

Micro needs, macro impact

Getting adequate micronutrients through your diet is extremely important to be healthy. Look out for these tell-tale signs to spot a deficiency

BY GITA HARI

You wonder what's wrong with you. You feel sloppy most of the time, your callisthenics leave you more exhausted than energised and you often cannot recollect simple day-to-day affairs.

Maybe it's time to look for the missing nutrients in your diet—copper, folic acid, zinc, iron, omega-3 fatty acids, vitamin D, B12, selenium, or phosphorus. If one of these is absent from your diet, chances are you will get sick, feel uncomfortable, impulsive and irritable. Tingling hands and feet, mouth ulcers, aching bones, fatigue, hair fall and pale skin are some of the common signals that indicate micronutrient deficiency.

"Micronutrients are the vitamins and minerals that our body needs, though in smaller (micro) amounts. An adequate intake of all micronutrients is necessary for optimal health, as each vitamin and mineral has a specific role in our body and are crucial for growth, brain development and much more. Certain micronutrients also play a role in preventing and fighting disease," says Munmun Ganerwal, nutrition and fitness consultant and founder, Yuktahaar.

Warnings signs

While most people take care that their carb, protein and fat requirements are

met, how does one ensure that they are getting enough micronutrients in the diet? Importantly, how does one know when you are not getting enough?

Hetal Chheda, holistic nutritionist and founder of Your Health, Signature Nutrition Clinic, answers the question: "The most important thing is to listen to our own body. People who feel constantly tired and irritated, experience sudden weight gain or loss and disrupted sleep are some signals that indicate something may be wrong."

Absence of zinc and selenium causes hair fall, poor vision and sluggish wound healing. Calcium and vitamin D deficiency are now commonly seen which leads to porosity in the bones resulting in osteoporosis and bone fracture. "Zinc is necessary for normal growth, immune function and wound healing. Low amounts of zinc in the diet can lead to fever, bouts of cough and cold and poor health," says Chheda.

Another important way to identify deficiency of micronutrients is by looking at your hair and skin. Dr Bharti Magoo, cosmetologist and dermatologist, and owner at Golden Touch Clinic says, "Lack of these nutrients can cause brittle and thinning hair apart from eczema, dryness of skin and other skin related problems. Lack of calcium and zinc causes hair fall, dark circles, dan-

druff and white spots on nails which can lead to low self-esteem.”

Get them right

Ensure you get all the important micro-nutrients through the diet by including lots of fruits, vegetables, legumes and pulses, millets, good fats like almonds and walnuts, oilseeds, sprouts and dried fruits. The knowledge of the synchronised proportion of their combinations plays an important role. For example, if you do not consume enough protein, there will be reduced binding and absorption of iron and folic acid.

Pooja Thacker, senior dietician, Bhatia Hospital, recommends intake of milk, milk products and fish cod liver for adequate calcium. “If you are taking iron supplement or iron-rich food, make sure not to take it along with milk, starchy food and high fibrous food like pulses because it hampers the absorption of iron in the body. Include nut and whole grain cereals in the diet for zinc and selenium requirement and for better absorption take it along with milk or milk products. Calcium can be derived from milk and milk products which would be best if consumed on an empty stomach and avoid taking milk with tea, coffee and multivitamins,” she warns.

Swati Bhushan, chief clinical nutritionist, Hiranandani Hospital Vashi advises, “Fresh seasonal leafy vegetables should be an integral part of your diet to prevent micronutrient deficits. Whole grains, whole dals and pulses, milk and milk products, lean cuts of fish and chicken and eggs are also high on nutrients. Remember to eat moderate quantities and choose variety from these food groups. Opt for handful of nuts and oil seeds to reap the benefits in terms of meeting micronutrient requirements.”

Increased intake of food high in sugar, bad fats (saturated and trans fats), sodium and refined flour (maida) deprive your body of important nutrients and it's best to limit such food. Minal Shah, senior nutrition therapist, Fortis Hospital Mulund, gives a stepwise breakdown to ensure you meet your micronutrient needs: “First step is to



ensure a balanced diet with a daily consumption of fruits, vegetables, pulses; protein sources which will help meet the Recommended Dietary Allowance (RDA) of the micro-nutrients. Next step will be to maintain rotation in terms of seasonal variation and also to include a variety of locally available food items, which are fresh and naturally grown with high micronutrient bio-availability, as compared to their foreign preserved counterparts.”

Vegans' dilemma

While being a vegetarian, especially a vegan, is becoming increasingly popular worldwide and has many health benefits, many nutritionists insist that vegans need to be particular about meeting their micronutrient needs. Vegan diets can be low in vitamins A, B12, D, calcium and zinc.

Shah throws more light on it saying, “Vegan diet if planned appropri-

ately has many benefits like high-fibre, rich in antioxidants, phytochemicals, low in saturated fats, etc. Plant based iron sources (non-haem) have lower bio-availability than animal based iron (haem) sources. Combining iron-rich sources like sesame seeds, garden cress seeds, black raisins and dates with a vitamin C and β-carotene (vitamin A) rich source will enhance its bio-availability. Essential fatty acids like omega 3 fatty acids, omega 6 fatty acid and MUFA are available in algae, walnuts and oil seeds like flax seeds and soya. Zinc can be easily found in beans and legumes and whole grains. Soaking, germination or fermentation can be helpful in reducing the anti-nutrient such as phytates in these food sources and improve the bio-availability of zinc. Vitamin D can be obtained by sun exposure, with certain level of activity that helps make it the best combination that strengthens bones.

Vitamin B12 is ideally made by the gut bacteria, so best source is to keep the gut healthy with good fibre that enhances the growth of good bacteria.” Vitamin B12 sources are mainly animal products like meat, yoghurt and milk, and while vegetarians can get this through milk-based food, vegans can get it through fortified food or medical supplementation.

Anaemia and micro deficiency

According to the Global Nutrition Report 2017, 51 per cent of women in India in the reproductive age suffer from anaemia, the largest in the world. Bhushan points out that this is mainly due to an imbalanced diet not adequate in iron, vitamin B12 and folic acid. “Indian women do not take sufficient iron in their diet from haem sources which is better absorbed than non-haem iron sources. Vitamin C intake too from fruits and vegetables

Fact file

Symptoms that could be an indication of lack of certain micronutrients.

Symptoms: Forgetfulness

Folic Acid: A Swedish research experiment found that individuals who failed on a series of memory tests also had the least level of folic acid. Researchers speculate that lack of folic acid may lead to a spike in levels of homocysteine, an amino acid that damages blood vessels in the heart and the brain.

Source: Beans (mung, rajma), leafy greens, liver, oranges, corn

Symptoms: Panting and breathlessness, lack of stamina

Zinc: It is the fitness mineral. A USDA research found that people on a low-zinc diet had a 45 per cent drop in red blood cell movement. The longer it takes red blood cells to transfer carbon dioxide to your lungs, the tougher it is to respire. Even simple movements will make your breathing laboured.

Source: Red meat, millets (ragi, jowar, bajra), chana, chowli, mung, rajma, cashews, almonds, sesame.

Symptoms: Headaches, insomnia

Magnesium: Consider it as your system's security guard. Deprived of it, uninvited calcium will blast your cells and cause chaos on vital hormones and neurotransmitters. This restricts blood vessels and brings on headache. Scanty magnesium gives rise to sleep trouble.

Source: Mangoes, khuskhus, grapes, onion stalk, potatoes, fish, bananas, millets and whole grains

Symptoms: Running nose, cough, fever

Copper: Scientific researchers infected human cells with bacteria and discovered that cells with normal copper killed two to three times more bacteria than those with low copper levels. Copper also produces 60 per cent more cytokines—chemicals that trigger the body's immune response.

Source: Whole wheat, bajra, sesame, lentils, coconut, walnut, cashews

Symptoms: Weak bones, teeth that chip on biting hard things

Phosphorus: Adding more calcium to your diet minus an equivalent quantity of phosphorus can make the composition of bones unbalanced, and therefore more brittle, increasing the chances of fractures.

Source: Cereals, pulses, and nuts. Fish, mutton and cheese

Symptoms: Tender muscles, hurting joints, difficulty in lifting heavy objects

Omega-3 fatty acids: They have lower levels of prostaglandins which cause muscle soreness. Taking in more omega-3s can offset prostaglandin production and may decrease recovery time and diminish pain.

Source: Shrimp, cod, sardine, tuna, mackerel. They are also found in small quantities in roasted soya beans, chia seeds, walnuts and canola oil.

is sub-optimal and this vitamin is an enhancer of iron absorption from plant-based food,” she says. Drinking tea or coffee with meals also reduces absorption of dietary iron.

Should you pop multivitamins?

Many people believe substituting a multivitamin pill for the real stuff is an option but it's simply not the best one. By taking a pill you end up losing out on a load of phytochemicals that help to

inhibit cancer and decrease the peril of contracting heart disease.

According to Magoo, “Swallowing a handful of supplements is no solution. Splitting nutrients into single supplements such that they can't relate with other nutrients is not as effective as eating food. Besides, the joy of tasting food generates saliva and aids in producing digestive juices.”

So, indulge in a plate full of nutrients for a healthy and happy you! □