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Heart attacks and the Newcastle earthquake

To the Editor: I would like to comment on the article by Dobson et al. published in the Journal recently.¹

The objective of the article is given in the summary as: "To test the hypothesis that stress generated by the Newcastle earthquake led to increased risk of heart attack and coronary death."²

In the article the number of heart attacks in the four-day period after the earthquake was compared with the number of heart attacks at a corresponding time of year in previous years.

One may not test an hypothesis using data that one has used to form that hypothesis, for the same reason that a bookmaker will not accept a bet on a race after that race has been run.

The article should have contained a statement of the hour and date that the study design was agreed upon by the authors. If the study design was agreed upon some days after the earthquake, then the article should have been presented as the reporting of observations and not the testing of an hypothesis. This is because the authors may have had some information about the number of heart attacks after the earthquake and this may have influenced them in their decision to pursue the testing of the hypothesis.

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1 Dobson AJ, et al. HF. H John JA, et al. Heart attacks and the Newcastle earthquake. *Med J Aust* 1991; 155: 757-761

In reply After the Newcastle earthquake there was widespread public concern about the health effects of the resulting "stress". The World Health Organization MONICA Project — which had been collecting data according to well established criteria for several years before the earthquake and continued to do so throughout the immediate period of the earthquake and into the future — provided a means of investigating the issue. The Project offered the potential to yield results that are more valid than is possible from the usual studies in which data are collected retrospectively after a disaster.

Our review of the literature suggested that we should investigate two possible outcomes. One outcome, based on retrospective studies after earthquakes in Greece, was that there would be an increase in coronary deaths in the few days immediately after the earthquake.^{3,4} The other followed from less specific observations of longer-term health consequences of disasters.^{5,6} Thus we analysed our data specifically to look at these two issues. We assure Dr Rose⁷ the questions preceded the answers, not vice versa.

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1 Trichopoulos D, Kato I, et al. Psychological stress and fatal myocardial infarction: a natural experiment. *Am J Epidemiol* 1981; 114: 444

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Pesticides and other chemicals in cigarette tobacco

To the Editor: The Federal Government is to be congratulated on recent moves to increase the impact of health messages on cigarette packets. Decisions about the content of such messages have to balance the consumer's "right to know" against such issues as the need for health information to be simple and direct. An interesting case in point concerns the presence of chemical residues of literally thousands of toxic substances in factory-made cigarettes, including arsenic, cyanide, DDT and asbestos.¹ The April 1992 meeting of the Ministerial Council on Drug Strategy took the view, previously adopted by the NHMRC, that the threat to health posed by these substances was tiny in comparison with that from tar, nicotine and carbon monoxide — substances which are already listed on all cigarette packets. The underlying ethical dilemma is highlighted by findings from a study of smokers' views on this subject conducted by the National Centre for Research into the Prevention of Drug Abuse.

A telephone survey of 510 smokers aged 18 years and over drawn from Western Australia, New South Wales and Queensland was conducted. Face-to-face interviews of 50 adolescent and 210 adult smokers were also conducted.

Respondents had high levels of knowledge about the presence of tar and nicotine in cigarette tobacco but few were aware of the presence of carbon monoxide or of toxic chemicals. The Table summarises answers to the open-ended question "What harmful substances are found in cigarettes?" and to closed questions asked in the form: "Is substance x found in cigarettes?". Two non-existent substances ("glutone" and "monosodium bromide") were included among questions asked in the latter form as a control for respondents' guessing.

Two-thirds of respondents were aware of the tar yield of their own cigarettes and had selected their brand on this basis. Only 25% could accurately recall nicotine levels although many claimed their brand selection was influenced by this information.

Half the smokers in the three-State survey wanted more information on cigarette packets before being informed about the presence of pesticides in tobacco. The nature of this extra information was quite diverse. Even when informed that the levels of toxic chemicals in tobacco posed little threat to health, 85% of respondents believed that tobacco companies should inform smokers about their presence. Two-thirds stated that pesticide/chemical warnings which specifically mentioned arsenic, DDT, lead and asbestos would induce them to cut down or quit smoking. This was

especially true for smokers who were already contemplating quitting and was also true for the majority of those who had said they did not wish to quit prior to being exposed to the warning. Eighty-two per cent of respondents aged 18 years and under stated that pesticide/chemical warnings would worry them and induce them to quit.

It would appear that information about the presence of toxic chemicals other than tar and nicotine is both new and disturbing to smokers. Such information might provide extra motivation for some smokers to quit. Some would argue that, in any case, consumers have a "right to know" what they are smoking — a view which also seems to be held by most smokers.

These findings are reported merely to highlight an ethical dilemma and are not intended as criticism of the extensive new regulations proposed for the labelling of tobacco packets.

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Cholera in Adelaide

To the Editor: Last year, an editorial in the Journal discussed the recent pandemic of cholera and its implication for our community.¹ We wish to draw the attention of your readers to a case currently under our care.

A 58-year-old Caucasian resident of Adelaide returned home with diarrhoea after a 10 day visit to Bali. He had spent his holiday at a recognised tourist resort and eaten all his meals at the resort or adjacent restaurants. He developed crampy lower abdominal pain and loose stools 36 hours before returning to Australia. He became so ill that he was admitted to hospital within two days of his return to Adelaide. During his time in hospital he required 36 L of fluids intravenously and on one day alone was given 12 L of fluid containing 1800 mmol of sodium and 500 mmol of potassium (normal daily requirement, 2 L fluid with 180 mmol of sodium and 80 mmol of potassium). In the first 24 hours of hospitalisation he passed 8 L of stool that was little more than discoloured water.

Faecal microscopy on the day of admission was unhelpful, and no ova, cysts or parasites were identified. It was assumed that the patient probably was suffering a diarrhoeal illness caused by an enterotoxin-producing *Escherichia coli* (ETEC). The large volume water-like diarrhoea persisted and it rapidly became apparent that this was no ordinary diarrhoea. Therefore

Smokers' awareness of the presence of harmful substances in cigarettes (n = 510)

Substance	"What harmful substances are found in cigarettes?" (% respondents naming substance)	"Is substance x found in cigarettes?" (% answering yes)
Nicotine	76.7%	98.0%*
Tar	53.7%	94.7%*
Carbon monoxide	6.7%	53.9%*
Arsenic	3.5%	32.5%*
Hydrogen cyanide	0.8%	17.1%
DDT	0.6%	18.0%
Naphthalene	0.6%	12.5%
Ammonia	0.2%	17.8%
Lead	0.2%	14.7%
Methanol	0	25.7%*
Asbestos	0	4.7%
"Monosodium bromide"	0	18.2%
"Glutone"	0	12.7%

* Respondents were significantly more likely to believe these substances to be harmful than they were the two "dummy" substances (Mantel-Haenszel test, P < 0.05 in each case).