

randomly selected sample of suicide by hanging from a wide geographical area in England.

We would like to make the following comments. The report made no reference to the proportion of older victims in the randomly selected sample. The mean age given in the report (41 years) is almost the same as that for all people over the age of 16 years in England and Wales who hanged themselves in the same year as the study (2001) and over the past 23 years. These cases include, on average, 16% over the age of 64 years. This means that the study sample of 162 contained at least 25 victims over the age of 64, a sizeable older element that was not referred to in the report.

This is important and ought to have been clarified particularly in relation to the deaths that occurred in hospital when the victims were found seated (4.7%), kneeling (7.4%), lying (8.7%) or partially suspended (3.4%) and to individuals who were found alive (4.3%). However, this does not apply to hanging in prison where victims had an estimated mean age of 28 years (Shaw *et al.*, 2004).

We calculate the expected annual rate of 'potentially preventable suicides by hanging' within institutions (controlled environment) in England and Wales to be about 110 cases of a total of 1300 expected annual suicides by hanging: 86 in prison (Shaw *et al.*, 2004) and 24 (about a third of 71 hanging incidents by psychiatric in-patients) in hospital (Department of Health, 1999). 'Potentially preventable suicide by hanging' in controlled environments involving prisoners represents 5% of all suicide by hanging in England and Wales and 2% in the case of psychiatric in-patients. This is remarkably similar to the 6% in the report of Bennewith *et al.*

It would be of real interest, and certainly of practical value, if future studies specifically investigated suicide by hanging within controlled environments such as hospitals and prisons using an appropriately selected sample over a period of time (e.g. 220 incidents expected over 2 years in England and Wales, based on current figures). This would provide a study with acceptable power and some inferential value compared with the modest 10 cases reported by Bennewith *et al.*

**Bennewith, O., Gunnell, D., Kapur, N., et al (2005)** Suicide by hanging: multicentre study based on coroners' records in England. *British Journal of Psychiatry*, **186**, 260–261.

**Department of Health (1999)** *National Confidential Inquiry Into Suicide and Homicide by People with Mental Health Problems*, pp. 38–39. London: Department of Health.

**Department of Health (2002)** *National Suicide Prevention Strategy for England*. London: Department of Health.

**Shaw, J., Baker, D., Hunt, I. M., et al (2004)** Suicide by prisoners: national clinical survey. *British Journal of Psychiatry*, **184**, 263–267.

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**Authors' reply:** The aim of our research was to undertake a detailed assessment of a sample of *all* (community and institutional) suicides by hanging in a defined geographical area over a 6-month period, focusing on potentially preventable aspects of these deaths. The context for the research was the rise in suicides by hanging in England and Wales (Gunnell *et al.*, 2005) and the National Suicide Prevention Strategy for England (Department of Health, 2002). Of note, rates of suicide by hanging have not increased among men or women aged 65 years and over (Gunnell *et al.*, 2005). Although generally Office for National Statistics figures for England and Wales from the 1970s onwards show that rates per 100 000 for deaths by hanging were higher in those aged 65 and over compared with rates in other age groups, this is not the case from 2000 onward when rates for death by hanging increased in the 15- to 44-year age group and decreased among those aged 65 and over (Gunnell *et al.*, 2005).

The Editor decided that our paper should be resubmitted as a short report. The limited space did not enable us to give a full breakdown of the distribution of age, gender, race, social class, etc. of all of our sample. In response to the concern of Drs Salib and Theophanous we can confirm that 13 (8.0%) of the 162 cases in our study were aged over 65 years. Furthermore, 19 (11.7%) were aged under 25 years and 139 (85.8%) were male.

For those interested in a more detailed account of suicides in psychiatric hospitals and prisons we suggest the following sources: Dooley (1990), Shaw *et al.* (2003), Shaw *et al.* (2004) and Gunnell *et al.* (2005).

**Department of Health (2002)** *National Suicide Prevention Strategy for England*. London: Department of Health.

**Dooley, E. (1990)** Prison suicide in England and Wales 1972–87. *British Journal of Psychiatry*, **156**, 40–45.

**Gunnell, D., Bennewith, O., Hawton, K., et al (2005)** The epidemiology and management of suicide by hanging: a review. *International Journal of Epidemiology*, **34**, 433–442.

**Shaw, J., Appleby, L. & Baker, D. (2003)** *Safer Prisons: A National Study of Prison Suicides 1999–2000 by the National Confidential Inquiry into Suicides and Homicides by People with Mental Illness*. London: Department of Health.

**Shaw, J., Baker, D., Hunt, I. M., et al (2004)** Suicide by prisoners: National clinical survey. *British Journal of Psychiatry*, **184**, 263–267.

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### Transcranial direct current stimulation in developing countries

The suggestion by Fregni *et al.* (2005) that transcranial direct current stimulation (tDCS) might be an inexpensive solution to the lack of resources for the treatment of depression in developing countries is well meaning but does not take into account the real reasons for the poor uptake of psychiatric treatments. If, as the authors state, the uptake is only 34% in a resource-rich country such as the USA with its high educational levels and awareness campaigns, a rate of 17% in Brazil is not surprising and is most likely not due to the lack of affordable drugs (Chisholm *et al.*, 2004). Cheap and effective, if not the latest, antidepressant drugs are usually available in most countries. In making their suggestion, the authors also ignore the expert opinion regarding the first-line management of depression around the world (Crawford, 2004). Most commentators would agree that this should be pharmacotherapy and not direct magnetic or electrical stimulation of the brain. The lack of primary healthcare facilities in many countries makes the suggestion of tDCS as a primary intervention impractical.

My major concern, however, is not that the authors recommend tDCS as a first-line intervention but that they recommend it as an intervention at all. By basing their

recommendation on just one unpublished modern study, these well-respected scientists appear to have gone beyond the available evidence. Transcranial direct current stimulation is not a new intervention for depression, with a number of studies published in the 1960s and '70s (Bindman *et al*, 1964; Lippold & Redfearn, 1964; Lolas, 1977). However, the results were not uniformly positive and certainly not persuasive enough for this intervention to have been adopted by clinicians. Although I acknowledge that our knowledge of the brain has improved, Fregni *et al* do not present evidence to show how modern tDCS is superior to that used four decades ago. We need to know a lot more about tDCS before it can be accepted as an effective treatment, and must await the results of many ongoing trials. In the meantime, those with depression in the developing world should be dissuaded from unplugging their car batteries and clamping the leads on to their foreheads.

**Bindman, L. J., Lippold, O. C. J. & Redfearn, J. W. T. (1964)** The action of brief polarizing currents on the cerebral cortex of the rat. *Journal of Physiology*, **172**, 369–382.

**Chisholm, D., Sanderson, K., Ayuso-Mateos, J. L., et al (2004)** Reducing the global burden of depression. Population-level analysis of intervention cost-effectiveness in 14 world regions. *British Journal of Psychiatry*, **184**, 393–403.

**Crawford, M. J. (2004)** Depression: international intervention for a global problem. *British Journal of Psychiatry*, **184**, 379–380.

**Fregni, F., Boggio, P. S., Nitsche, M., et al (2005)** Transcranial direct current stimulation. *British Journal of Psychiatry*, **186**, 446–447.

**Lippold, O. C. J. & Redfearn, J. W. T. (1964)** Mental changes resulting from the passage of small direct currents through the human brain. *British Journal of Psychiatry*, **110**, 768–772.

**Lolas, F. (1977)** Brain polarization: behavioral and therapeutic effects. *Biological Psychiatry*, **12**, 37–47.

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**Authors' reply:** We thank Professor Sachdev for his letter and we certainly agree that further studies on the antidepressant effects of tDCS are needed and that the standards of application of a given therapy in any part of the world should be matched. It is certainly not acceptable that inferior treatments are used in developing countries. However, although antidepressants are often available in developing countries,

problems with distribution and management of these medications often preclude regular and effective clinical treatment. For instance, in São Paulo, a relatively rich city in Brazil, shortage of antidepressants is common (Brazilian Ministry of Health website, <http://portal.saude.gov.br/saude/>). Those with depression are regularly faced with the choice between stopping antidepressant treatment or paying for it with their own money. Poor patients often have to interrupt their treatment, risking worsening or relapse of their depression. The situation is even worse in poorer countries. Furthermore, it is well established that higher prevalence rates of depression are found among poor, illiterate and urban migrants (Almeida-Filho *et al*, 2004). Therefore, those most in need are less able to afford regular antidepressant treatment.

We agree that medications should be the first line of treatment for those with newly diagnosed depression. However, we cannot ignore the fact that many in poor areas are not being treated for depression at all. Therefore, our intention is to simulate the search for new, inexpensive approaches for the treatment of depression. Our suggestion of tDCS is based on several well-conducted studies showing its modulatory effects on brain activity (Nitsche *et al*, 2003), past positive trials of this technique in depression (Lolas, 1977) and our preliminary data showing a significant antidepressant effect (Fregni *et al*, 2005). The main differences between the current tDCS protocols and those used in the 1960s and '70s derive from recent knowledge of stimulation to optimise cortical modulation and therefore clinical effects (Nitsche *et al*, 2003). Furthermore, substantial evidence from studies of transcranial magnetic stimulation and electroconvulsive therapy suggests that electrical stimulation is a powerful treatment for depression (George *et al*, 2002).

Our message is simple: a large number of those with depression are suffering because they cannot afford medicine, therefore new solutions should be offered. Transcranial direct current stimulation might represent such a solution and should be investigated further.

**Almeida-Filho, N., Lessa, I., Magalhaes, L., et al (2004)** Social inequality and depressive disorders in Bahia, Brazil: interactions of gender, ethnicity, and social class. *Social Science and Medicine*, **59**, 1339–1353.

**Fregni, F., Boggio, P., Nitsche, M., et al (2005)** Treatment of major depression with transcranial direct current stimulation. *Bipolar Disorders*, in press

**George, M. S., Nahas, Z., Li, X., et al (2002)** Novel treatments of mood disorders based on brain circuitry (ECT, MST, TMS, VNS, DBS). *Seminars in Clinical Neuropsychiatry*, **7**, 293–304.

**Lolas, F. (1977)** Brain polarization: behavioral and therapeutic effects. *Biological Psychiatry*, **12**, 37–47.

**Nitsche, M. A., Liebetanz, D., Antal, A., et al (2003)** Modulation of cortical excitability by weak direct current stimulation – technical, safety and functional aspects. *Supplementum Clinical Neurophysiology*, **56**, 255–276.

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### Drug combinations for rapid tranquillisation

It is important to develop cost-effective and efficient methods of treatment in emergency psychiatry, especially where resources are poor. Alexander *et al* (2004) in their paper comparing two methods of rapid tranquillisation concluded that the injectable haloperidol–promethazine mix is as effective as lorazepam and suggested that in India the former is more cost-effective. We acknowledge the findings of their study but would like to make some observations regarding cost-effectiveness and methodology.

The preferred combination for rapid tranquillisation in India (the National Institute of Mental Health and Neurosciences, Bangalore, and the Central Institute of Psychiatry, Ranchi) (combined monthly out-patient attendance of >9000) is haloperidol with lorazepam rather than haloperidol with promethazine. This is guided by the literature as well as existing practice (McAllister-Williams & Nicol Ferrier, 2002; Hughes & Kleespies, 2003). This combination is about 25% cheaper than the haloperidol–promethazine mix (CIMS, 2004). Since promethazine has both alpha-1 and dopaminergic antagonism its combination with haloperidol is more likely to produce hypotension and neuroleptic malignant syndrome in agitated patients, who are often dehydrated and have electrolyte imbalance. On the other hand lorazepam decreases the required dose of haloperidol. Hence we feel that the