

Unwanted Victorian values

Most of us are familiar with today's headline public health risks – smoking, obesity, sexual health – but we need to pay attention to the return of a problem that we thought we'd seen the back of – rickets. Catherine Heffernan reports.

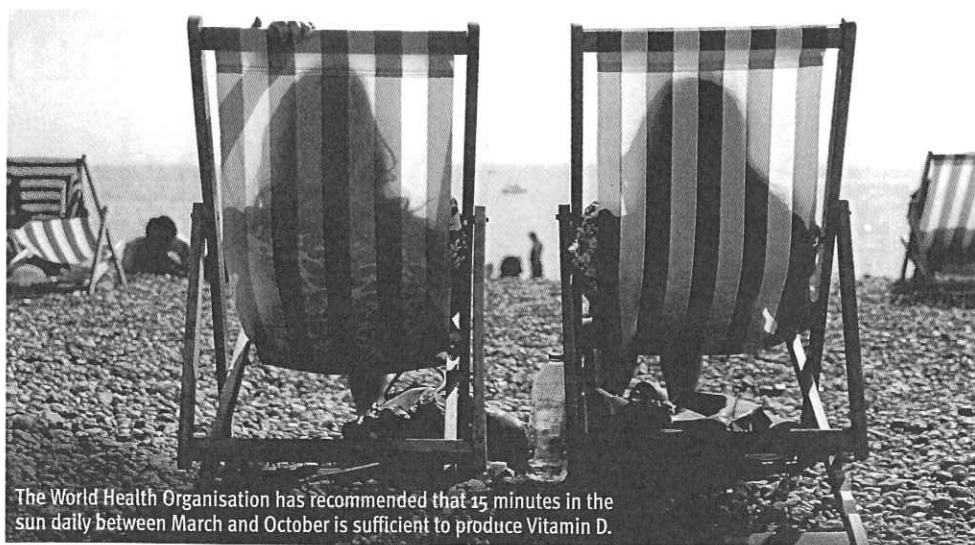
Rickets is making a comeback. In the last five years, the UK has seen a dramatic increase in Vitamin D deficiency disease. Studies done on cities such as Manchester, Leicester, London, Bradford and Leeds, have documented a rise in the number of children and adults being referred for treatment for Vitamin D deficiency. This is a growing public health issue. We simply should not be seeing cases of rickets in the 21st century.

Vitamin D deficiency had been rife throughout industrial Victorian England when pollution was high, living conditions grim and diet poor. By the mid 20th century, improvements in health, food fortification and intensive health promotion campaigns had all but eradicated rickets from modern memory.

Yet today according to the National Diet and Nutrition Survey, 28% of women aged between 19 and 24 years in the UK are vitamin D deficient. In the West Midlands, the overall annual incidence (that is, new cases) of Vitamin D deficiency in children under 5 years old is estimated to be 7.5 for every 100,000 children. In an ironic twist, the rise in Vitamin D deficiency is happening in a society obsessed with beach holidays, sun beds and sun safety. Vitamin D deficiency is mainly caused by lack of sunshine exposure.

Vitamin D is essential for healthy bones, teeth and for skeletal growth. It is required for the absorption of calcium and for depositing calcium in the bones. The main source of Vitamin D is from ultraviolet sunlight (UVB rays). About 90 per cent of vitamin D is made in the human body through skin synthesis from sunlight, with only 10 per cent of vitamin D coming from diet. Foods rich in Vitamin D include oily fish, cheese, eggs, evaporated milk but the main dietary source is from fortified foods and margarines. In the UK, the intensity of sunlight needed to make Vitamin D is only sufficient between March and October. However, the human body can store Vitamin D for the winter months.

Vitamin D deficiency causes reduced serum calcium levels in people. The human body then attempts to maintain normal serum levels by releasing calcium and phosphorus from bones. This results in rickets in children and infants may present with hypocalcaemic seizures. The main signs and



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symptoms of rickets are bone pain, muscle weakness, bowed legs, knock knees and there may be dental deformities. Vitamin D deficit adults can suffer from osteomalacia, which is a softening and bending of the bone accompanied by muscle weakness.

Treatment for Vitamin D deficiency involves taking high doses of vitamin D. This can be problematic for people with severe Vitamin D deficiency as they need to build up their stores quickly but taking high doses of vitamin D can be toxic. Prevention is therefore preferable and Vitamin D deficiency is easily preventable by making simple changes to diet and enjoying outdoor pursuits or just simply sitting outside in summer.

Those at greatest risk of Vitamin D deficiency are adults and children with darker skin pigmentation, particularly children from South Asian, African Caribbean and African backgrounds. Children from low income families and infants being breastfed by mothers with Vitamin D deficiency are also at risk. Other 'high risk' groups consist of people on restricted diets, adults aged 65 years and older and adults with reduced exposure to sunlight - those who cover their face and body due to religious and cultural reasons, those who are housebound and those who have extensive use of anti-UVB sunscreens.

Primary Care Trusts across the country are

working on improving awareness of Vitamin D deficiency among the groups at risk and instigating preventive actions, for example provision of Vitamin D supplements to children aged 4 years and younger as part of the Healthy Start programme. Early diagnosis and treatment is also being encouraged.

However, word of mouth is a very effective way to help prevent Vitamin D deficiency. Every adult and child can act to prevent Vitamin D deficiency by doing one or more of the following and encouraging their family and friends to do the same:

- take a daily vitamin D supplement
- eat foods rich in vitamin D like oily fish, cheese, eggs, evaporated milk, fortified cereals and margarines.
- expose at least your hands and face to sunlight for 15 minutes daily before applying sun block.

The World Health Organisation has recommended that 15 minutes in the sun daily between March and October is sufficient to produce Vitamin D. After this period, sun block can be applied. Sun block, by the way, blocks UVB rays and so reduces people's ability to produce Vitamin D. This is particularly relevant to people with skin with darker pigmentation as they will need longer exposure to the sun's rays. Remember to be safe in the sun and avoid prolonged exposure between 11 am and 3pm. ☀️