HEALTH

Nutrition Besides Hormones: Importance of Vitamin D and B12 in the Health of Women in Pre-menopause

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Introduction

The health of a woman is affected by the interplay of various factors including hormonal, nutritional and lifestyle factors as well as physiological factors that arise due to aging. In the period before menopause which is referred to as pre-menopause, women undergo changes in their sleeping patterns, mood, energy levels, concentration, and general well being. Although changes in hormones play a major role in the transition process, nutrition cannot be ignored either.

Vitamin D and Vitamin B12 are two vital nutrients that help to keep the body functions normal. The former ensures proper calcium absorption and maintains the health of bones and muscles while the latter helps in the development of healthy red blood cells and proper working of the nervous system.

Fatigue, weakness and lack of ability to concentrate can sometimes be associated with menopausal transition. But these conditions have various causes, and hence one should not assume that they result from hormones or deficiencies in vitamins.

Gaining an insight into the role that Vitamins D and B12 play can be very helpful for women who want to take proper decisions regarding their nutrition and health care in order to age healthily.

Understanding Premenopause and Perimenopause

Premenopause usually means the time before menopause, while perimenopause is the period in which changes occur in menstrual cycles and hormonal levels. The two concepts are sometimes used synonymously in non-scientific discourse.

Therefore, an integrated approach to women’s health becomes especially crucial.

1. The Effect of Vitamin D on Women’s Health

Vitamin D is a fat-soluble vitamin responsible for the absorption of calcium and maintenance of proper bone structure. It also participates in the regulation of the muscular functions and some processes associated with the immune system.

Bone health and menopausal transition

As women enter and undergo menopause, their body experiences a rapid depletion of oestrogen and thus a fast decrease in bone mass. Therefore, it becomes essential to ensure proper amounts of Vitamin D and Calcium to ensure the bone health throughout their life.

The deficiency of Vitamin D prevents proper bone mineralisation and can lead to a condition known as osteomalacia in adults. Nevertheless, proper amounts of Vitamin D do not guarantee absence of osteoporosis; other factors should be taken into consideration as well.During perimenopause, changes in levels of oestrogen and other reproductive hormones can cause irregular bleeding, hot flashes, night sweats, disturbed sleep, mood swings, and inability to concentrate. However, not all symptoms observed at this stage are connected with hormonal imbalance. Some symptoms may result from nutrient deficiencies, disorders of thyroid gland, anaemia, sleep disorder, and other diseases.

Muscle performance and physical health

The vitamin helps with muscle performance. Vitamin D deficiency might lead to muscle weakness and pain in the bones.

For women who are always feeling tired or experiencing physical issues, nutrition is one of the factors that will be taken into account when doing an examination. However, tiredness is not enough evidence of the lack of Vitamin D.

Sources of Vitamin D

The vitamin can be acquired from sunshine, diet, food products, and supplements. The food sources of Vitamin D are oily fish, egg yolks, and fortified foods if any.
In India, the nutritional diet, less exposure to the sun, clothing, skin coloration, and others may affect the presence of Vitamin D. Having a lot of sunshine does not mean having enough Vitamin D.

2. Vitamin B12 and Its Significance for Women's Health

Vitamin B12, or cobalamin, is needed for DNA production, proper red blood cell development and proper brain and nerve health.

Production of energy and red blood cells

Lack of vitamin B12 results in megaloblastic anemia, which is characterized by abnormal red blood cells formation. Symptoms may be experienced in fatigue, weakness, pallor, dizzy spells and shortness of breath.

Symptoms above coincide with those of many complaints made by women at midlife. Diagnosis is important as it will help understand what causes symptoms and whether vitamin B12 deficiency can be considered.

Brain function and concentration

Vitamin B12 is needed for proper neurological functioning. Lack of it results in inability to focus, problems with memory, numbness, tingling sensations and problems with balance.

Brain fog is often referred to as these symptoms and is not automatically considered a sign of menopause or lack of vitamins. Sleep disorders, stress and other factors may be a cause as well.

Who could be at risk of being deficient in Vitamin B12?

B12 is found mostly in animal products such as milk, dairy products, eggs, fish, meat, and poultry. Foods fortified with B12 or supplements can serve as sources of vitamin B12.

Vegetarian and vegan women are likely to need special consideration regarding their B12 intake when their diet lacks fortified sources of B12. Other risk factors include certain diseases, malabsorption, and prolonged intake of certain medications.

However, it should be emphasised that even a balanced diet cannot guarantee

3. Vitamin D, Vitamin B12 and Symptoms Similar to Perimenopausal Symptoms

It is one of the most important principles of women’s health care: the symptoms that look alike may have completely different origins.

Let us consider three common symptoms:

· Fatigue: it can be related to B12 deficiency, anaemia, sleep disorder, problems with thyroid gland, or something else.

· Pain in muscles and bones: one of the reasons for that may be a lack of Vitamin D, but a medical examination may show another origin of the problem.

· Inability to concentrate: this can be caused by hormonal disorders, lack of sleep, stress, B12 deficiency and other causes.

These similarities emphasize the reason why women should not base their symptoms only on the symptom checklists and self-diagnose.Also, there is a scientific factor to be considered. Correcting a diagnosed vitamin deficiency would help solve problems associated with the same vitamin deficiency. However, taking more vitamins when there are enough levels of such vitamins has not been proven to be a remedy for the symptoms of menopause.

4. The Indian Scenario: Nutrition and Women's Health

Nutritional requirements of women are affected by the type of diet, socioeconomic conditions, availability of food, their lifestyle, and medical access.The vegetarian habits of Indians may make the need to plan sources of Vitamin B12 especially important in India.
However, awareness by itself is not sufficient. Women require access to proper information regarding nutrition and health, as well as medical advice.
The prevention strategy must consider individual nutritional requirements and not assume that all women have the same nutritional deficiencies or that all women require the same types of supplements.

5. Practical Actions for Nutritional Health

There are some very sensible actions that women can undertake in order to maintain their health in the years leading up to menopause.Diet must be balanced. A wide variety of vegetables, fruits, legumes, whole grains, dairy products or their substitutes, as well as good protein sources must be included. Suitable sources of Vitamin B12 must also be identified.

Take care of your bones. Proper intake of calcium, adequate amount of vitamin D and weight-bearing exercises can result in healthy bones.Consider any prolonged symptoms. Fatigue, unexpected weakness, numbness, tingling, or problems with concentrating on something should be evaluated medically, not treated on one's own for an extended period of time.Ask your doctor about tests. In accordance with your symptoms and risks, your doctor will decide whether blood tests for vitamin B12, vitamin D, complete blood count, thyroid tests and so on are required.

Do not use supplements rashly. Vitamin supplements are not always safe to use. Overdose of vitamin D can lead to toxicity, but the appropriate treatment of B12 deficiency may depend on many things.

6. Why More Awareness and Research Are Needed

In discussions about women's health, the reproductive hormones, menstruation and menopausal symptoms tend to take center stage. And while this aspect is certainly relevant, it should be considered along with nutrition, psychology, lifestyle, and others. Future research might look into the connection of nutritional state, diet, lifestyle, and hormonal fluctuations that occur during the perimenopause transition period. There might also be studies done on whether screening for nutrition deficiencies in specific risk groups might benefit their health. These future researches need to be able to differentiate between correlation and causation. For example, discovering a link between fatigue and low levels of vitamins doesn't mean that the deficiency is responsible for all of the symptoms.

More evidence-based research will help physicians to recognize which patients need testing and treatment without encouraging them to use unnecessary supplements.

Conclusion

The passage into menopause represents an important period in women's lives, and health care for women undergoing this period involves more than paying attention to hormonal fluctuations only.Vitamin D influences bone and muscle health, whereas Vitamin B12 contributes to the formation of red blood cells and normal

neurological functioning. A lack of one of these vitamins may cause health issues, and some of the related symptoms could be similar to those which women experience during perimenopause.The crucial thing is not that every woman entering the menopause period needs vitamins. Instead, it is necessary to pay attention to nutrition and symptoms and to receive adequate health care advice.In other words, this paper highlights the combination of hormonal, nutritional aspects, and health care for women in the process of aging.

Competing interests

The authors declare that they have no competing interests.

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