Assessment of the SF-36 version 2 in the United Kingdom

LETTERS TO THE EDITOR

Editor,—I read with interest the recent article on the SF-36. ’The authors present data regarding the psychometric and epidemiological characteristics of the SF-36 version 2. The authors present the results from a large group of surgical patients. I have used the SF-36 with approximately 200 patients who were recruited to examine the effects of different vascular surgery procedures on quality of life and cognitive function. Patients were assessed at operation and six months later. Quality of life function. Patients were assessed before their prophylactic procedure carried out to reduce the risk of stroke. The second study examined the effects of abdominal aortic aneurysm repair (AAA) on quality of life. The average age of patients in the two studies was 69 and 73 respectively.

It became evident very quickly that some patients failed to understand the questionnaire and completed it incorrectly. Patients not understanding a question then they would and the form. If I believed that a patient had misinterpreted a question then I would stop them using the questionnaire and complete it. Many patients had difficulties interpreting question 9 and in particular they appeared to find the Liker scale hard to use. A validation of the Hospital Anxiety Depression Scale. The average age of patients in the two studies was 69 and 73 respectively.

We have some sympathy with the views expressed by Dr Lloyd. He remarks that while some people have expressed by Dr Lloyd, and have indeed written about the psychometric qualities of the questionnaire. The authors concede that the present data are only based on people of working age and I think this remains unclear how suitable this measure is for older age groups. They suggest that further research is needed to determine how applicable the SF-36 is for this age group.

In my personal experience I would suggest that the SF-36 is not a suitable measure to use with older age groups. The main shortcoming with the questionnaire is not the layout but rather the language of the questions. I would be grateful for an opportunity to draw your attention to my experiences of using this tool as an outcome measure with an older age group. I believe that many of the problems that were inherent in the original version have not been resolved. The validity and reliability of the questionnaire relies in part upon users completing it accurately. Any change in the questionnaire's format should be designed to improve the accuracy of users responses, which will in turn improve the psychometric qualities of the questionnaire.

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offered such criticisms of the SF-36 but have produced vacuous scientific proof to support their claims. Claims that the measure is inappropriate for the elderly are more often than not based upon little more than anecdotes, rather than rigorously conducted qualitative studies.

Secondly, Dr Lloyd suggests that there will be errors in the answers provided by older respondents to the questions on the SF36. This is not particularly surprising and is to be expected with all age groups. All questionnaire items consist of true measurement plus an error term. The trick is to reduce the error term as much as is possible. This is why health status measurement has for that part adopted multi-item scales. If we take the data that underlie the item scores and the summed score of all the items will be more reliable than a single question. This is because true measurement from each item will be somewhat error prone while the errors will be random and, effectively, non-additive (the logic here is that for every person who scores a little high on a given item there will be someone who scores a little low, and so on). This, of course, assumes that items have been selected carefully and are neither unrelated or too closely related, an assumption that is implicitly built into the SF-36.

Recent data report on the successful use of the SF-36 in older patients in a large scale survey. Normative data are available. "This evidence would seem to suggest the SF-36 is in useful in this patient group, but specific research would have to establish a world that now embraces evidence based medicine it might be wise to adopt a similarly rigorous approach to questionnaire selection and application."

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Mortality in poorer areas

Eldersley - Law and Morris state that "about 85% of the overall excess mortality with deprivation was attributable to heart smoking" in their study of deaths in England and Wales in 1992. They correctly state that strengths of association tend to be stronger in lower socioeconomic groups and that evidence from smoking data suggests that smoking is more common in deprived districts (table 2 in our paper), almost all of them are smoking related. Three diseases that are strongly smoking related (lung cancer, chronic bronchitis and emphysema, and ischaemic heart disease) accounted for two thirds of the excess mortality, and other smoking related cancers and circulatory diseases accounted for a further sixth of the excess. Diseases reflecting other health related factors (strokes of the liver, AIDS, or differences in medical care, accounted for little of the total excess mortality, while two important socio-technical factors in circulatory diseases, serum cholesterol and blood pressure, show little difference between deprived and affluent districts (not see references 37–39 in our paper).

Blakely has three concerns about our smoking analysis. We do not think that "ecological fallacy" of Greenland and colleagues (which may produce a bias in either direction) is a material problem in this context, particularly as we are not inferring relations at an individual level. Estimation of relations between smoking and diseases through cross-sectional studies is unlikely. Asthma and other occupational exposures that cause lung cancer may be more common in smokers, but these exposures cause relatively few lung cancer cases in relatively low districts. Associations between smoking and other health disease risk factors tend to be weak, and as stated above, blood pressure and serum cholesterol show little variation between affluent and deprived districts. Blakely suggests that relative risk estimates from the British Doctors Study are not generalisable. The results of the British Doctors Study on relation to smoking have in general been supported quantitatively by other large cohort studies, and we confirmed this for ischaemic heart disease. Moreover one would expect estimates of relative risk to be generalisable: the proportionate increase in risk in smokers should be the same in the populations where smoking is relatively common or uncommon or where, for reasons other than smoking, the disease is relatively common or uncommon."

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Reply

We concluded in our paper that all cause mortality was 15% higher in the most deprived compared with the least deprived districts, and that heavier smoking accounted for most (about 85%) of this excess mortality. We disagree with Blakely that the figure of 85% is likely to be a substantial overestimate. Statistical calculations are not necessary to see that smoking accounts for the excess mortality in the more deprived districts. Our need only consider smoking as a specific cause of death that are more common in deprived districts (table 2 in our paper). The logic here is that for every person who smoked by lower socioeconomic smokers, and their study include allowing for the generally younger age of starting smoking, and that heavier smoking accounted for the excess mortality in the more deprived districts. Associations between smoking and other heart disease risk factors tend to be weak, and as stated above, blood pressure and serum cholesterol show little variation between affluent and deprived districts. Blakely suggests that relative risk estimates from the British Doctors Study are not generalisable. The results of the British Doctors Study on relation to smoking have in general been supported quantitatively by other large cohort studies, and we confirmed this for ischaemic heart disease. Moreover one would expect estimates of relative risk to be generalisable: the proportionate increase in risk in smokers should be the same in the populations where smoking is relatively common or uncommon or where, for reasons other than smoking, the disease is relatively common or uncommon.

Bayesian analysis

Eldersley - We are delighted to see your journal publish an excellent paper showing how example a statistical analysis that has run into difficulties can be converted into a Bayesian analysis and thus rescued. Burton et al state that 95% confidence interval can be interpreted as a 95% Bayesian credible interval (also known as a posterior probability interval), thus allowing the interpretation that the true hypothesis is 95% certain to lie within the interval, provided that the design admits "... and mortality differences..." and context, particularly as we are not inferring relations at an individual level. Estimation of relations between smoking and diseases through cross-sectional studies is unlikely. Asthma and other occupational exposures that cause lung cancer may be more common in smokers, but these exposures cause relatively few lung cancer cases in relatively low districts. Associations between smoking and other health disease risk factors tend to be weak, and as stated above, blood pressure and serum cholesterol show little variation between affluent and deprived districts. Blakely suggests that relative risk estimates from the British Doctors Study are not generalisable. The results of the British Doctors Study on relation to smoking have in general been supported quantitatively by other large cohort studies, and we confirmed this for ischaemic heart disease. Moreover one would expect estimates of relative risk to be generalisable: the proportionate increase in risk in smokers should be the same in the populations where smoking is relatively common or uncommon or where, for reasons other than smoking, the disease is relatively common or uncommon.
Bracken fern consumption and human bladder cancer

Editor—In a recently published paper, Wilson et al reviewed four studies that explored the relationship between bracken and human health: a case-control study of gastric cancer in North Wales; a cohort study of oesophageal cancer in Japan; an ecological study in North Wales that compared standardized mortality and incidence rates for gastric and oesophageal cancer in 34 districts with survey maps of bracken areas; and an ecological study in Costa Rica that compared age-specific incidence rates for gastric, oesophageal, and cervical cancer among people born in bracken-free compared with bracken-infested areas. Although some weak associations were noted in these studies, Wilson et al felt that statistical analyses were limited and that little evidence exists for a carcinogenic hazard from bracken.

We would like to call attention to the results of our case-control study that assessed the risk of bladder cancer from bracken fern consumption. Bracken has been shown to be carcinogenic in experimental and observational animal studies, producing bladder tumours in guinea pigs and cattle. Our study was conducted in northern New England to determine reasons for the high bladder cancer mortality rates in this area.

The study included all white residents of Vermont and New Hampshire who died during 1975–79 from bladder cancer. Two randomly selected controls per case, matched on state, gender, race, age (52 years) and year of death, were randomly selected from all other resident deaths (excluding suicides). A questionnaire sought information on demographic characteristics, lifetime occupational and residential histories, history of tobacco and beverage use, medical history including bladder infection, and consumption of selected dietary items including bracken fern (fiddlehead greens). Interviews were conducted with the next of kin of 325 cases and 673 controls. Odds ratios (OR) were calculated using both conditional and unconditional logistic regression. As both methods yielded similar results, the unconditional results were presented. A total of 24 cases (7.4%) and 71 controls (10.5%) were reported to have ever eaten bracken fern (OR=0.49, 95% confidence intervals (CI) 0.30–0.79). Regular consumption of bracken fern was reported for 15 cases (4.6%) and 38 controls (5.6%), OR=0.8 (CI=0.4–1.4). Our negative findings are consistent with a Canadian population-based case-control study of 480 male and 152 female case-control pairs that showed no increased bladder cancer risk associated with consumption of fiddlehead greens. These studies provide further support for the conclusions of Wilson et al that bracken poses no serious health threat to exposed populations.

We thank Dr Burton et al for their helpful letter in response to our paper about the possible effects of bracken upon human health. Although we were aware of, and commented upon bracken consumption by people in Japan and South America, we were not aware that bracken, in the form of “fiddlehead greens” was eaten by some of the population. We are reassured to know that consumption of bracken may not pose a serious threat to human health. However within the United Kingdom, the commenced human exposure to bracken is via possible inhalation and ingestion of spores, not through consumption of the plant as a foodstuff. We were unable to find any studies attempting to explore the relationship between exposure to bracken in these two effects. Such studies in populations who repeatedly work among bracken during the sporing season would be especially valuable.
Human rights—a public health issue?

The year 1998 was important as it helped us to make a clear connection between two key global issues—human rights and public health. The two anniversaries, the 150th anniversary of the enactment in the UK of the first ever national Public Health Act in 1848, and the 50th anniversary of the Universal Declaration of Human Rights proclaimed by the General Assembly of the United Nations on 10 December 1948, add further momentum to the implicit connection. An added bonus was the UK government’s decision to incorporate the European Convention of Human Rights into the UK law, thereby increasing the utility of the Convention for UK citizens. In the United Kingdom the Medical Foundation, whose patrons include Sir Richard Doll, has given the connection between human rights and public health a new vigour through its advocacy and pastoral work in the field.

The chains linking public health and human rights are the Covenant on Civil and Political Rights and the Covenant on Economic, Social and Cultural Rights. These covenants lay the main foundations of the Universal Declaration. The two covenants implicitly recognise and reinforce the World Health Organisation’s Charter on health. Human health at a global level can only be effectively sustained if individuals within nations have certain enshrined rights that enable them to shape the outcomes of the key decisions that affect resource use and allocation within and between nation states.

The Universal Declaration of Human Rights needs champions within nations, both to keep the Declaration in the public eye and to assist individuals whose rights as defined by the Declaration have been breached or violated. There are many such organisations based in a number of countries. The Medical Foundation is one such body, and is prominent in the UK. The main focus of the Foundation’s work is campaigning on behalf of victims of torture. The Foundation also meets the immediate care needs of victims of torture. The Foundation’s work is likely to acquire an added significance now that there is widespread support for the setting up of an International Criminal Court. It is a matter of public interest that the Court be a permanent tribunal with universal jurisdiction over individuals responsible for systematic violations of human rights. It is argued with force that the creation of a judicial institution is crucial to the struggle against the culture of impunity that is prevalent throughout the world. By designating massive and systematic violations of human rights as crimes and effectively prosecuting the violators, the international community would show its resolve to uphold justice and the rule of law as the foundation of peace and security. So far 74 states have signed the Rome Statute Signature and Ratification Chart, however it needs 60 states to ratify the Statute for the Court to be set. So far only one state, Senegal, has ratified the Statute. It is vital that internationally the public health movement persuades more nations to ratify the statute to enable the Court to become operational.

Public health practitioners have a vested interest in supporting the work of bodies such as the Medical Foundation, as they help to remind us that the twin goals of health and human rights for all are attainable, the obstacle being us collectively. The human rights agenda is vital for public health practitioners. It is too important for us to ignore it.
Mortality in poorer areas.

T Blakely

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