Reviews and Comments

Nutrition In Menopause
Rita Patnaik

While nutritional problems of women in the reproductive age group have attracted considerable attention, the subject of nutrition in menopause has apparently evoked little interest. While menopausal symptoms may not be life-threatening, they could cause considerable distress and sometimes even alarm. Programmes of nutrition education beamed to women must include advice regarding possible symptoms during menopause and desirable dietary changes.

Menopause is the point at which a woman has her last menstrual period and is, therefore, no longer fertile. Menopause can be divided into three phases.

• Pre-menopause: In this phase the ovarian function is disrupted, but the menstrual cycle remains regular. Some symptoms may begin to occur in this phase.

• Peri-menopause: Declining ovarian function along with menstrual irregularities is typical of this phase. Symptoms commonly start and become troublesome during this phase.

• Post-menopause: Once there has been no menses for 12 months, the post-menopausal phase is attained.

At menopause, the levels of oestrogen drop to around 40 per cent of the levels produced during women's reproductive life. Estrogen regulates reproduction, affects bones and ligaments, body temperature and even mood. Of immediate concern, during the time of onset of the menopause and consequent hormonal fluctuations, are symptoms such as hot flushes, decreased libido, palpitations and vaginal dryness.

Thus, the 'menopausal syndrome' refers to a group of physical and psychological symptoms commonly experienced in the climacteric period due to estrogen deficiency. Lack of estrogen also predisposes a woman to heart disease, osteoporosis (bone loss), memory problems and breast cancer.

HORMONE REPLACEMENT THERAPY

Hormone Replacement Therapy (HRT) is defined as giving the female hormone estrogen to menopausal women to bring estrogen levels back to normal pre-menopausal range. As scientists learn more about the risks and benefits of HRT, the decision on whether or not to opt for HRT is becoming more challenging. It is not the purpose of the article, however, to discuss the merits and demerits of HRT. This article will deal with the present scientific evidence indicating that through proper diet, regular exercise and appropriate lifestyle practices, most of the unpleasant symptoms of menopause can be minimised.

NUTRITIONAL GUIDELINES DURING MENOPAUSE

• Fat: Before menopause, hormones like estrogen seem to protect women against heart disease, but after menopause this hormonal protection is lost. Therefore, it will be prudent to minimise fat in the diet. Foods high in fat, especially saturated fat and cholesterol, could be avoided and fibrous foods such as whole grain breads and cereals, fruits and vegetables could be preferred. Foods low in fat but high in fibre content will also help to keep weight under control.

• Calcium: Calcium intake in Indian women is generally low. Moreover, lower levels of estrogen during menopause leads to the loss of calcium, which in turn may result in osteoporosis. It may, therefore, be necessary to ensure adequate intakes of calcium and vitamin D during menopause. Good food sources include milk, cheese and other milk products. Intake of salt should be reduced, as salt increases the urinary excretion of calcium. Also, caffeine products and carbonated soft drinks should be minimised, as caffeine and cola lead to calcium loss from bones and teeth. Foods high in phytates, oxalates and tannic acid should be avoided as they bind to calcium, interfering with its absorption. One of the factors that lead to...
depletion of calcium is prolonged bed rest. It is important for menopausal women to lead active lifestyles and take regular physical exercise.

- **Iron**: Even though the iron requirement in the menopausal age group, it is still important to include a range of iron containing foods in the diet. Women who experience heavy menstrual bleeding during menopause have to maintain a good iron intake. Iron-rich foods include organ meats, whole grains and green leafy vegetables.

- **Magnesium**: Increased intake of magnesium helps in relieving menopausal symptoms such as heart palpitations, hot flushes, irritability, hyperactivity, insomnia and anxiety. Magnesium is contained in green leafy vegetables, whole grains like oats and nuts and almonds. To support good bone health, it is recommended to maintain a dietary calcium: magnesium ratio of 2:1, since high calcium: magnesium ratio interferes with magnesium absorption.

- **Iron**: Even though the iron requirements in post-menopausal women are not high as those of the reproductive age group, it is still important to include a range of iron containing foods in the diet. Women who experience heavy menstrual bleeding during menopause have to maintain a good iron intake. Iron-rich foods include organ meats, whole grains and green leafy vegetables.

- **Boron**: Boron proves to be helpful in preventing osteoporosis as it markedly reduces the urinary excretion of calcium and magnesium. Findings suggest that post-menopausal women, subsisting on low boron diet have increased calcium loss and demineralisation. Also boron is found to raise the estrogen levels in the body. Foods high in boron include apples, pears, peaches, almonds, honey, peas, beans, lentils and peanuts.

- **Phytoestrogens**: Certain plants mimic the effect of estrogen and are called phytoestrogens. They help in alleviating some of the symptoms of menopause such as hot flushes and vaginitis. Phytoestrogen-rich foods have been shown to have a beneficial effect on the vaginal tissue and to have a positive effect on the libido.

The richest source of phytoestrogen is soya bean; the other good sources are apples, barley, cabbage, carrot, cherries, green beans, peas, potatoes, rice, wheat, etc. It is found that plant estrogens are several times weaker than natural estrogen, but they circulate in the blood at levels several times higher than natural estrogen. Thus, symptoms such as hot flushes, night sweats and palpitations can be reduced by increasing the intake of soya products. For example, Japanese women suffer little from the hot flushes of menopause because they eat a lot of tofu, miso and other soya bean products.

In fact, soya consumption actually promotes healthy breast, endometrial and colon tissues. Soya can even help younger women in managing the premenstrual syndrome and other menstrual disturbances.

Extensive research has revealed that soy protein is a safe, effective dietary addition to alleviate menopausal symptoms, protect the heart and promote bone health, without increasing the risk of breast cancer, endometrial cancer or blood clots. Also, studies demonstrate a positive relation between high phytoestrogen intake and increase in bone mineral density.

- **Tryptophan**: Foods containing the amino acid, tryptophan, helps to reduce depression and insomnia associated with hormonal fluctuations. Tryptophan is the precursor to the neurotransmitter serotonin—the feel-good substance in our brain, which helps to control appetite, body temperature, libido, mood and prevent depression. Tryptophan-rich foods include banana, pineapple, plum, nuts, milk, cheese, etc. Such foods will combat depression in menopausal women.

- **Indoles**: Indoles are nitrogenous compounds, which are found in cabbage and other cruciferous vegetables. Experimental studies have shown that indoles have a protective effect against breast cancers, colon and other types of cancer. There is evidence that indoles protect against estrogen-related cancer, such as breast cancer, as they block the estrogen receptors, thus inhibiting the growth of tumours in the mammary gland and in other locations.

- **Bioflavonoids**: Bioflavonoids combined with vitamin C gives relief from night time leg cramps, bruises, and spontaneous nose bleeding in menopausal women. Usually estrogen prevents excessive vasodilation and maintains the capillary tone. With menopause, this capillary tone is not maintained. Bioflavonoids restore the endothelium to its normal structure and helps to reduce the hot flushes and vasodilatation. Bioflavonoids can be found in oranges, grapefruit and tangerines.

- **Vitamin A and beta-carotene**: Both vitamin A and beta-carotene strengthen the mucus membranes throughout the body. Therefore, adequate intake of carrots and other yellow and orange fruits and vegetables proves to be helpful in reducing the unpleasant symptoms of vaginal dryness.

- **Vitamin B**: Often menopause is associated with diminution of memory power. Foods rich in vitamin B such as unmillled cereals, pulses and nuts should be taken in plenty, as they are important for memory function.

- **Vitamin C**: Inclusion of vitamin C-rich foods is very important for absorption of iron in the body and is also found to lessen the hot flushes of menopause. Vitamin C also enhances calcium absorption and is required for the synthesis of collagen proteins, which make the skeleton more flexible and less prone to sprains and fractures. Vitamin C-rich foods include citrus fruits, tomatoes, capsicum, broccoli, berries (blue berries, gooseberries, raspberries, strawberries), banana, guava, green leafy vegetables and sprouted grains.

- **Essential fatty acids**: The intake of essential fatty acids reduces vaginal dryness and has the added benefit of reducing hot flushes by enhancing and balancing the production of sex hormones and prostaglandin. Essential fatty acids can be obtained from fish, fish oils, fresh vegetables, seeds, nuts, and vegetable oils.

**OTHER MENOPAUSAL SYMPTOMS AND THEIR REMEDY**

- **Headaches and migraines** often become worse with menopause. Foods rich in amines such as cheese, pickles, alcohol, chocolates, oranges, etc could be avoided. Ginger is found to reduce headaches and migraines by dilating blood vessels in the head, and therefore chewing a small cube of fresh ginger is a quick remedy.

- **Dry vagina problems** can have an impact upon libido. Water intake should be increased to keep the tissues

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hydrated and an energy-boosting diet consisting of vegetables, fruits and juices along with phytoestrogen-rich foods such as soya should be incorporated in the diet.

- Alcohol and caffeine should be avoided, as they cause hot flushes. Caffeine and alcohol also increase magnesium excretion.
- Red meat intake should be minimised as it causes calcium loss leading to osteoporosis.
- Antacids that increase the gastric pH should be avoided, as they tend to neutralise normal stomach acid, which is necessary for proper digestion.
- Spicy foods should be restricted, as they increase hot flushes in menopausal women.
- High carbohydrate foods should be avoided as they cause elevated insulin levels, which can exacerbate menopausal symptoms such as hot flushes, palpitations, anxiety and depression.
- Weight gain often occurs in menopausal women, possibly due, in part, to declining estrogen. Usually estrogen helps to store fat around the hips. Before menopause, most women deposit fat around the hips (pear shaped), but after menopause, women deposit more fat around the abdomen (apple shaped). Thus estrogen deficiency leads to fat deposition in the abdomen leading to abdominal obesity, which is again a risk factor for diabetes, hypertension and cardiovascular diseases. The amount of calories in the diet should be reduced as metabolism slows down with age.
- Exercise is particularly important for women in menopause as it helps in eliminating hot flushes. Sedentary women are more likely to have moderate or severe hot flushes compared with women who exercise. Regular active exercise increases the production of HDL cholesterol and reduces LDL cholesterol. Exercise has a positive effect on blood pressure, blood lipids, cholesterol and blood sugar, all of which affect cardiovascular health.

Menopause is not a disease. If menopause is viewed as the end of youth and sexuality, this time will be much more difficult than if it is viewed as the next, natural phase of life. With progressive reduction in mortality in women during the reproductive period, the number of women in the menopausal and post-menopausal group will increase. Information on health problems arising from menopause, and nutritional guidance for this important phase of life should be widely disseminated.

The author is Scientific Officer at the Nutrition Foundation of India

References

NUTRITION NEWS

- Symposium on 'Micronutrient supplementation in health and disease' was organised by the Centre for Research on Nutrition Support Systems (CRNSS), New Delhi and National Institute of Nutrition (NIN), Hyderabad at India International Centre, New Delhi on December 15, 2002. About 150 eminent scientists participated in this meeting.

- Twenty-ninth Kamla Puri Sabharwal Memorial Lecture: This lecture was delivered by Dr Maharaj Krishan Bhan (Professor of Paediatrics and Chief, Gastroenterology and Nutrition, All India Institute of Medical Sciences, New Delhi) on 'Nutrition and management of childhood infections' at Lady Irwin College, New Delhi, on December 18, 2002. Dr Shanti Ghosh (Consultant in Paediatrics and a Governing Body Member of the Nutrition Foundation of India) chaired the meeting.

- IX Asian Congress of Nutrition: The arrangements for this Congress are proceeding smoothly. Apart from Plenary Sessions, Symposia, and Special Lectures, as many as 800 abstracts for Free Communication (oral and poster presentations) will be presented at the meeting. Nearly 1,200 delegates have already registered and it is expected that the number will increase in the next few weeks.

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