

CANCER - PREVENTION IS BETTER THAN CURE.

By

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We know a lot of the causes of many types of cancer, and these causes are avoidable. Cancer is largely a preventable disease. However, the main focus of the medical campaign against cancer has been aimed at finding a cure for this disease. Cancer prevention has not been nearly so highly emphasised. Research aimed at curing cancer has thrown up much valuable information, but has failed in its primary goal. While efforts to find a cure should continue, it is now high time to switch the emphasis in the struggle against cancer in the direction of prevention. (I will mostly quote American statistics in this article, since we only recently established a National Cancer Registry in Ireland.)

Cancer is mainly a disease of the aged. Elderly people are now more numerous and, because of this fact alone, cancer is more common today than it was earlier this century. It is therefore essential to discuss cancer trends in terms of age-adjusted rates. Such rates tell us how well we are doing against cancer taking into account that the absolute number of cancer deaths is going up because of other factors that influence longevity.

Over the course of this century most diseases have declined in the West, and some have disappeared. Cancer has continued to increase. Age-adjusted death rates from cancer have slowly increased in the USA from 0.8 deaths per 1,000 population per year in 1900 to about 1.3 deaths per 1,000 per year today. Much of this increase is due to cigarettes. Respiratory cancer death rates have increased from about 0.07 per 1,000 per year in 1940 to about 0.4 per 1,000 per year today. Cancer has become a modern plague. In 1994, it is estimated that cancer killed 538,000 Americans, more than double the number killed in World War 2. One in three of us alive today will contract cancer and one in five of us will die from cancer.

The industrialised countries of the world have been seriously worried about cancer since the 1930s. In 1971, American President Richard Nixon initiated a new campaign against cancer - a 'War on Cancer'. The campaign was launched with typical American optimism and enthusiasm. After all, there was good reason to think that a country smart enough to put a man on the moon could also eradicate cancer.

The war on cancer focussed primarily on curing the disease. Massive resources have been poured into the campaign. To-date, the National Cancer Institute, founded in the 1930s, has put more than 29 billion dollars into cancer research. Despite the intensification of the effort since 1971, relatively little progress has been made generally in cancer treatment, although there has been a significant improvement in treatment of cancer in childhood. The 5 year survival rates for most cancers (e.g. lung, breast, colon, stomach) are little better now than they were 20 years ago.

Difficult as it is to admit, the facts show that the medical war on cancer has been a qualified failure. Why has this huge effort, produced such disappointing results? In my opinion the answer is because the campaign has concentrated so heavily on cure rather than prevention. The traditional medical approach in the West has been to concentrate on curing disease rather than on preventing it. Subjects such as nutrition, environmental policy and public health are neglected in medical school in favour of training in curative practices such as surgery and radiology.

Medical research was very successful historically in finding cures for the major infectious

diseases. The nineteenth century German bacteriologist Robert Koch showed that TB is caused by the tubercle bacillus, anthrax by the anthrax bacillus and cholera by the bacterium *Vibrio cholerae*. Antibiotics were developed to fight these germs and eventually vaccines were developed enabling millions to live free of the fear of these terrible diseases. The idea of 'one disease, one germ' became firmly established in the medical mind.

In the early years of cancer research much effort was expended on searching for the virus that causes cancer, until it was realised that, unlike the major infectious diseases, cancer is not caused by a unique single agent. There would be little wrong in an all-out attempt to cure cancer at the expense of instituting a comprehensive prevention programme, if the prospects for success offered reasonable odds. But cancer is fundamentally different in many ways from the infectious diseases - in the way it can grow inside the body for 30 years, or more, without betraying its presence, in the way it attacks the body, and in the way it gets around the normal defences of the body. By the 1970s cancer specialists knew they were dealing with an enemy far more resourceful than TB or cholera. At the same time many substances known to cause cancer (carcinogens) had been identified, thereby justifying an all-out preventive campaign. However, cancer prevention has little prestige associated with it. Prevention is not likely to launch a medical research career on the high road to Stockholm and a Nobel Prize.

It is widely agreed that cancer is largely a preventable disease. The causes have been known for a considerable time. Smoking cigarettes, inhaling high levels of radon, inhaling asbestos fibres and various other dusts, unprotected sun-bathing, various pesticides, etc., all cause cancer. Also high intake of fat, low intake of fibre, etc., are associated with increased risk of cancer. Many of the cancers we suffer from are caused by bad personal habits, and most of the remainder are caused by dirty industries and poor Government regulations.

If we stopped smoking cigarettes, ensured that radon levels in our homes were low, ate balanced diets, avoided unprotected sun-bathing and kept ourselves aerobically fit, cancer rates would fall dramatically. For example, about one quarter of all cancer deaths are caused by cigarettes, mostly lung cancers.

Of course, it must be admitted that an effective preventive programme would be difficult to implement. The experience with cigarettes shows this. At this stage 'the dogs in the street' know that cigarette smoking causes lung cancer and heart disease. Nevertheless, today, 20 years after the introduction of widespread public education programmes, young people, particularly girls, still take up smoking in large numbers.

On the other hand, while adopting a blasé attitude towards cigarettes, where a large objective risk exists, people can display an inordinate dread of other agents, e.g. routine emissions from nuclear power plants, where evidence of danger is nebulous. When deciding on the acceptability/non-acceptability of risks there are a number of attitude factors that determine peoples' decision. The most important attitude factors are: whether or not I see a benefit in taking the risk; whether or not I control the situation; whether or not I understand the risk; whether or not the risk is familiar; whether or not the risk is voluntary; whether or not I trust those responsible. If I feel several of these negative attitude options towards some risk, (e.g. if I feel the risk is involuntary) I will find the risk to be unacceptable. If I feel several of the positive attitudes in the list, the risk will be acceptable.

Much more effort and resources must be expended in order to ensure the efficacy of preventive

programmes. Research is needed on the best way to ensure that public health programmes can get around attitude problems. Money should be diverted in this direction without delay. It will be far better spent than endlessly chasing after the latest super-expensive cancer-treatment machine.

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