



Figure: Happiness and smoking versus overall mortality
Fully adjusted mortality rate ratios versus single-question replies on (A) happiness and (B) smoking. Happiness is among women who reported good health. Smoking analyses exclude ex-smokers, and for current smokers calculated mortality rate ratios are plotted against the mean number of cigarettes reported 3 years after recruitment, as an estimate of long-term consumption. Information content is shown by the squares' sizes. Error bars are 95% CIs, and where they are narrower than their square they are shown in white.

Our main analyses included 700 000 women, with an average age of 59 years at baseline, of whom 30 000 died during 10 years of follow-up. After allowance for any differences already present in health and lifestyle, overall mortality among women who were generally unhappy was approximately the same as among those who were generally happy. Unhappiness itself being a direct cause of any material increase in overall mortality, therefore, can be ruled out.

The findings for cancer and for heart disease mortality were similar to those for overall mortality, and the findings for stress were similar to those for unhappiness.

Also, our findings were similar for those older and younger than 60 years at baseline as mentioned by Rahman Shiri; and our analyses included, and adjusted for, the 27% of women who were not asked the question on strenuous activity and the 1.5% who did not reply to it.

The simplest analyses to interpret (figure) are for the 500 000 women who reported being in good health, without life-threatening illness, when asked about happiness. After adjustment for age and other characteristics, the mortality rate ratios showed no association with happiness.

Our conclusion remains valid even though we recorded happiness only once and used only a single question (which would have been highly predictive of mortality if no allowance had been made for illness causing unhappiness).

These null findings are incompatible with the large effects of happiness on mortality claimed by others.

The figure also shows that a single question can be strongly predictive of overall mortality for any factor that really is an important cause of death, such as smoking.²

We declare no competing interests.

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Post-sanctions era in Iran: opportunity for science and publication

We read with interest the Correspondence from Masoud Mozafari (April 23, p 1721)¹ expressing hope that lifting of sanctions in Iran will lead to an increase in collaboration with the international scientific community. Iran is a nation with a youthful and educated population, and has great potential to contribute to scientific advancement but this capacity will not be realised as long as sections of its society are denied full access to education, an observation which is deeply troubling.

Women in Iran are barred from studying 77 disciplines² deemed to be men-only subjects. Also, the state policy is to deny access to education for members of the Bahá'í religious minority, who are classed as so-called unprotected infidels. A 1991 memorandum contains instruction that the Bahá'ís "...must be expelled from universities...once it becomes known that they are Bahá'ís...".³ This policy continues to date, and the UN Special Rapporteur on Human Rights in Iran highlighted the issue in a 2013 report.⁴ Despite the involvement of the Bahá'í community in health and education, and the paramount importance of education to young Bahá'ís,⁵ their right to education is not currently respected in Iran.

Inequality prevents innovative research. We hope that Iranian scientists will raise their voices, calling for women and minority groups to be granted equal opportunities to education, serving their nation, and contributing to the advancement of knowledge and learning.

We declare no competing interests.

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Masoud Mozafari¹ reported that Iran's scientific publications have increased even in the sanction period. However, quality of publication should be noticed more than just the number of publications. SCImago Journal Rank shows that between 1996 and 2014, Iran ranked 22nd worldwide for the number of scientific papers published, but the ranking for total citations was 38th, for citations per paper was 161st, and for H index was 42nd. According to the *Journal Citation Report* (2014) and *Web of Science* databases, the top ten journals that published the most Iranian papers in the last decade had the highest two impact factors of 3.840 and 2.275 (appendix). Two journals from this list had impact factors of 1.080 and 1.025, and the remaining journals had impact factors below 1 (appendix).

Importantly, report findings suggest that after China, Iran has had the second-highest number of retracted papers, which points towards a fast publication rate with poor ethics.² We believe that some of the major factors affecting the quality of published papers are as follows:

inappropriate university metric tools for assessment of professors and students, which put pressure on them to increase publications;³ low international collaboration, which can be interpreted as the sanction's effect;⁴ and low budget spending on research projects, which are mainly funded by government and not related to private sector investment compared with countries with high-impact research.⁵

The post-sanctions era provides a unique opportunity. Iran should use this opportunity, and with help of stable research management, efforts should be concentrated on overcoming the aforementioned problems.

We declare no competing interests.

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Caesarean section in Iran

Caesarean section is recommended when the life of the mother or fetus is at risk. WHO recommends that the reasonable proportion for caesarean section is 5–15% of all deliveries and more than this proportion is considered unnecessary

and inappropriate.^{1–2} Unfortunately, despite this recommendation, caesarean section without any medical indication has increased dramatically worldwide during the past decades and has become a concern for health systems in many countries. This concern is warranted because the procedure has higher maternal and neonatal mortality, morbidities, and complications than does vaginal delivery.³

In Iran, the number of caesarean sections has increased and is currently very high. In a referral hospital in Tehran, during the past 30 years, a six-times rise in the caesarean section has been reported.⁴ In 2000, authors of the Demographic and Health Survey⁵ reported a caesarean section proportion of 35%. In 2005, the Ministry of Health and Medical Education in Iran reported that 40.7% of all births were from caesarean section.⁶ Results from a meta-analysis in 2014 showed that the general prevalence of caesarean section in Iran was 48%, with 87% reported in some private institutes.⁷ The steep increase and inappropriateness of caesarean section represents a health-care problem in Iran and requires the attention of government officials. Because numerous underlying factors bring about the need for caesarean section, various strategies should be established to avoid unnecessary use of the procedure. Notable previous interventions include mother-friendly hospitals; development of standard protocols; preparation classes for mothers, midwives, and gynaecologists; and workshops for specialists and midwives. But despite these programmes, caesarean sections are still increasing. What strategies could reverse these trends?

In 2014, a major health policy in the Iranian health system, known as the health sector evolution policy composed of seven packages, has started to improve public health. Promotion of natural childbirth (PNC) is one of these packages, which



See Online for appendix

This online publication has been corrected. The corrected version first appeared at thelancet.com on July 21, 2016