

## COMMENTARY

## Ethical Issues for Cancer Screening

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## Abstract

In recent years medical ethics has become an undisputed part of medical studies. Many people believe that modern advances in medical technology - such as the development of dialysis machines, respirators, magnetic resonance imaging and genetic testing and types of cancer screenings - have created bioethical dilemmas that confront physicians in the 21st century. Debates over research and screening ethics have until recently revolved around two related questions: the voluntary, informed consent of subjects, and the appropriate relationship between risk and benefit to subjects.

Every patient has a right to full and accurate information about his or her medical condition. This legal principle arose primarily through court decisions concerning informed consent, but over time physicians recognized that most patients prefer to learn the truth about their condition and use the information well. To screen is to search for disease in the absence of symptoms or, in other words, to attempt to find disease in someone not thought to have a disease. Examples of screening include routine mammography to detect breast cancer, routine pap smears to detect cervical cancer, and routine Prostate Specific Antigen (PSA) testing to detect prostate cancer. Ethical principles to be followed in cancer screening programmes are intended mainly to minimize unnecessary harm for the participating individuals. Numerous ethical questions can be raised about the practice of screening for disease.

Here, we examine four leading cancer killers worldwide and we review the screening of protocols of these cancer types and their possible ethics.

**Key Words:** Screening programmes - medical ethics - cancer - cancer prevention - early detection

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## Cancer and Cancer Prevention

Cancer is a disease with more one cause, reflecting interactions of many mechanisms what further confounds and obscures relationship is latency between carcinogen exposure and disease development ( ).

General term frequently used to indicate any of various types of malignant neoplasms, most of which invade surrounding tissues, may metastasize to several sites, and are likely to recur after attempted removal and to cause death of the patient unless adequately treated; especially, any such carcinoma or sarcoma, but, in ordinary usage, especially the former (Stedman's Medical Dictionary, 1990).

The cause of most cancers remains unknown, recent research has led to significant advances in understanding the molecular basis of the malignant proliferation of cells (Tierney et al., 1997).

The cancer problem is much more important in populations having long life expectancy, relative to other groups of diseases.

Cancer afflicts all communities. Worldwide, the burden of disease impinges on the lives of tens of millions annually. Based on the most recent incidence and mortality data available, there were 10.1 million new cases, 6.2 million deaths and 22.4 million persons living with cancer in the year 2000 This represents an increase of around 19% in incidence and 18% in mortality since 1990 (IARC, 2000).

Prevention is a very old historical term. The ancient Greeks believed that Asclepius. The god of medicine, had two daughters. One, Hygieia, was responsible for prevention, while other, Panacea, was responsible for cure (Loudon, 1997).

Prevention of the adverse consequences of many cancers is possible through early detection and treatment. Prevention

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of cancer is achieved when modification of exogenous factors result in a reduction in cancer risk. Cancers may be prevented by avoiding exposure to agents and lifestyle factors known to increase cancer risk. The goal of primary prevention is to avoid the development of cancer by reducing or eliminating exposure to cancer-causing factors (World Health Organization The World Health Report, 1997; Hakama et al., 1990; IARC Handbooks of Cancer Prevention, 2002).

Secondary prevention aims at early detection at a stage when curative treatment is still possible. This is achieved by frequent medical check-ups of individuals or by population-based screening programmes to which all those belonging to a certain age group are invited (World Health Organization, 2001).

## What is Cancer Screening ?

Screening is the testing of apparently well people to find those at increased risk of having a disease or disorder. The World Health Organization (WHO) has adopted the definition of screening; the presumptive identification of under-recognized disease or defect by the application of tests, examinations, or other procedures which can be applied rapidly.

Generally, cancer is diagnosed after it becomes symptomatic. Frequently, this is associated with advanced stage and incurability and cancer screening is based on the assumption that therapeutic intervention initiated in the preclinical stage will eradicate disease and prevent subsequent cancer death. There are several events critical to a successful screening program :

- Identifying the type of cancer to be screened.
- Identifying the target population to be screened.
- Selecting the techniques for screening.
- Evaluating the risks and benefits of a screening program.
- Justifying the risks and benefits of a screening program.
- Determining the reduction of cancer mortality by a cancer screening program (Chang, 1986; National Cancer Institute).

The success of screening programmes depends on the target disease, whether associated with morbidity or mortality; effective treatment, capable of reducing these, should be available; test procedures should be acceptable, safe, and relatively inexpensive. A screening test aims to be sure that as few as possible with the disease get through undetected (high sensitivity) and as few as possible without the disease are subjected to further diagnostic tests (high specificity). Given high sensitivity and specificity, the likelihood that a positive screening test will give a correct result (positive predictive value) strongly depends on the prevalence of the disease within the population. If the prevalence of the disease is very low, even the best screening test will not be an effective public health measure. Although

an earlier diagnosis generally has intuitive appeal, earlier might not always be better, or worth the cost (Grimes and Schulz, 2002).

A screening test is a medical intervention that is performed on a person who is not ill and usually has not initiated the request for the test. For this reason the ethics of carrying out screening must be carefully considered. For the individual the screening test can do harm as well as giving benefit: there may be a risk attached to the screening test or subsequent diagnostic test, a false positive result can cause unnecessary anxiety, there may be other unplanned effects of a positive test, and a false negative result may give false reassurance.

Screening that concentrates solely on a high-risk group is rarely justified, as identified risk groups usually represent only a small proportion of the cancer burden in a country. In planning the coverage of screening programmes, however, steps must be taken to ensure that all those at high risk are included.

The most suitable cancers for a screening program are those with high incidence in a defined population, with a long preclinical phase and a cancer mortality which can be avoided by early intervention, and for which lesions can be detected by available tests that are easily performed with an acceptable degree of accuracy and safety, at modest cost. Unfortunately, with these criteria most cancers are not eligible for cancer screening (Cassens, 1990).

In terms of incidence, the most common cancers worldwide (excluding non-melanoma skin cancers) are lung (12.3 % of all cancers), breast (10.4%) and colorectum (9.4 %) (Steward and Kleihues, 2003). Incidence and mortality data show that in males, lung cancer is the most frequent cancer and the leading cause of cancer death, followed by prostate and then colorectal cancer. Among females, breast cancer is leading, followed by lung, colorectal and uterine cancer. Currently, screening tests are available for cancers of breast, colon, rectum, cervix, prostate, testes, oral cavity and skin (American Cancer Society, 2003).

## Ethical Issues for Cancer Screening Programmes

In general, the professional purpose of medicine is understood to mean: devoted service to people who are ill, protection of the health of those who are well, and defense of healthcare values that might otherwise be undervalued or forgotten (Emanuel, 2000). In the practice of medicine there has long been a conflict between patient management and respect for patient autonomy. In recent years this conflict has taken on a new form as patient management has increasingly shifted from physicians to insurers, employers and healthcare bureaucracies (Woodward, 2001).

Today, we know there are many ethical dilemmas in cancer screening programmes. Screening for cancer in high-incidence, poor, and uninsured populations can be interpreted as a direct harm (maleficence) to patients with positive

screening pathology. This process begins with the transgression of autonomy, by our not heeding the patients' individual circumstances. This is discussed from the viewpoint of the minimum requirements in all justice theories traditionally attributed to Aristotle (Beauchamp and Childress, 1994).

Many ethical principals are employed in clinical practice and cancer screening programmes and there are many methods used for ethics analysis: for example, utilitarianism, Kantianism, virtue-based ethics, liberal individualism, communitarianism, ethics of caring, casuistry, and principle-based common morality. We have chose to focus on principle based morality - the principles being autonomy, beneficence, nonmaleficence, and justice- though the authors do not necessarily defend any single theory. The definitions of these principles are:

1. **Autonomy:** Autonomy in the sense of liberty as freedom from internal and external constraints is desirable, all else being equal, both as a good in itself and as a condition for the pursuit of other goods. The basic right of every person to determine his or her own life because he or she is a person and not determined by ownership of knowledge, social class, or any other attribute-except competence. In medical ethics, the concept of autonomy has played a major role in the last twenty years. Indeed, many observers claim that there has been a corresponding shift in the authority shared by patients and physicians. A model based on paternalism (Doctor Knows Best) has been replaced by one giving ultimate authority to the patient (It's My Body).

2. **Justice:** Fairness in the sense of the right to equity - the right to be treated the same as others. This includes not having judgments made as to what is deserved. In health care, justice is the least well-developed principle.

3. **Beneficence:** Active goodness or kindness above and beyond what others have a right to require of you. This is especially applicable if it is relatively easy for the giver to bestow it and is very meaningful for the receiver. (Example: Olympic swimmer rescuing a child drowning in a swimming pool.)

4. **Nonmaleficence:** Not doing harm. (This does not include minor discomfort, such as an injection.) It covers the idea that people should not be exposed to avoidable harm that can be foreseen even if not intended. This is the most compelling principle for health care providers because of our ability to do harm, and because health care providers are trusted to help (Brandt, 1994; Dworkin, 2003; Engelhardt, 2001).

## **Important Ethical Terms for Patients in Screening Programmes**

The first important ethical term in screening programmes and clinical practice is informed consent. This term is built upon the elements of information, decisional capacity, and voluntarism. Information in the consent process generally encompasses issues such as the nature of the illness, the anticipated risks and benefits of the proposed procedure,

and possible alternatives, including nonintervention. Decisional capacity, in turn, comprises the ability to communicate, understand, and logically work with information and to appreciate the meaning of a decision within the context of one's life. Our understanding of voluntarism in this country is more intuitive and involves philosophical ideals of freedom, independence, personhood, and separateness (Roberts, 2002).

The purpose of informed consent is to give power to patients who have traditionally not spoken and have been powerless in the light of medical proficiency and authority (Kettle, 2003). To share in decision making or to give truly informed consent, patients need information- but how much? There is a spectrum of views on this question. The argument for giving patients relatively little information is based on benevolent paternalism or beneficence; that is, physicians know what is best for their patients and giving them too much information may cause them to reject a preventive program that is good for them. However, a paternalistic approach is ethically unacceptable in most Western cultures; instead, it is generally accepted that patients should receive enough information to allow informed decision, or as much information as the patient freely chooses to have. The data should be provided in language that the patient can understand and in an atmosphere that is not intimidating and that fosters independent thought, questions and decisions. In other words, comprehension is as essential as disclosure (Marshall and Prevention, 1996).

The other important term is confidentiality. Patients want to control access to sensitive personal information and expect physicians to maintain confidentiality. Maintaining confidentiality also has beneficial consequences for patients and for the doctor-patient relationship. Respect for confidentiality is a strong tradition in medicine. The Hippocratic Oath enjoins physicians, "What I may see or hear in the course of the treatment...., which on no account one must spread abroad, I will keep to myself, holding such things shameful to be spoken about". Modern professional codes similarly urge physicians to maintain confidentiality. The legal system may also hold physicians liable for unwarranted disclosure of medical information (Lo, 2000).

Screening for cancer is ethical when the effect of screening has been validated in scientific studies, and when the organization takes ethical principles into consideration. Screening for cancer where no effects have been found in scientific studies is unethical (Törnberg, 1999).

## **Conclusions**

Screening programmes of cancer are being performed primarily for breast, cervical, prostate, skin and colorectal cancers. There exist no indisputable data or programmes accepted worldwide and each country has developed screening programmes fitting its own conditions.

The main point of attention in our article is the absence of established procedures to be followed for screening for cancer specifically in our country. In accordance with the

information we have received from the Department of Cancer Control, the Ministry of Health of Turkey, national screening programmes for breast, skin, and cervical cancers are going to be started at 11 centers in the year 2004. We propose that a screening protocol be prepared before the programmes actually commence.

Medical ethics covers theoretical concepts that have become a part of practical medicine. Theoretical knowledge has no value if it does not aid practical life. The developed countries of the world give a central place to the medical ethics in practical protocols of medicine and one example is the cancer screening programme. Individuals have to be informed about cancer and their participation in screening programmes only recommended if sufficient information is provided. Basic international medical ethical principles should also be considered valid for our country. The most obvious are informing the patient, and ensuring benefit with no or relatively limited harm. It is clear that without these a medical procedure can not be seen as successful and would not be in concordance with the rights of the patient.

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