Vitamin D – the role for HCPs

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In association with Colief®
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What is vitamin D?

- ? Vitamin or hormone
- Made in the skin in D3 form (cholecalciferol) - when outside in daylight
- Becomes active via the liver then kidney - and some other cells
- Vitamin D receptors in all cells in the body
- Good biochemical and physiological evidence for bone health
- Epidemiological evidence for growth, development, dental health, immune system and prevention of autoimmune diseases and cardiovascular health
Very little in the UK diet:
- Oily fish is the best source
- Small amounts in eggs and meat
- Fortified foods – formula milks, some yogurts, some breakfast cereals
- Supplements

Other countries fortify more foods
e.g. USA, Canada, Finland
Two forms of vitamin D

Vitamin D₃ (cholecalciferol)
- From sunlight, oily fish, meat and eggs
- In some supplements
- Superior with longer half life

Vitamin D₂ (ergocalciferol)
- Very, very small amounts in mushrooms
- In some supplements
Why the concern?

Decreased cutaneous synthesis with

- Lower sunlight intensity with increasing distance from the equator
- Dark pigmented skins in northern climates such as UK
- Climate and cloud cover
- Air pollution
- Increasing age
- Mainly indoor lifestyles
- Sunscreen use
- Clothing covering most of the skin - fashion or cultural traditions

- 30-40% of all age groups in UK vitamin D deficient in winter
- Lower levels in those overweight or obese
### Survey of 1000 new and pregnant mums

<table>
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<th>Percentage</th>
<th>Description</th>
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<tr>
<td>70%</td>
<td>70% are not aware of government advice on taking vitamin D supplements</td>
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<td>36% pregnant mums</td>
<td>36% pregnant mums say they are not planning to give vitamin D to their children</td>
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<td>43%</td>
<td>43% are not aware that vitamin D is made in the skin only during the summer months in the UK</td>
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<td>38%</td>
<td>38% do not know the importance of vitamin D for their children</td>
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### Misconceptions about where vitamin D could be found

- Vegetables: 23%
- Cheese: 13%
- Nuts: 13%
- Bananas: 10%
- Orange Juice: 15%
Role of HCPs

A healthy balanced diet provides adequate nutrients except vitamin D (NDNS)

Government recommendations on vitamin D intake since 1991:
- 10ug/day during pregnancy, breastfeeding and over 64 years
- 7ug/day from 1 to 3 years
- Breastfed infants: 7ug/day from 6 months (or from 1 month)
- Formula fed infants having less than 500mls formula: 7ug/day
Survey of 1000 new and pregnant mothers

73% of mums think they had not been informed of the benefits of vitamin D from their HCP

82% of mums are not aware of the difference between vitamin D₂ and D₃

1/3 said they had never been advised at all on the need to take vitamin D
Role of HCPs - NICE PHG 56 (2014)

Raise awareness
Advise on supplementation
Make vitamin D supplementation accessible locally
Make Healthy Start supplements accessible locally

Government policy 1991/1998/2012:

- 10ug/day during pregnancy, breastfeeding, at risk groups and over 64 years
- 7ug/day from infancy to 5 years
Special report on cost effectiveness to CMO

Costing of universal provision of free vitamin D/HS supplements in pregnancy, breastfeeding, infants and under fives

Findings: cost effective if given to:
- all mothers before pregnancy and up to at least twelve weeks
- all infants from birth
- all under fives

https://www.nice.org.uk/article/pmg25/chapter/Executive_summary
Recommend:
- brands sold in pharmacies, not health food shops
- in vitamin D₃ form

Vitamin D only: Baby D, Boots, Colief, D-drops

Vitamin D as part of a multivitamin:
- Boots, Health Aid, Pregnacare, Seavenseas, Vitabiotics
Scientific Advisory Committee on Nutrition (SACN) Review
Currently out for consultation

Recommendations:
- 10ug/day vitamin D for all populations over 12 months of age
- 7 - 8.5ug/day for infants under 12 months

Reduced prevalence of:

- Pre-eclampsia during pregnancy
- Hypocalcaemic fits and cardiomyopathy in young infants
- Rickets in older infants, toddlers and adolescents
- Osteomalacia in adults
- Dental caries in under fives
- Autoimmune diseases
- Mental health
- Cardiovascular disease
Any Questions?