

Vitamin DEFICIENCY

Early years nutrition in the UK has taken steps backwards to the Victorian era, with levels of malnutrition increasing, says dietitian and founder of Grub4Life, **Nigel Denby**...

Cases of rickets amongst British children aged under five has increased to alarming proportions in recent years – this a crippling disease that was eradicated originally in Britain during Victorian times. It has increased fivefold since 1997. In one London Borough in 2008, 20 per cent of children admitted to a hospital fracture clinic were found to be vitamin D

deficient. The primary cause of rickets is vitamin D deficiency, caused by lack of exposure to sunlight, coupled with a poor diet lacking in calcium.

What is vitamin D?

The Vitamin D found in your blood is actually a hormone, called 25-hydroxyvitamin D. It is made by your body via the skin's exposure to sunlight. We can

also obtain vitamin D directly from supplements and a few foods. Vitamin D is stored by the body, but these stores can be quickly used up during the winter if your levels are not maximised over the summer months.

Why do you need it?

Vitamin D helps the absorption of calcium and is used to strengthen bones and

Scientific opinions

In February this year, the UK's four chief medical officers wrote to health professionals expressing their concerns about the extent of vitamin D deficiency amongst the nation's children and adults. The figures that prompted their intervention revealed that up to 25 per cent of the population has low levels of the vitamin in their blood, and that the majority of pregnant women do not take vitamin D supplements.

"A significant proportion of people in the UK probably have inadequate levels of vitamin D in their blood," the chief medical officer for England, Professor Dame Sally Davies, noted at the time. "People at risk of vitamin D deficiency, including pregnant women and children under five, are already advised to take daily supplements. Our experts are clear – low levels of vitamin D can increase the risk of poor bone health, including rickets in young children."

Studies, such as that conducted at the Medical University of South Carolina and reported by charity Arthritis Research in 2011, have demonstrated that it is safe for pregnant women to take high doses of vitamin D. Of 350 women given varying amounts of vitamin D, those taking the highest dose of 4,000IU were found to be most likely to maintain the optimal healthy level of the vitamin, and there were no indications that the supplements had any negative side effects. Past research, Arthritis Research notes, has shown that children whose mothers were vitamin D deficient during pregnancy had weaker bones at birth and at age nine. The charity has been running a clinical trial in the UK to attempt to establish whether providing vitamin D supplements for pregnant women can reduce the risk of their babies developing osteoporosis in later life.

findoutmore



For further information and support, go to grub4life.org.uk

or contact Nigel Denby at Nigel@grub4life.com

■ Cancer charities have successfully promoted sun awareness messages which have led to strict policies on sun creams. However, an unintended consequence may have led to reduced vitamin D levels in vulnerable groups. The fear of skin cancer has resulted in parents smothering their children in sunscreen, which can hinder the absorption of vitamin D.

■ Many children shun playing outside in favour of television and computer games.

■ Unlike milk in the USA, cow's milk in the UK is not fortified with vitamin D.

■ There has been an increase in rickets amongst the infants of Muslim women in Britain who wear the burka.

■ Lack of exposure to the sun prevents pregnant women receiving vital vitamin D, thus exposing the developing fetus to the deficiency.

■ Children with darker skins are less able to produce vitamin D than white children.

■ Very few foods are good natural sources of vitamin D. Oily fish such as tuna, salmon and pilchards provide vitamin D, as do foods fortified by manufacturers such as margarine, many fat spreads and breakfast cereals. Infant formula also contains vitamin D. (The main dietary sources of vitamin D among those aged 1 ½–4 ½ are fat spreads (not butter) and fortified breakfast cereals.)

What can your nursery do?

■ Think about vulnerable toddlers – those with darker skin, children who cover up for cultural reasons, who rarely play outside or who don't eat oily fish or take vitamin D supplements.

■ Nurseries located in the north of the UK should be particularly vigilant due to lower levels of sunlight there than in the south.

■ Sensible sun exposure remains the cornerstone of vitamin D advice. Cancer charities and the British Association of Dermatologists suggest sun exposure for a few minutes a day, before taking the usual steps to guard against sunburn.

■ Don't rely on sunlight alone; ensure your nursery menu includes at least one serving of oily fish per week, that you serve a polyunsaturated spread which is fortified with vitamin D as well as fortified breakfast cereals – a good selection includes Weetabix, Cornflakes, Rice Krispies and Shreddies.

■ Include 2–3 servings of dairy foods each day in nursery menus. These could include white sauce with fish, custard with pudding, yoghurts, cheese and, of course, milk to drink.

■ Promote the uptake of Health Start Vitamin drops in your setting – visit the health professionals section at healthstart.nhs.uk

Milk on demand

For free delivery of organic, fresh pasteurised and formula milk, contact the Milk Factory. A simple transfer system from previous suppliers is available, and with free vouchers on offer for Mothercare or the Early Learning Centre, it's worth investing your nursery in their loyalty scheme. For more information, call 0800 0328919 or email info@milkfactory.co.uk

teeth. It is a particularly important vitamin for toddlers, who go through rapid periods of growth. Prolonged deficiency in children results in rickets, the main signs of which are skeletal malformation (e.g. bowed legs) with bone pain or tenderness and muscle weakness.

Why is rickets coming back?

We're not seeing more cases of rickets because of neglect or poor parenting. A number of factors have all combined with each contributing to children having lower intakes of vitamin D and the subsequent increase in this preventable nutritional deficiency:





The Recipe book



TASTY AND NUTRITIOUS FOOD TO SERVE IN YOUR SETTING...

Fish Pie with Yellow and Orange Vegetables

Ingredients (10 servings)

450g cod fillet, haddock or coley
1 onion (150g), finely chopped
50g margarine
120g sliced leeks
2 tsp (10g) chopped parsley
50g flour
1 pt milk
120g green beans, broccoli florets or peas
120g sliced mushrooms
800g potatoes, peeled and cut for mashing
50g margarine
400g yellow and orange vegetables

- Preheat oven to 180C/350F, Gas 4. Poach the fish in the milk until cooked and leave to one side; flake the fish and keep the milk for your sauce.
- Fry the onion and leek in a little margarine until transparent. Add the flour to the pan, stirring and cook for 4–5 mins to make a roux.
- Gradually add the milk (used to poach the fish) to the roux, stirring all the time.
- Add the sliced mushrooms, broccoli and fish to the sauce; continue to simmer for 5 minutes.
- Pour fish mixture into a large oven-proof dish.
- Boil potatoes for mashing; when tender, mash with the margarine. Spread mash over the top of the fish mixture.
- Bake in the oven for 20 mins; finish off under a hot grill to brown the potato. Serve with yellow and orange vegetables (40g per child).



Cook's TIP

- For dairy-free diets, replace milk with soya milk and margarine with Pura non-dairy
- For vegetarian diets exclude fish (if not eaten), Replace with chopped canned butter beans
- For wheat-free diets replace flour with rice flour. For puree diets make broccoli and potato puree

Nutrition analysis per serving

Energy (kcal/s)	Protein (g)	Fat (g)	Carbs (g)	Sugar (g)	Salt (g)	Iron (mg)	Calcium (mg)
257	13	12	27	0	0.3	1	102

Jamaican Pineapple and Raisin Pudding with Custard

Ingredients (10 servings)

5oz (125g) margarine
4oz (100g) caster sugar
3 beaten eggs
5oz (125g) self-raising flour
1oz (25g) cocoa powder
3oz (75g) drained crushed pineapple chunks in natural juice
3oz (75g) raisins
Custard

- Preheat oven to 180C/350F, Gas 4.
- Grease a 7-inch sandwich tin.
- In a mixing bowl, mix together the butter and sugar.
- Beat in the eggs.
- Sift the flour and cocoa powder, and add a little at a time to the cake mixture.
- Fold in the raisins and the pineapple.
- Bake the cake in the centre of the oven for approx. 20 mins, until the centre is springy.
- Allow to stand for 2–3 minutes, then transfer to a wire cooling rack.
- Serve warm with custard. You may like to add a little cocoa powder to the custard to make chocolate custard.

Cook's TIP

- For all special diets use Trufree cake mix or adapt recipe using wheat-free self-raising flour, egg replacer and dairy-free spread
- For milk-free and egg-free diets, use Bird's Custard powder and make up with soya milk

Nutrition analysis per serving

Energy (kcal/s)	Protein (g)	Fat (g)	Carbs (g)	Sugar (g)	Salt (g)	Iron (mg)	Calcium (mg)
265	5.1	1.4	31	15	0.5	1.2	105

CUT OUT & KEEP

This is the first in a series of recipe cards from Grub4Life. Why not pin it to your notice board to share with parents?

