ENSA Scientific advisory committee position paper

Soyfoods and the impact on breast cancer: current knowledge

Key propositions

- women in Europe and North America are significantly more likely to develop breast cancer than women growing up and living in the Far East and Asia
- genetics and lifestyle can increase an individual's risk of developing breast cancer
- plant-based foods have an important role in helping protect against cancers
- soyfoods, especially when eaten from an early age, may provide protection from breast cancer in later life
- today's mothers and daughters, who make appropriate dietary and lifestyle choices, may be able to reduce the risk of breast cancer in future generations

Introduction

Scientific research is now suggesting a link between women's lifestyles and eating habits and their risk of developing breast cancer. Making positive dietary choices and adopting a **healthy lifestyle** could offer protection from this disease for future generations of women.

Learning from the global imbalance

Statistics have found that women in Europe and North America are more likely to develop breast cancer than women growing up and living in Asia including China. Studies investigating these populations have provided possible clues as to why these differences might exist. In Asian countries, the incidence of breast cancer is much lower than in Western countries. The lowest rate is seen in Chinese populations with incidence rates of 10 per 100,000 women. Rates in other Asian populations range from 30 to 50 per 100,000. In most European countries incidence rates are from 50 to 100 per 100,000 and rates in America are even higher. However, Asian rates are rapidly increasing possibly due to the adoption of a more westernised lifestyle. Studies looking at Asian migrants to the West provide the first solid evidence that diet and lifestyle – that is, environmental rather than genetic factors – are the main reasons for the large variations in cancer rates around the globe.

Fact and reality

Worldwide, **breast cancer** is the **most common** cancer in women and the leading cause of cancer-related deaths in women. Every 2.5 minutes a woman in the European Union is diagnosed with breast cancer and every 7.5 minutes a woman dies from the disease.

Around 350,000 new breast cancer cases in Europe were recorded in the year 2000. According to the European Network of Cancer Registries, deaths from breast cancer reached an estimated 130,000 in 2002.
Several factors can increase the risk of developing breast cancer. Widely known among these is a history of the disease in the immediate family. Furthermore an early start to menstruation, late menopause, non child-bearing women, older first-time mothers and a record of benign breast disease can each raise an individual's risk of breast cancer by between 50% and 200%. About 10% of breast cancer cases in developed countries is probably due to a genetic predisposition.

Role of the diet in cancer

The World Cancer Research Fund (WCRF) report on diet and cancers has emphasised the important role that **plant foods** can have in reducing the risk of cancer. The report recommends a minimum of five portions (400 grams) of different **fruits and vegetables** a day. Non-starchy, colourful vegetables are thought to be particularly beneficial. Unprocessed, wholegrain foods and legumes (such as beans and pulses) are recommended to be eaten at every meal. In practice this means that ideally two-thirds of each meal should consist of **plant foods**.
Being obese after the menopause is associated with a high risk of developing breast cancer. Foods that keep you feeling fuller for longer avoid the need or temptation to fill up on unhealthy snacks. Wholegrain foods such as brown rice and wholemeal pasta, beans and pulses including lentils, chickpeas and soy as wel as vegetables are healthy replacement for larger servings of sugary and fatty foods. Eating in this way can help individuals achieve and maintain a healthy weight safely and naturally.

Effect of soyfoods on breast cancer risk

The relationship between soy, as part of a normal daily diet, and breast cancer risk has received considerable interest over the years. Numerous studies published between 1978 and 2004 have found that **soy intake is associated with a reduced risk of developing breast cancer.**

The protective effect of soyfoods in the diet was particularly apparent among Asian women consuming higher amounts of soy. Isoflavones consumption equivalent to the amount found in just one 250ml serving of soydrink made a significant difference to the level of breast cancer risk.

Starting soyfoods early in life and adolescence: does it matter?

It may be that the critical period during which soy seems to exert its protective effects is during the early years. Relatively few studies have investigated the impact of soyfood intake in childhood and adolescence, although those that have suggest that soy eaten during this time is very protective against breast cancer.

One study looked at the amounts of soyfoods eaten over a lifetime among Chinese, Japanese and Filipino women, aged between 20-55 years and living in the USA. Childhood soy intake was strongly associated with a reduced risk of developing breast cancer in all groups.

The beneficial effect of soy foods in the early years is similar to the finding that pregnancy at a younger age is also very protective against the disease. It may be that the biological mechanism is similar in both i.e. they act on breast cells making these cells permanently less likely to be transformed into cancer cells.

Soyfoods in breast cancer patients

Soyfoods do not appear to pose a risk to breast cancer patients. Studies looking at the effects of soy products and isoflavones on breast tissue have not shown an increase in numbers of breast cells nor an increase in breast tissue density - a marker of breast cancer risk. Furthermore soy intake did not have an effect on the survival of Chinese breast cancer patients.

Can you combine soy and tamoxifen, a drug widely used to treat breast cancer patients? A study of Asian Americans with breast cancer who were taking tamoxifen concluded there was no interaction when combining the treatment with soy in the diet.

Soyfoods have not been shown to be harmful to breast cancer patients or women at high risk of the disease. However these women are advised to consult their primary health care provider when making any dietary changes.

Conclusions

Diet and other lifestyle factors play a role in the development of breast cancer.

Studies in Asian populations, who eat a lot of soyfoods, suggest that soy is protective against breast cancer.

Evidence suggests that to gain maximum protection against breast cancer, soyfoods need to be part of a daily diet from early in life onwards – especially during childhood and adolescence.

Although evidence suggests that soyfoods can be consumed by women with breast cancer or at high risk of developing the disease, these women are still advised to contact their health care provider when considering dietary changes.

Interested? Have a look on www.ensa-eu.org for more details and references or contact us via secretariat@ensa-eu.org

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