical illness, including cardiovascular disease.<sup>1 2</sup> Guidance from the National Institute for Clinical Excellence recommends monitoring of cardiovascular risk factors in such patients and research into relevant interventions.<sup>3</sup> Possible causes of this morbidity include diet, smoking, and drug treatment. Health professionals may be less inclined to manage physical health,<sup>2</sup> and patients may be uninterested or poorly motivated. Little evidence exists about the acceptability of disease prevention in people with serious mental illness. We hypothesised that such people would be less willing to participate in assessment of cardiovascular risk.

### Participants, methods, and results

We invited patients from seven inner London general practices to a cardiovascular risk assessment at their practice. One group comprised all patients with a diagnosis of schizophrenia or other chronic psychosis (excluding primary mood disorders) on their computer

record.<sup>4</sup> We used a computer to randomly choose a comparison group twice the size without these diagnoses. General practitioners wrote offering an appointment (including a blood test) with a researcher and explaining the 10 year cardiovascular risk score (calculated from age, sex, smoking status, diabetic status, blood pressure, and cholesterol concentrations). Participants would receive all results and interpretations. We did not invite people under 30, over 75, or with pre-existing ischaemic heart disease, as risk scores do not apply.

We sent letters to 224 people with psychosis and 424 people without psychosis. After a week we telephoned up to three times, once outside working hours. If we did not make contact we sent a final invitation. We excluded from the analysis people who had moved away, those we could not reach, and those with no contact with the practice for three years, in accordance with previous findings.<sup>5</sup> This left 182 potential participants with psychosis and 313 without psychosis. Limited, anonymous data on non-participants allowed examination of