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-36.1 The authors present data regarding the psychometric and epidemiological characteristics of the SF-36 version 2. The authors present the results from a large sample of patients aged 18-64. The analysis reveals that the questionnaire has good test-retest reliability and construct validity. The layout of the new questionnaire is certainly improved and in this respect I think that participants will find it easier to complete. However, 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.

The authors concede that the present data are only based upon people of working age and so it 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 experience of using this tool as an outcome measure with 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 functioning. Following 1 week of pre-operative care and six months later. Quality of life was assessed using the SF-36 and the Hospital Anxiety and Depression Scale (HAD).

The HAD scale is widely referred to in the psychiatric literature (reported sensitivity = 72-86% and specificity = 68-94%)." The patients in this study were undergoing endarterectomy (CEA), which is a 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 were not always able to read the questions through to the end. I believed that a patient had misunderstood a question then I would stop them while they were undertaking it and also read out each response option (for example: all of the time, most of the time, some of the time, none of the time) as the patient then said that they underv...ed the question they would be left to complete the rest of it. I noted down any occasion when a patient changed their mind regarding their response after I had re-read the question.

Problems were most commonly encountered with the following questions:

Question 3 What are activities that you might do during a typical day. Does your health limit you in these activities? If so, how much?

Yes, limited a lot Yes, a little No, not limited at all

Some patients misunderstood the concept of health limiting their physical activity. This is because they misunderstood the question or simply didn’t understand it correctly. Commonly, relatively elderly patients would read: “In vigorous activities such as running...” and would tick “No, not limited at all.” When I re-read the question to them they would typically respond “No, no I don’t do that sort of thing.” In this example 23% of patients went on to change their mind when the question was re-readed. It left unclear if the patients would have gone on to complete all 10 parts of question 3 incorrectly.

Question 5 During the past four weeks, have you had any of the following problems with your work or other regular daily activities as a result of any emotional problems (such as feeling depressed or anxious)?

After answering 14 consecutive questions regarding physical activity, many patients appeared to find it difficult to switch to thinking about emotional problems in question 5. Commonly patients reported that they thought questions 4 and 5 were the same and so they responded with the same answers. When the question was re-read, 19% of patients felt that their first response to the question was incorrect. Clearly it is difficult to judge given the nature of the question whether people were completing it correctly.

Therefore the scores from this question were compared with patients’ scores from the HAD scale. The scores from question 5 form the basis of the role-functioning-emotional scale (RE). Patients’ scores from this scale had a low correlation with the measures of anxiety and depression from the HAD scale (anxiety = r = -0.27, depression r = -0.26). A strong association between scores on the RE scale and the mental health scale (MH) (r = 0.61) has been reported. In the total sample reported here (n=208) this correlation was even higher (r=0.81). For instance, the correlation coefficient (r) was -0.27, which indicates a moderate association. Dr Lloyd’s letter raises the issue in a rather speculative and, as he himself remarks, a rather anecdotal fashion. The letter also discusses his concerns, one related to the manner in which he himself reports the data (that the patients have a low correlation with the RE scale). Such a view should be supported by evidence. Many people have suggested errors was arbitrary. Indeed my method of re-reading questions to patients when I considered that they had made a mistake could be criticized as biasing patients’ responses. However, when I started using the SF-36 I quickly became convinced that many patients were failing to understand the questions. I believe that version 2 has not resolved the shortcomings that were inherent in the original version. As it stands I believe that the SF-36 should not be used as an assessment of quality of life in older patients. Investigators should also be cautious about using the tool with any patients who have evidence of head injuries, cognitive impairments or communic...
offered such criticisms of the SF-36 but have produced scarce 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 SF-36. 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 the most part adopted multi-item scales. If we take multi-item scale scores as the underlying attribute then the summed score of all the items will be more reliable than a single question. This is because all true measurement from each item will be summed, while error terms on all the items 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.3 This evidence would seem to suggest the SF-36 is useful in this patient group, but specific responses to each item may reflect a world that now earns 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

Elderly—Law and Morris state that “about 85% of the overall excess mortality with deprivation was attributable to heavier smoking” in their study of deaths in England and Wales in 1992.4 They correctly state that strengths of the design admit “a uniform prior distribution” and that “the proportionate increase in risk in smokers should be the same in populations where smoking is relatively common or uncommon”.

Reply

We conclude 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 underestimate. Statistical calculations are not necessary to see that smoking accounts for most of the excess mortality in the more deprived districts. Our need only consider the specific causes of death that are 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 causes of death accounted for a further sixth of the excess. Diseases reflecting other health related differences (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 (see references 37–39 in our paper).5

Blakely has three concerns about our smoking related data. First, we do not think there is “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 relative risks at the level of the individual. Estimation of relations between smoking and diseases through confounding is unlikely. Absent 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 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. This is not so, the British Doctors Study in relation to smoking have in general been supported quantitatively by other large cohort studies, and we confirmed this for ischaemic heart disease.7 Moreover one would expect estimates of relative risk to be generalisable: the proportionate difference in risk in smokers should be the same in 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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Bayesian analysis

Ed.—we are delighted to see your journal publish an excellent paper showing by example how a statistical analysis that has run into difficulties can be converted into a Bayes

Bayesian Community Health: first published as 10.1136/jech.53.10.653 on 1 October 1999. Downloaded from http://jech.bmj.com/ on September 16, 2023 by guest. Protected by copyright.
Bracken fern consumption and human bladder cancer

Editor—In a recently published paper, Wilson et al reviewed four studies that examined differences in the relation 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 concluded 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 studies, producing bladder tumours in guinea pigs and cattle.1 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 (±2 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 650 controls (fiddlehead greens). Interviews were conducted with the next of kin of 325 cases and 650 controls. ODDS ratios (ORs) 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 (11.6%) were reported to have ever eaten bracken fern (OR=0.4, 95% confidence intervals (CI)=0.2–0.9). 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.2 These studies provide further support for the conclusions of Wilson et al that bracken poses no serious health threat to exposed populations.

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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 first covenant details the basic civil and political rights of individuals and nations. This covenant provides for the following rights for nations:

- The right to life, liberty and security of person
- The right to freedom of thought, conscience and religion
- The right to freedom of opinion and expression
- The right to freedom of association
- The right to freedom of assembly
- The right to privacy
- The right to protection of one’s home

The same covenant also attaches a number of rights to individuals:

- The right to own, trade and dispose of their property freely and not deprived of their means of subsistence
- The right to freedom of thought, conscience and religion
- The right to freedom of opinion and expression
- The right to freedom of association
- The right to freedom of assembly
- The right to privacy and right to protection of that privacy by law
- The right to liberty and freedom of movement
- The right to legal recourse when their rights have been violated, even if the violator was acting in an official capacity
- The right to presumption of innocence until proven guilty
- The right to appeal a conviction
- The right to self-determination
- The right to freedom of movement
- The right to own, trade and dispose of their property freely and not deprived of their means of subsistence

The second covenant describes the basic economic, social and cultural rights of individuals and nations, including the right to:

- Self-determination
- Equal pay for equal work
- Trade unions
- Strike
- Paid or otherwise compensated maternity leave
- Free primary education and accessible education at all levels
- Copyright, patent and trademark protection for intellectual property

In addition, this convention forbids exploitation of children and requires all nations to cooperate to end worldwide hunger. Each nation that has ratified this convention is required to submit annual reports on its progress in providing these rights to the Secretary General of the United Nations, who is to transmit them to the Economic and Social Council of the United Nations.

The two covenants implicitly recognize and reinforce the World Health Organization’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 nations.

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 organizations 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. A majority of the states of the United Nations has called upon the Security Council to 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.

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