Side-effects after alternative treatments

Significant proportions of users of complementary medicines may encounter troublesome or even dangerous side effects, suggests a recent letter in the journal Nature.

“It is commonly believed,” wrote a team from the University of Exeter's Postgraduate Medical School, “that complementary / alternative medicine (CAM) is natural and therefore safe and that people can be treated without side-effects.” The letter goes on to quote the results of two surveys as evidence of potential risks.

In the first, Guardian readers had been invited to answer a questionnaire about their experiences with CAM. While more than 9 in 10 of the 386 respondents had a positive attitude to their treatment, nearly a quarter reported adverse effects.

The second study involved 972 GPs and found nearly 40% had encountered patients experiencing problems with complementary therapies, with physical adverse effects arising mostly from manipulatory therapies, such as chiropractic and osteopathy.

Both surveys have limitations. The sample group completing the first questionnaire will probably have been relatively healthy people in favour of CAM; the second will have reported the more severe adverse effects.

Neither provides reliable figures for prevalence of adverse effects.

But both, say the authors, illustrate that CAM is not as free of risk as is often thought.

Medical Register by the General Medical Council. But the case was more than an isolated instance of petty crookery: it was an example of an occurrence which, though probably with us since the beginnings of scientific research, has been recognised all over the world and brought out into the public arena increasingly in the past 20 years. But what exactly is scientific fraud, how often does it happen, and what can be done about it?

It is fairly easy to specify the commonest types.

- **forgery** involves the invention of results;
- **plagiarism** the copying of written or spoken material; and
- **piracy** the stealing of ideas.

Less easy to define are those practices further up the scale of undesirable features.

An expert peer reviewer (or referee), asked to comment on a paper reporting experience with a new drug, for instance, may damn the report - thereby causing the journal editor to reject it for publication - merely because he or she advises a rival drug company making a competing agent. These days many editors ask their referees to document such hidden biases in so-called 'declarations of interest'.

Some 'authors' named in papers may not be true authors—that is, able to take complete intellectual responsibility for the contents of the paper—because the work reported had not been done by them, but their names are put there nevertheless to curry favour or in a belief that a prestigious name will help the article's chance of getting published. Again, editors and good academic departments have now introduced rules to prevent such 'gift-authorship'. In other cases the authors may falsely denigrate previous work by another author, or omit it altogether; and this is an aspect that referees are asked to comment on in their reports.

**How widespread is fraud?** Pearce was only the second case of a hospital doctor to be reported and struck off by the GMC, compared with no fewer than 16 general practitioners. This has led some in the profession to dismiss the possibility of Britain having any academic research fraud around. This isn't true. My own anecdotal questioning of 80 doctors (mostly professors of medicine and surgery), done in 1988, showed that over half knew of some instance of academic fraud, with a total of 73 cases in all. In the USA a survey showed that between 6% and 9% of students and faculty had direct knowledge of faculty who had plagiarised or falsified data, while in Norway another survey showed that 27% of faculty knew of one or more cases. Finally, in the UK another survey showed that 27% of scientists had encountered an average of 2.5 episodes over 10 years.

The best current guess is that around 0.25% of all biomedical scientific research is tainted—a figure that does not sound very dramatic or serious until you remember the amount of research that goes on in every developed country and the vast amount of resources (material and human) that are involved, not to mention that the cost is supported either by taxes which every citizen pays or through the research charities—which amounts to the same thing.

So far most dishonesty in scientific research has been disclosed by 'whistleblowers' (usually close colleagues of the fraudster who observe him—and it usually has been a man-faking his results, or copying other people's results or ideas). At one time it was thought that editorial peer review by experts would pick up dishonesty, but it has not. Reviewers, after all, have to assume that fellow scientists are reporting their results honestly (as indeed they usually are), and unless they can see the 'raw data', as in lab notebooks, and do statistical tests on them, they have little chance of discovering fraud in this way.

**What can be done about scientific fraud?** Such a question really divides itself into two: management of the suspected case; and, even more importantly, prevention of further cases. Management has to be on a formal footing, with a three-stage process (receipt by a senior figure, investigation, and inquiry) which is speedy, confidential and respects the rights of both the accused and the whistleblower (who has often been more penalised than the miscreant). Subsequently, if the accused is found to have committed fraud, employers and registration bodies have to be told, editors informed about fraudulent papers they may have published so that these may be retracted, and these measures monitored for fairness and consistency. For this reason, several countries have a central committee which can not only undertake the correct management, but crucially can produce regular reports on cases, advise whistleblowers on how to proceed, and educate young scientists in the ethos of good clinical research—particularly about recording and retention of results and authorship policies.

The Pearce case illustrated several of the points mentioned above and brought out some others. The fraud was not disclosed by peer review, and when the mandatory review of previous papers published by Pearce was performed, as on previous occasions several others were also found to be fraudulent and had to be retracted from publication by the journals concerned.

Some truly lamentable standards of research practice were disclosed by the excellent subsequent report of the investigation of the affair by the Royal College of Obstetricians and Gynaecologists. Junior researchers, for example, were not told about formulating a hypothesis, doing a literature search, handling and storing data, and policies on authorship. If these are the standards that pertain in a London teaching hospital at the end of the 20th century, then God help us.

That the case had a satisfactory outcome was because the Principal of the medical school, Sir William Asscher,
was determined to follow the correct procedures to the letter. In a number of other rumoured cases in Britain this has not happened, and the country has not introduced a central committee on the lines of those established in Denmark, Norway, Finland, and Austria, let alone the USA with its Office of Research Integrity.

The problem is not going to go away. It is significant that uniquely both the Lancet and the British Medical Journal recently had opening editorials on the subject, saying that not only was there a problem but that professional self-regulation had failed. It seems likely that even ultra-conservative Britain will be forced to adopt well-tried and accepted international practices. For the good of medical research most will hope that the sooner this happens the better

Stephen Lock is a previous editor of the British Medical Journal and is a joint editor of the following new book:


See also Newsletter 24

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Prevalence of alternative therapies

Publication in a March issue of the Lancet of a paper on the prevalence of alternative medicine in Australia prompted further letters on the subject.

Sean Kristoffersen and colleagues of the Royal North Shore Hospital in Australia report a study showing 52% of patients attending a Sydney teaching hospital emergency department claiming to have used alternative medicines during the previous year and 30.5% in the previous week (1). Of the women who had borne children, 14.5% had taken anything from 1 to 18 herbal preparations during pregnancy. "Royal jelly, which can cause asthma and allergic reactions and has recently been associated with two deaths in Australia, was taken by 1.8% of users," the letter says. "Only 35.5% of all users had informed their primary medical carer about any of their alternative therapies."

In Britain, according to Edzard Ernst, professor of Complementary Medicine at the University of Exeter, consumer pressure is leading to partial integration of complementary and alternative medicines into the National Health Service (2). "67% of health authorities are purchasing complementary therapies and the NHS is spending serious money on them," he writes. "Yet the essential issues of efficacy; safety and cost-benefit are largely unresolved."

References


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Misleading drug marketing targeted

Beaufour-Ipsen’s anti-diarrhoeal Smecta is the latest drug to be targeted by the Medical Lobby for Appropriate Marketing (MaLAM).

The French drug company has been promoting its product for many years, particularly Africa and France, basing promotion on the results of a single double-blind trial in 90 children. The article claims the study was supported by the Diarrhoeal Disease Control Programme of the World Health Organisation (WHO). But WHO has expressed concern with the way the data was presented.

MaLAM has written to Jean Drieu, Beaufour-Ipsen's chief executive officer, to ask for evidence to support their claims or for them to reconsider the promotion of Smecta.

MaLAM International News April 1996

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Slim improvement in weight loss ads

The use of exaggerated claims to promote slimming and health and beauty products could be in decline, according to the Advertising Standards Authority in their recent review of 1995.

Toward the end of the year this was the fastest growing area for requests to the ASA for copy advice, and the ASA's monitoring shows that there was a 41% improvement in advertising for slimming products last year. However, misleading slimming and health advertisements remain a problem area and the report says the industry will have to work harder before it can demonstrate a clean bill of health.
Sharks don't get cancer ... or do they?

In 1993 an American TV programme, 60 minutes, drew attention to a book called, "Sharks don't get cancer". The programme reported a study in Cuba of 29 "terminal" cancer patients who were given a shark-cartilage preparation.

The announcer had visited the patients and filmed them doing exercises. He reported that most of them felt better several weeks after treatment began. (He did not claim they were cured, merely that they felt better.) The preparation was available in health food stores.

In fact sharks do get cancer - even cancers of the cartilage (Registry of Tumours in Lower Animals, Smithsonian Institute).

Quoted from The Vitamin Pushers, by A Barrett and Victor Herbert, Promethius Books, New York.

Vitamins again

The Advertising Standards Authority have upheld a complaint against Solgar Vitamins. HealthWatch applauds the fact that it was the Proprietary Association of Great Britain - an association that represents manufacturers of non-prescription ("over the counter") medicines - that submitted the complaint.

The advertisers have now agreed to withdraw the offending advertisement, which was judged to imply that people who were unwell needed their product, and that it would keep healthy people healthy.

Blood-and-urine therapy under investigation

A former town planner who, it is said, posed as a homeopath selling bizarre blood-and-urine remedies to patients suffering from ME, cancer and HIV infection, is the subject of an investigation by the Royal Pharmaceutical Society.

At a disciplinary hearing in May, Gloucestershire couple Ken Spelman and his wife Rosemary claimed to have successfully treated more than 12,000 people worldwide using a therapy known as Signalysis or Spagyrik. They are said to have brewed up potions made from their patients' own blood and urine, then instructed the patients to take the mixtures orally.

The couple allegedly worked with a local pharmacist, Jasmine Wells, selling the remedies in the form of mouth drops, cream or nasal sprays.

All three are charged with professional misconduct under the 1968 Medicines Act by the Royal Pharmaceutical Society for selling an unproven medical therapy under the auspices of a registered pharmacy.

HealthWatch member Dr Charles Shepherd of Chalford Hill, Gloucestershire, was an expert witness at the hearing and stated, "I found nothing in the materials I researched to indicate that it was anything but quackery. Their claims about the treatment of Aids and ME are not backed up by scientific evidence."

Signalysis was the subject of a Channel 4 Undercover Britain programme in February 1994. The therapy originates from Germany, based on a theory that each individual has unique body fluids. It involves distilling and calcifying the sample of blood and urine so that it forms into crystals which are read to provide a diagnosis. The sample is then combined with herbs before being administered orally.

The Royal Pharmaceutical Society hearing has been adjourned until a date in the autumn, to be fixed.

For the outcome, see Newsletter no 27

"Strange days" adds welcome balance

Crystals, needles, strange potions... alternative therapies don’t have to be clinically proven in order to make exciting viewing, so it’s not surprising the broadcast media often reflect the public’s fascination with complementary and alternative medicines with regular documentaries on off-beat practices (see Neville
Goodman’s article in this issue.

So Guardian writer Catherine Bennett’s cynical, often scathing, half-hour documentary on alternative medicine added a little balance. This was the second of her three-part Strange Days series for BBC2, screened during the last weeks of June.

Crystal healing, reflexology, iridology, colonic irrigation, aromatherapy, acupuncture and even a computerised homeopath all came in for criticism. The practitioners had much in common. They tended not to know why their treatment should work. Many shared the idea that there are invisible “energy” forces of various kinds, and the concept of “holism”, which says that to treat an illness you have to treat “the whole person”.

On a more prosaic level, Ms Bennett points out that while a general practitioner spends an average of 8 minutes with a patient, patients at one of the complementary health centres visited get 90 minutes. Could it perhaps be not physical but spiritual solace these practitioners are providing, she asks? And if so, should we really be expecting to get this on the NHS?

Harmless, though, or is it? The programme ended with the young widow of a man who died of testicular cancer at age 29. She described how his last years were spent in a fruitless search for “cures” and the feeling, implicit with every failure, that the fact that the disease persisted was his own fault.

The BBC is to be congratulated for airing such an unpopular and unglamorous view of alternative medicine. Could they not have been more courageous about the time of screening? There could have been few vulnerable prospective patients left viewing by the time it began at 11.15 pm on a Tuesday night.

Mandy Piggot

Book Review: Chiropractic: the victim’s perspective


Clinicians soon learn that with any treatment (or even with no treatment) a few patients respond far better (or worse) than could ever have been expected. Mr Magner; a former research technician with the US Department of Agriculture, considers himself to be a victim of chiropractic. On pages 4-8 he gives thumbnail sketches of twenty other such “victims”: people who suffered a stroke or paralysis after manipulation of the neck or back, or who suffered disabling pain after treatment; a student with epilepsy who died ten days after discontinuing medication on the advice of a chiropractor; and patients with severe kidney, heart, joint or hearing problems who found that chiropractic promises of effective treatment were unfulfilled.

So what should we believe about the safety or efficacy of chiropractic? The US government health care systems Medicare and Medicaid, and some commercial health insurance systems, cover chiropractic treatment: would they do that if chiropractic was use-less and dangerous? Magner believes that “political recognition has nothing to do with scientific legitimacy” (p 127), and that Medicare coverage was gained in 1973 through a massive lobbying campaign.

HealthWatch believes that the efficacy and safety of any conventional or “alternative” treatment cannot be assessed on the basis of anecdote, but by randomised controlled trials (see Position paper on clinical trials). On this basis chiropractic is more soundly based than most “alternative” therapies, at least for the treatment of chronic low back pain with no radiological contraindications (see Newsletter 5, and Newsletter 19).

Chiropractic began in 1895 when one D D Palmer manipulated the spine of a janitor who was deaf and had a misplaced vertebra. This restored the hearing of the patient. Over the next 100 years some practitioners have claimed chiropractic cures virtually any disease, but evidence of efficacy and safety is available only with respect to certain types of low back pain. So if you are considering having your neck manipulated to relieve problems in your visceral organs, read this book, and be warned.

Professor John Garrow. MD PhD FRCP

See also letter from Dr Gene Feder in Newsletter 23.

More about selenium

Can selenium supplements help in arthritis? HealthWatch pursues a source of possible press misinformation and weighs up the evidence

Our interest in selenium supplements was renewed this week when a press information sheet headed, “Arthritis pain reduced with selenium supplementation” came in to the HealthWatch office.
A study was cited from the *British Journal of Rheumatology* (1) in which eight women with recent onset of rheumatoid arthritis took 200 mg (sic) daily of selenium tablets, and seven took placebo tablets, over a three month period. Joint pain was reduced in 75% of the women on selenium, while the placebo group showed "no real change". Dr Trimmer of the Nutritional Health Foundation stated: "This confirms that the trace element selenium when given in the organic form (selenium yeast) has the effect of decreasing joint inflammation and pain (anti-inflammatory)". An attached sheet explained that the commonest forms of arthritis were osteoarthritis and rheumatoid arthritis. The information sheet came from Fulcrum Public Relations, and further advice was obtainable from Claire Richman.

This "information" caused some concern for several reasons. First, the implication was that selenium supplements would help both forms of arthritis, but a literature search showed that selenium was not helpful in osteoarthritis (2) and that the justification for use of selenium in rheumatoid arthritis was partly to prevent patients from being driven into the hands of practitioners who might exploit them (3). Second, the dose of 200 mg (=200,000 µg) is 500 times greater than the safe upper limit given by the WHO expert group (1996): so it was probably a misprint for 200 µg. Third, a 'phone call to the Society for the Promotion of Nutritional Therapy revealed that they had not heard of the Nutritional Health Foundation or of Dr Trimmer

Claire Richman of Fulcrum PR said that their clients were Wassen International, a major manufacturer of selenium supplements. She believed that the Nutritional Health Foundation was an independent body of doctors who were interested in nutritional therapy. She agreed that there was less evidence of benefit from taking selenium in patients with osteoarthritis. On checking, she also agreed that the dosage should be 200 µg, not 200 mg, but claimed that the toxicity threshold of selenium yeast is about 5 mg per day

Four years ago, in *Newsletter 12*, HealthWatch exposed the many ways in which manufacturers of nutritional supplements circumvented the law which is supposed to ensure that medicinal claims are not made unless there is evidence that the products are actually effective for the purpose advertised. It is evident that this abuse still continues. If it is illegal to claim on the package of selenium that this product reduces joint inflammation in arthritis, then it should also be equally illegal to employ a public relations company to make this claim on your behalf. The "press information" sheet which we received will have been sent to many other journalists: we hope that they will receive it with equal scepticism.

**References**


**The Lords debate fringe medicine**

In the recent debate on alternative medicine, many members of the House of Lords were quick to share their own personal successes with various unconventional therapies. Thurstan Brewin reports.

Lord Rennell: "On all sides of your Lordships' Chamber we seem to have agreed. So why cannot we make quicker and greater strides towards improving the health of our nation with greater use of non-conventional medicine?.. .I have used osteopathy, chiropractors, acupuncturists and homeopaths. I have spent a year sleeping with my feet in the air - and so has my wife - and I have taken cold baths every day ... all the remedies have worked, so I feel well qualified to support the motion."

This sums up one of the closing speeches when the House of Lords debated for three and a half hours what used to be called fringe medicine (surely, a good all-embracing neutral term to cover everything outside mainstream medicine, but now apparently out of favour, leaving us in a quagmire of ambiguous terms - alternative, complementary and holistic to name a few).

Opening the debate, Earl Baldwin explained that he spoke as a patient, and that "if all noble colleagues who have told me that their lives have been changed by a healer or an osteopath had decided to speak today, I doubt if we should have been allotted more than two minutes each."

Most of the debate continued in this spirit.

Lord Colwin said that "nutrition and natural therapies work" and that the only reason why no-one takes any notice is that the treatments do not involve expensive drugs.

Lord Addison felt that if the essential oils used in aromatherapy ("still totally ignored by many medical authorities") were to be placed under the same regulations as apply to pharmaceutical products "it would immediately send us back to the Dark Ages when human beings were treated like machines, devoid of sensations or feelings."
The Countess of Mar said that fortune had eventually led her to Dr Jean Munro and the Breakspear Hospital. Many of their patients (12,000 so far) suffer from multiple food and chemical sensitivities, “a syndrome not accepted by the medical establishment”. Most of them also suffer gross sulphoxidation deficits. “Sulphoxidation is the means by which we rid our bodies of toxins”.

Lord McNair considered that it is modern medicine that should be called alternative; and that in any condition that is caused or precipitated by an infectious organism hydrogen peroxide should be given. Lord Palmer “now swears by homeopathy and indeed acupuncture”. Lord Kitchener recommended boron as a nutrient.

Out of 23 speakers, 19 had nothing but praise for one or more of the remedies which most doctors in most western countries feel to be of very doubtful value except in terms of relaxation, diversion, mood elevation and the placebo effect. None had the slightest criticism to make of any remedy, no matter how outlandish, so long as it was not part of mainstream medicine. And all such remedies, especially if ancient, they seemed to consider to be good for almost everything. There was little or no mention of response rates, problem solving, progress, setbacks or disappointments.

Only four peers (all medically qualified) bravely stepped out of line and offered, rather half-heartedly, some rational thoughts on ways of getting at the truth. Lord Butterfield was one, but I wonder how many of his audience realised, when he used the strange phrase, “a whole system of interrogation for new ideas”, that he meant comparing results in a randomised trial.

Unfortunately neither he, nor the other three doctors, explained how easy it is to come to false conclusions if you try to compare results without sticking to groups who are broadly the same apart from how they are being treated. And nobody thought to explain to their lordships such basic matters as the frequency in medicine of individual variation, of self-limiting diseases, and of spontaneous remissions.

To judge from the verbatim report of the debate Lord Winston, a new medical peer whose field is fertility and contraception, was easily the most cogent and effective speaker. After giving two striking examples of the placebo effect, he spoke of sex selection clinics. As we all know, in this particular field of human endeavour, useless methods are guaranteed a 50% success rate - the child being of the desired sex. And independent research in several countries, said Lord Winston, has shown that this is precisely what these new ”alternative” methods achieve.

As to the praise from Lord Baldwin for “Foresight”, the organisation which offers ”low cost alternative treatment” for infertility, Lord Winston gently asked why, if mineral deficiency was a cause of infertility - as Foresight claimed - was the population of Ethiopia, Bangladesh and India increasing so rapidly? “The sad thing is that I have seen patients who have gone through these treatments and whose proper treatment has been delayed as a result”.

It was left to Lord Strathclyde, the Chief whip, to wind up the debate. “I agree with the noble Baroness, Lady Robson, who marvelled at the degree of agreement that we have witnessed in the House this afternoon... there is, however; also a need for evidence-based health care”. But he never explained exactly what this phrase meant.

Debates in the House of Lords are often of high quality, but this was hardly the case on this occasion. How many peers - intelligent and experienced men and women who could have made a real contribution - stayed away for fear of giving offence? Or in the belief that they would be wasting their time? It seems that, except in the unlikely event of immediate elevation to the peerage of one or more members if HealthWatch, such debates may continue to be as lacking in balance as this one.

Thurstan Brewin, Chairman of HealthWatch

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**Dead doctors ... healing from beyond the grave**

*Dr Neville Goodman feels the BBC went too far when they broadcast a documentary programme featuring a paranormal “healer” without offering criticism.*

The BBC is a public service organisation. It has a responsibility not to mislead the public. When a newspaper or magazine chooses to publish medical nonsense, and people choose to buy it, it is unfortunate. It is not just unfortunate, but disgraceful, when the BBC broadcasts a programme (“Doctor Who”, BBC2, 15 April) about Ray Brown, an ex-builder from Portsmouth, who purports to heal people by taking on the personality of Paul, a doctor who died 2000 years ago.

“Doctor Who” was one of the *Secrets of the paranormal*, a BBC2 series that presents a number of phenomena uncritically, as if lack of criticism were a virtue. The previous programme in the series was about UFO’s. As Simon Hoggart wrote in the *Guardian*, these Unidentified Flying Objects are simply *unidentified*; they are not visitors from outer space. Another programme in the series featured Uri Geller bringing his psychic powers to bear on Reading Town football club, Uri claiming to be able to alter the ball’s path. The fact that Uri Geller is still around is proof of the gullibility of human observers, despite his wonderful psychic powers being of use only in bending spoons and stopping wristwatches. Catherine Bennett, again in the *Guardian*, mused on why, if his powers really...
were psychic, he had to hold spoons in his hand, rather than bending them with his nose.

Well, it's just a bit of fun, isn't it? Does it matter if people believe in UFOs? Or that Uri Geller can alter the course of football matches? I think it does matter; but whether it matters or not, I suspect that many watching the two programmes described above will have seen them mainly as entertainment. It is different when we see a man who refers to "his patients" and carries the trappings of a clinic and an appointment system. But when it previewed the programme, however; the Guardian chose not to lift a choice quote from Simon Hoggart or Catherine Bennett. Instead, their previewer; Francesca Turner; opined that "the programme wisely allows events and people to speak for themselves without sceptical intervention or censure."

I fail to see why this was "wise"; irresponsible is the only word that fits. Yes, shown privately to a gathering of doctors, a film of a man operating with invisible instruments - he actually said he was doing this - would provoke guffaws. But many people who have back pain, as did most of the patients we saw; are fed up with their suffering and are prepared to give anything a go. This must be so: Ray gave up his job as a builder to become a full-time healer ("Paul" persuaded him to do this), and now runs clinics all over the country.

This is a man who speaks sometimes with the voice of Ray, sometimes with the voice of Paul, and claims "just because I'm dead doesn't matter; all that matters is healing patients".

The testimonials for Ray / Paul's treatment were much like the ones for hair restorers and other proprietary medicines that you read in the advertising columns of any magazine: "My doctor said he could do nothing for me, but since this treatment I have felt better than for 10 years." One man on the programme threw out the challenge that "unless you come and try it; don't knock it". The treatments were carried out with much prodding and poking, and much huffing and puffing, as Ray / Paul wielded his invisible, spiritual, instruments. His patients were apparently able to feel them moving around inside their bodies.

I don't think Ray Brown is a rogue. He might genuinely believe he becomes Paul. He seemed a mild, ordinary looking chap. His house and car are nothing special. He wished he could treat people for free, but has a living to make. He works 9 hours a day. His wife acts as receptionist and nurse. His patients clearly get something from him. They get what people get from every other rag-tag mystic philosophy: time, compassion and what psychologists call "suggestion".

Whatever they get, it is based on nonsense and is a delusion. why has this man, who runs a commercial organisation, been allowed the facilities of the Community Programme Unit of the BBC for a free 30-minute advertising slot? Far from "wisely" going without sceptical intervention, the programme should have been broadcast with a health warning.

Neville W Goodman, Consultant Anaesthetist, Southmead Hospital

Position paper

Screening and checkups for healthy adults

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Advice

One of the things that many people like about screening and check-up - especially those who can afford the extra time available in a private clinic - is a chance for a discussion of their health and lifestyle with a doctor of nurse who seems interested and keen to reassure them and to give advice of various kinds. Modern technology and the detailed thoroughness of various examinations may also please and impress them. Simple practical instruction, especially in the elderly, may also be useful in conditions that are not life threatening, yet needlessly impairing quality of life.

Unfortunately much advice, for example diet to make cancer less likely, is based on evidence that is suggestive but far from conclusive. Almost the only really convincing evidence, relevant to common conditions, concerns smoking cigarettes and the big effect this has on the risk of developing certain cancers (it has no effect at all on others) and also on certain diseases of the heart, blood vessels and lungs.

Prevention

Can the finding and treating of a condition at a very early stage prevent the development of established disease of the type that causes symptoms and threatens life? Note that with earlier diagnosis, survival from the time of diagnosis will automatically increase, so merely reporting longer survival after treatment (as is often done) provides no evidence of benefit.

With a life-threatening condition it is fewer deaths from this cause that needs to be demonstrated. And experience shows that a comparison of this kind can lead to false conclusions unless the groups being compared...
are assessed concurrently and are alike apart from whether or not they have been screened. By far the most reliable way is to randomise either individual patients or groups of patients, so that it is a matter of chance whether or not they are screened. Merely trying to match people to make the groups as alike as possible has been shown to be much less reliable. And when mortality is less in the years that follow a screening campaign, we still cannot be sure that this is due to the screening. There may be other factors.

A randomised comparison is ethical when nobody knows which group will come out best. The screening may in the end turn out to have done enough good to justify its disadvantages (see below) or it may turn out to be doing more harm than good.

**Results**

Unfortunately, when screening has been assessed in this way the results have often been disappointing. For example, extensive checkup - costing several hundred pounds each - though popular with many executives (especially if their employers foot the bill) show little, if any, benefit apart from the detection of high blood pressure.

The greatest interest has been in checkups for cancer - especially cancer of the breast or cervix. When mammography is done to look for early breast cancer, not all studies show any benefit, but several large randomised trials have shown a 20 - 30% lower breast cancer mortality in women between the ages of 50 and 65 in the screened group. Women under 50 (who are often the most keen to be screened) show no benefit.

Sometimes, though death certificates may show a fall in deaths due to the condition being screened, overall death rates (deaths from all causes at various ages) may fall much less, or not at all. Preventing the development of a particular condition may have helped quality of life - and made deaths from that condition less common - but other causes of death have meant that life has not been prolonged.

The relative risk reduction may look much more impressive than the absolute risk reduction. The individual who is regularly screened for some condition may be only marginally less likely to suffer or die from this condition at some time in the future. However, with some early cancers, treatment can be less drastic and there is a better chance of at least avoiding recurrence at the original site.

In cervical cancer (where screening consists of taking vaginal smears) there is much suggestive evidence that mortality is reduced, but no randomised trials have been carried out; and now, with so many convinced, it would be difficult to mount a proper study.

The results of screening for other cancers, for example, bowel, prostate, or ovary are so far not encouraging. This follows the finding in 1974, ten years after mass chest X-rays and sputum examinations had successfully detected many lung cancers at a much earlier state, that deaths due to lung cancer remained just as numerous.

**Disadvantages**

1. **Anxiety and its effect on quality of life.** Many of those given a complete medical check up will now be labelled as unhealthy in some way. If no cure is available may this not sometimes adversely affect the peace of mind and quality of life of people who previously thought of themselves as healthy? As for cancer if the result of a smear or mammogram is doubtful (as is quite common) intense anxiety may be caused. Further tests will need to be done and distressing doubt may continue for weeks or even months.

"False negatives" are equally common. Screening may show no abnormality, but - though it would be foolish to stress this at the time and thus risk spoiling the good news that all is normal - this can never guarantee that no cancer is present. There is room for a million cancer cells in a cubic millimetre. There is currently no way of revealing such a small area of abnormality, so no method of screening can be guaranteed effective.

2. **Expense.** Though it is hoped that at least a small part of the cost of treating established disease is being saved, in the UK private sector alone screening is now swallowing up something like £100 million a year and the time of many skilled workers, quite apart from the cost of campaigns to improve recruitment. The cost of each "life saved" can easily come to something of the order of £100,000.

3. **Other disadvantages.** We know that many early cancers will cause no trouble if left alone. With many people mere knowledge of having had a cancer treated will damage the quality of their future life. There may also be adverse effects on life insurance, pensions and employment. And many who decline screening will experience anxiety as a result.

**Conclusion**

Screening, though it takes time and money away from other needs, has real (though sometimes quite modest) benefits in certain situations. But HealthWatch stands for informed choice and does not think it right to give people an exaggerated view of the benefit to the individual, purely in the hope of improving community statistics. Screening should be a matter of choice for the informed citizen who - unlike the situation when immunisation controls infectious disease - does no harm to others should he or she prefer not to join a campaign. And here it is interesting to note that many doctors do not seem to believe in screening or checkups for themselves.