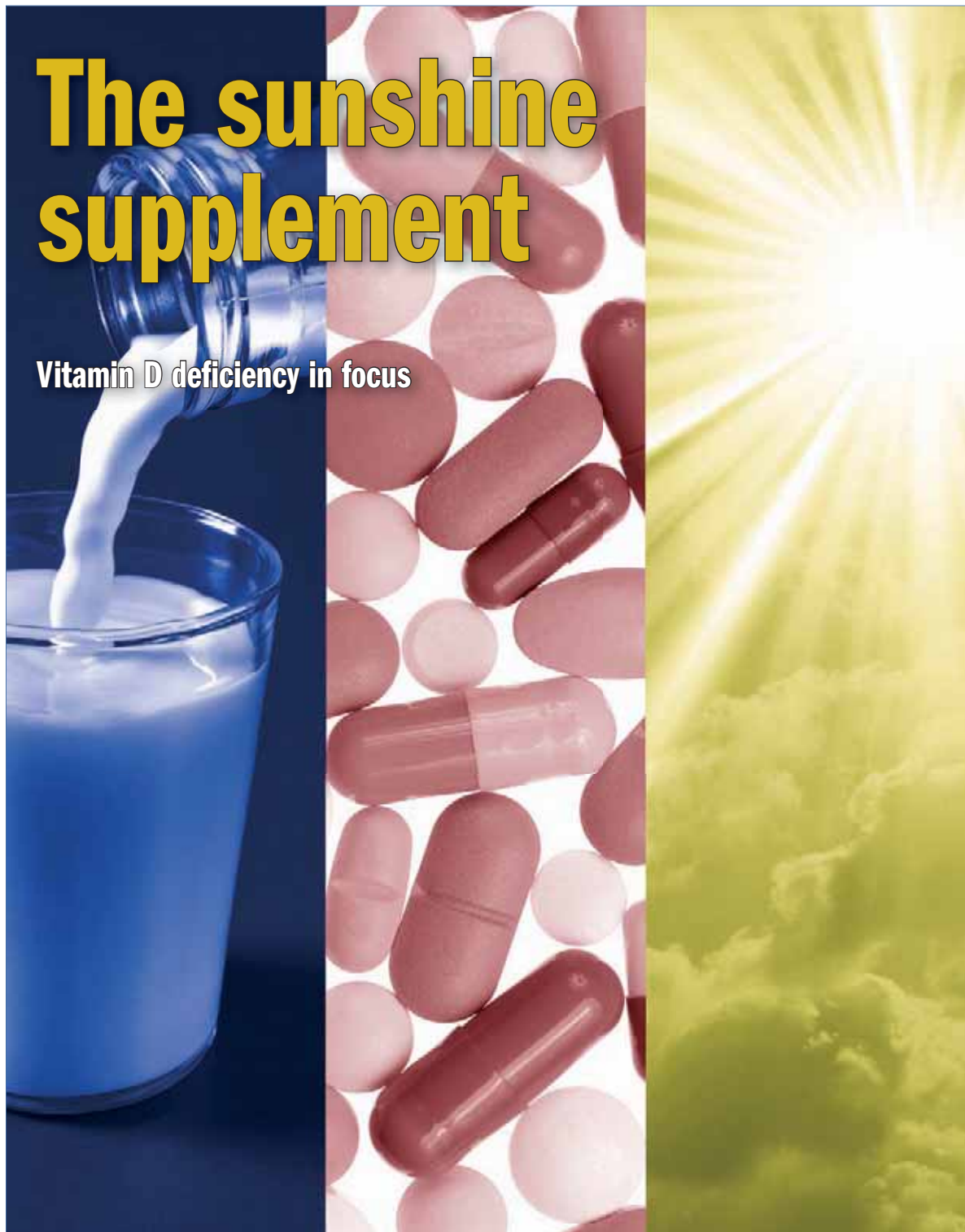




The sunshine supplement

Vitamin D deficiency in focus



János Áder calls on the EU to do more to tackle vitamin D deficiency



Anja Weisgerber wants to raise awareness of the importance of vitamin D



Consumers need more information on the food they eat, says Jo Leinen





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VITAMIN D

4 Heated debate

János Áder is calling on the EU to make the prevention and treatment of vitamin D deficiency a top priority

5 Feeling the benefit

Werner Christie says dealing with vitamin D deficiency in Europe would bring big rewards

6 All together now

Politicians and doctors should work together to raise awareness of vitamin D deficiency, writes Konstanty Radziwill

7 In the loop

Jo Leinen says consumers need more information to prevent vitamin D deficiency in Europe

8 Pushing the agenda

The time for talking is over, argues Jim Higgins, as he tells Kevin McCann about the need to act decisively on vitamin D deficiency

9 A call to action

Anja Weisgerber talks to Martin Banks about the need to raise awareness about the importance of vitamin D

10 The big issue

The importance of vitamin D is set to move rapidly up the political agenda. Martin Banks reports

14 Preventing the preventable

Many cases of osteoporosis and other bone diseases could be prevented by ensuring an adequate vitamin D intake. Moira O'Brien explains some of the initiatives taking place in Ireland

17 Upping the intake

Effective dietary strategies can help prevent widespread vitamin D deficiency in Europe argues Kevin Cashman

18 Sunshine and supplements

An increased vitamin D intake would lead to significant benefits in fall and fracture prevention, writes Heike Bischoff-Ferrari



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Heated debate

János Áder is calling on the EU to make the prevention and treatment of vitamin D deficiency a top priority

I was delighted to host the conference on vitamin D deficiency in the parliament last month. The presence of so many distinguished speakers, representing the scientific, medical and patient communities, as well as my colleagues from the European parliament, was very encouraging. Vitamin D is of vital importance to human health, and the participants in the debate have been working on the issue for many years, carrying out research on its benefits and informing people of the importance it serves in our everyday lives.

As a politician and a lawyer, it was a pleasure to be in the company of such high-level scientists, doctors, professors and researchers. They drew my attention to many different facts, some of which were, for me, new and shocking. At least 50 per cent of the European population is deficient in vitamin D. The 'sunshine vitamin' is essential not only for bone and muscle health, but as a key preventative factor in overall human health. As a growing body of scientific research shows, vitamin D deficiency is linked to a wide range of diseases, including osteoporosis, diseases of the heart, diabetes, asthma,

multiple sclerosis and many forms of cancer.

The proper prevention and treatment of vitamin D deficiency would clearly lead to massive health benefits for Europe's citizens, as well as saving member states an enormous amount of money. According to the recent international Grant study, sufficient provision of the population with vitamin D would lower health costs in 17 European countries by an unbeliev-

"The 'sunshine vitamin' is essential not only for specific bone and muscle health, but as a key preventative factor in overall human health"

able €187bn, at a cost of only €10bn. As this demonstrates, vitamin D deficiency is a significant opportunity for health promotion and prevention within the EU. Any health issue in which 50 per cent of the European population is concerned, poses a clear opportunity for health policy. The prevention of disease, and reduction in healthcare costs as well as the economic burden on

our public health systems through the prevention and treatment of vitamin D deficiency, should be a top priority.

It is rare that a health issue spans as wide a geographical area as vitamin D deficiency does, with such measurable benefits for its proper treatment. The need for further research on the ways in which it can be combated is therefore great, and the EU should do all it can to promote and fund investigation into the subject in order to ensure the social and economic benefits that come with improved long-term health.

Vitamin D deficiency is above all a human issue, and the human costs of inaction can be very high. While, as I say, more research needs to be done on ways to treat vitamin D deficiency, we know the importance of an adequate intake, the consequences of not having one, and the relative ease with which deficiency can be prevented. Last month's call to action was a unique opportunity to bring together representatives of the scientific community and policymakers to highlight these facts. We are all connected in our ambition to tackle vitamin D deficiency, and I hope parliament will take the initiative to further the issue on the political agenda. ★



János Áder is a member of parliament's environment, public health and food safety committee

Feeling the benefit

Werner Christie says dealing with vitamin D deficiency in Europe would bring big rewards



During 30 years in healthcare, I have had the privilege, as well as the obligation, to search for effective opportunities to improve health. There is an obvious duty to treat and care for a diseased person; it should also be an equal responsibility to prevent disease. To find economical and efficient ways to reduce disease risk is the first commandment of public health. However, the costs, risks and complexity of many preventive programmes often make them hard to implement, especially in developing countries.

One of the most fruitful strategies of prevention, according to a rapidly growing body of exciting new science, may be a very natural and organic substance that has followed human development for thousands of generations – namely, vitamin D. We synthesise it in our skin through sun exposure in the summer, but research

now tells us that most populations in the temperate zones, and even many in the tropics, have vitamin D blood levels far below the optimal. Given what we already know, and what an increasing amount of new, hard science indicates, vitamin D seems to have some incredible health benefits related to maintaining health and preventing infectious diseases, bone diseases, possibly cancers, and a number of so called autoimmune and other diseases.

I have not, beyond tobacco control, come across any comparably promising prevention opportunity with such a low cost and low risk. In my discussions with various stakeholders it has become evident that addressing vitamin D deficiency is a clear healthcare obligation. This has the potential to improve the health and wellbeing of our population and prevent serious diseases, thereby reducing pain and suffering, as well as expenditure. From an ethical as well as public health point of view, addressing vitamin D deficiency thus seems an obvious and politically responsible thing to do.

Throughout our campaign with the

standing committee of European doctors, we have focused on the deficiency aspect rather than new recommendations. Even though numerous experts consider the current recommended daily intake as far too low, many people are still not achieving these levels. Awareness raising and education programmes urgently need to be put in place. Vulnerable groups should have priority for attention.

We now need to assess what works and what doesn't. The Institute of Medicine in the US is currently conducting a review of vitamin D with Canada that will no doubt lead to a change in advice and guidelines. A pan-European portal where interested individuals can place, access and share information on vitamin D and its health benefits would be helpful. With 250 million Europeans alone deficient, the information task is tremendous. The vitamin D conference in the European parliament clearly showed that there is now a good momentum. We are grateful that so many stakeholders, scientists, doctors, patients, and politicians agreed to take action together on this issue. ★

As chair of PA International Foundation, I was honoured to participate in this call for action to tackle vitamin D deficiency. PA International Foundation has made it its mission to address problems of a transborder and transcultural nature – be they in the area of humanitarian aid, environmental protection or health – which sometimes appear to go unnoticed by others. Whilst the health benefits of vitamin D are a widely researched topic and the number of scientific studies is increasing on an almost daily basis, the issue of vitamin D deficiency has escaped the political and societal agenda. This is why – following the proposal of our board member, Werner Christie – we were keen to engage into this awareness raising campaign on vitamin D. Our curiosity was rewarded by the openness and interest of other organisations and stakeholders. Given this unique prevention opportunity, the issue of widespread vitamin D deficiency should be taken up by the forthcoming Belgian EU presidency and incorporated in its programme. I will take it personally upon myself to inform the relevant stakeholders and to ensure their involvement in this call for action. The EU and member states will have an important role to play in promoting vitamin D deficiency as a public health priority.

Former Belgian prime minister Mark Eyskens is chair of PA international Foundation

Former Norwegian health minister Werner Christie is a board member of PA International Foundation

All together now

Politicians and doctors should work together to raise awareness of vitamin D deficiency, writes Konstanty Radziwill

Better and better developed reparatory medicine can sometimes lead to forgetting about the important role of prevention in all its dimensions. Individual doctors should be more and more engaged in primary prevention which avoids the development of disease, secondary prevention, which is aimed at early disease detection (increasing opportunities for interventions to prevent their progression and the emergence of symptoms), and tertiary prevention, which reduces the impact of an existing disease by restoring normal organ function and reducing disease-related complications.

The whole medical profession, with the support of politicians, must also remember that there is a need for quaternary prevention, or the set of health activities that mitigates or avoids the consequences of unnecessary or excessive interventions in the healthcare system. Physicians traditionally working with sick patients can be more active in promoting healthy lifestyles and advising patients and public about health conserving measures. They should recommend to patients and the public what kind of early diagnostic tests to do, how to prevent or slow down disease development and, for those already ill, to recommend best treatment in order to minimise disease complications and patient disability. The medical profession should also advise the public and politicians on how to rationalise health expenditures and efforts.

The wide prevalence of vitamin D deficiency – present in more than 50 per cent



of the European population – is a good example of an ideal area for cooperation in supporting public health. Vitamin D deficiency causes bone softening diseases (rickets in children and osteomalacia and osteoporosis in adults) which lead to bone deformations and fractures, cartilage degradation, leading to disability, neuromuscular, such as multiple sclerosis, and immunology disorders. According to the latest data, there is also a higher risk of colon, prostate and kidney cancer, worse asthma and many other health problems.

By safe and relatively cheap measures all these serious and expensive problems

“By safe and relatively cheap measures... serious and expensive problems can be avoided”

can be avoided. There is good evidence that the numbers of falls and bone fractures can be easily decreased, by more than 20 per cent, by the simple supplementation of 800-1000 units of vitamin D per day (for example, by fortifying everyday food products). This needs more research and change of regulations concerning food additions.

It is more and more obvious that there is an urgent need for policymakers to act so as to bring the topic higher on the agenda and to strengthen prevention as the only sustainable way to decrease the burden of disease and of its related suffering. ★

- Vitamin D was only discovered in the 1930s
- Cheese, butter, margarine, fortified milk, fish and fortified cereals are food sources of vitamin D
- The body itself makes vitamin D when exposed to the sun – a daily dose of 10 to 20 minutes can help cut deficiency
- Europeans expose less than five per cent of their skin to the sun

Konstanty Radziwill is president of the Standing Committee of European Doctors

In the loop

Jo Leinen says consumers need more information to prevent vitamin D deficiency in Europe

Prevention is one of the most important building stones of health policy today. Promoting a health conscious lifestyle and advising the public on preventive measures contributes immensely to a higher quality of life, as well as to reduced health costs.

The competences of the EU in health policy mainly focus on prevention, the fight against chronic diseases and cooperation. In this context, the concept of a healthy lifestyle plays an important role, as data show that 40 per cent of health expenditures are due to an unhealthy way of living, for example, smoking, insufficient physical exercise and poor diet.

How and what we eat is central to our wellbeing and is reflected in our health status. Against this background the EU has taken several initiatives and has proposed legislation to improve the information of consumers on their food and its safety.

Currently, the European parliament's committee on environment, public health and food safety is working on a report about food information to consumers. Producers have to clearly label nutrients such as fat, sugar and salt, and indicate the calories contained in their products. This enables conscious consumers to make more informed choices. However, the labelling of ingredients alone will not suffice in combating malnutrition or obesity. Concerted efforts of consumer organisations and health organisations and of the food and the health sectors are needed to educate people better about food and its consequences for their health.

Vitamin D is one prominent case, as it is only contained in very few foods in



“Concerted efforts... are needed to educate people better about food and its consequences for their health”

nature and its deficiency is thus often due to an underestimation of the necessary daily intake, increasing body fat mass or the scarcity of vitamin D in diets. Linked to our modern lifestyles however, the most important lack of vitamin D stems from our limited exposure to sunlight, which in the form of ultraviolet B radiation would normally penetrate our uncovered skin, and convert the cutaneous previtamin D into vitamin D.

Studies show that the lack of vitamin D is one of the greatest risks for bone diseases and muscle weakness, rendering the body more susceptible to certain types of cancer or multiple sclerosis. Not only are these dreadful conditions for all those concerned, it also creates high costs for our health systems. We have to increase public awareness of this issue, including

the advocacy of counteracting measures. In particular, the role of vitamin D supplements needs to be assessed, as in some cases excessive intake even of vitamins and minerals can lead to adverse health effects. The European commission, in cooperation with the European food safety agency, is currently working on defining maximum amounts for vitamin D intake, consulting scientific data and stakeholders. It must be our aim to provide consumers with high quality food supplements that contain nutrients at the right levels.

Parliament takes the issues of healthcare and preventive measures very seriously, and will closely follow the work on setting the reference intake amounts for vitamins and minerals. It is important that consumers can make informed choices about their nutrition. ★

Jo Leinen is chair of parliament's environment, public health and food safety committee

Pushing the agenda

The time for talking is over, argues Jim Higgins, as he tells Kevin McCann about the need to act decisively on vitamin D deficiency

The EU needs to recognise the overwhelming prevalence of vitamin D deficiency in Europe, says Jim Higgins. More than that, it needs to act on it. The centre-right Irish deputy, a panel speaker at the European parliament's conference on the subject, feels the event was "extremely successful".

The quality of the debate, he says, was very high, and reflected well on those present. "It was a first venture into this field, and it was well worthwhile. What really bewildered me was not so much the number of speakers, but the qualifications. It was professor, professor, professor, all over the place," he says. "The only problem I had was that there was one vital component missing from the meeting, and that was somebody from the European commission."

He is unequivocal about the need for the EU executive to get involved. "I think it's a multifaceted approach. What happened at our conference was absolutely brilliant – I'm only a layman, and the amount of knowledge I garnered and the exchange of views was excellent. But we are talking to ourselves," he says. "We had experts there from many different countries, but what we need to do is talk to the public for greater awareness. That's where the commission comes in – for funding, and for greater publicity."

Higgins highlights the role diet can play in reducing vitamin D deficiency, while seeking to counter concerns over conflicting advice on the need for sun exposure, and its possible link to skin cancer. "I think what came across very forcibly at the conference was that there was no conflict between the two," says



Jim Higgins is chair of parliament's cross-party interest group on rheumatic and musculoskeletal diseases

Higgins. "What came across from the point of view of getting the necessary sunlight stimulus is that you need 15 minutes every day... and that after that you have enough, providing you also have either supplements or fortified foods."

Higgins, who draws attention to the "absolutely essential" need to have fatty fish twice a week, says that there is a lot to learn about vitamin D deficiency, including the wide scope of its beneficial properties. "I was under the impression that vitamin D was related just to bones and bone structures", he says, mentioning the contribution it can make to helping

diabetes and certain forms of cancer, "not to mention its osteo-significance".

As chair of parliament's cross-party interest group on arthritis, Higgins says that there is also an "education process" in relation to the disease. "A lot of us are under the illusion that arthritis only occurs in northern European climates where you have wet, dank weather, when it isn't," he says. "Arthritis is also treatable. If it can be intercepted and diagnosed in time, it can be treated, and treated very successfully."

The broad scope of vitamin D and its uses needs to be fully investigated, Higgins adds. While he welcomes existing EU funding, he wants to see more money in the pot. He says, "The important thing about the conference is that it wasn't just a one-off event. Undoubtedly, further research is needed to uncover the full extent of the properties and the potential of vitamin D." Such research could include whether vitamin D supplements taken during pregnancy have a positive effect later in life, the long term effects of vitamin D intake, and whether dietary vitamin D supplements are as good as exposure to sunlight. "We're only embarking on this, and even though a lot of research has been done, there is more to do," adds Higgins.

He says, "There doesn't seem to be a clear definition of what kind of timeline we have. I think we need to meet certainly twice a year and preferably three times a year, to push the agenda forward. We're only 25 per cent down the road. We need to meet more often, and we need to engage the commission – that's the important thing." ★

A call to action

Anja Weisgerber talks to Martin Banks about the need to raise awareness about the importance of vitamin D

Vitamin D is an important topic which needs much more attention than it gets right now. So says Anja Weisgerber, co-chair of the European parliament's osteoporosis interest group. Weisgerber wants to draw on her experience with osteoporosis to help highlight the importance of vitamin D.

"My involvement with vitamin D stems from my task with the interest group in parliament," she says. "We have to limit the burden on our national healthcare systems, which will be growing in the years to come." This holds true not only for osteoporosis, but for many other diseases which could also be prevented by a greater intake of vitamin D. "There is an increasing awareness of the importance of osteoporosis, of its consequences and possible prevention methods," she adds. "In our committee work we mostly deal with proposals on directives and regulations. We are lawmakers. But, what we must not forget is that politics is more than law making. It is also about promoting topics which are dear to our heart. It is about raising awareness for issues which often do not get enough attention. For me, osteoporosis is such an issue. It is closely linked to vitamin D intake."

She says that the EU should work on increasing people's awareness and understanding, in an area in which the EU does not have exclusive competences. "Quite the contrary, the competences are often very limited. Each member state is free to decide on its own public health policies. And I fully support this

division of tasks. In my opinion this arrangement best serves the needs of our citizens." Nevertheless, she says there is a lot of cooperation and coordination taking place in the prevention of epidemics, and the sponsoring of health research.

The EU is also involved in promoting good health, and in providing information and knowledge. Weisgerber says, "We should use the EU as a platform to draw attention to the importance of Vitamin D intake. We could foster awareness and knowledge through European-wide campaigns. What all the participants at the workshop in parliament can do is to take home the knowledge we learned from the event. We can for example raise the issue when holding a speech or a presentation about European health policies. This is what I did recently when I spoke to the health working group of my party in my constituency in Bavaria. The EU gives us the opportunity to work together on common challenges, so let us use this platform."

Weisgerber says the parliament event, the first on vitamin D, was "very successful", adding, "Organising and attending a conference is always a good idea. But it is only a first step." The EPP deputy adds, "What we have to do now is take home this newly gained understanding and build upon it. We should spread the word by forming new networks and expanding existing ones. Most importantly, we should include what we have learned in our daily work. I think we all have some homework to do."

"What we have to do now is to take home this newly gained understanding and build upon it"

Anja Weisgerber



On the European level, she says that members of the interest group have decided to pose written questions on osteoporosis to the commission in order to underline the importance of the topic. Weisgerber sees scope for doing the same with vitamin D. Indeed, closing the discussion in parliament, Weisgerber was applauded when she said she planned to ask the commission what it planned to do. "Maybe we can hold another workshop in a year and see what we will have achieved by then," she says. "Given the strength of feeling expressed at this event, I want to know exactly how the commission intends to respond to our call for action."

Weisgerber, also a member of parliament's environment, public health and food safety committee, insists that vitamin D deficiency is a "major public health issue" that needs addressing at EU level. She says, "We need action, and I will keep all those who participated in this event informed of the outcome." She will be hoping that where she leads, others will follow. ★

The big issue

The importance of vitamin D is set to move rapidly up the political agenda. Martin Banks reports

It's a frightening statistic and one that most agree highlights the need for urgent action. No less than 50 per cent of the population is deficient in vitamin D. Many of us know little about this, but it is deemed essential to human health. The importance of vitamin D was spelled out at a recent debate in the European parliament, organised by PA International Foundation and the Standing Committee of European Doctors (CPME).

The conference heard that it is "well known" that vitamin D, which was only

discovered in the 1930s, is essential for optimal bone health. But it is also now known that vitamin D influences many other issues, including the immune system, cell proliferation and cancer. Vitamin D deficiency is also linked to a wide range of diseases, such as osteoporosis, heart disease, diabetes, asthma and multiple sclerosis. Extra vitamin D intake has, in recent times, emerged as the cheap, easy and safe solution to addressing what is a widespread problem.

However, despite an ever-growing body of scientific research, the role

of vitamin D is still an unknown quantity for many, including the most vulnerable in society - the elderly, young children and pregnant women. It was against this backdrop that a distinguished panel of experts, doctors, politicians and patient representatives gathered in parliament last month in an effort to help promote awareness of the uses of vitamin D. Opening the debate, Hungarian centre-right MEP János Áder said the aim of the event was to emphasise the need for a "renewed vitamin D nutritional policy" in Europe. He said, "If we prevent

L-R: Konstanty Radziwill, János Áder and Werner Christie





vitamin D deficiency and with it possibly diseases, we will actually prevent healthcare costs and reduce the economic burden on our public health systems. This is an important issue, and the conference offers a unique opportunity to bring together representatives who are all connected in their ambition to tackle vitamin D deficiency.”

The opening session focused on the role of the doctor in prevention, and Polish family medicine specialist Dr Konstanty Radziwill told participants that “the solution was in their hands”. Radziwill, who is also president of the CPME, welcomed the fact that doctors, patients and politicians had joined forces in promoting awareness of a vitamin deficiency which “causes bone softening diseases, leading to bone deformations and fractures”. Radziwill, a lecturer at the Medical University of Warsaw, said such diseases could be cut

by more than 20 per cent by “simple supplementation” of 800 to 1000 units of vitamin D a day. “It is more and more obvious that there is an urgent need for action towards policymakers to bring the topic higher on the agenda and to strengthen prevention,” he added.

The workshop heard that increased sun exposure and a fish-based diet were traditionally the ways the body got vitamin D, but today these would not address the shortfall. Speaking in a separate session on raising awareness of the deficiency, Professor Heike Bischoff-Ferrari, director of the Centre on Ageing and Mobility at Zurich University, said advocating sun and fish as a panacea was problematic for several reasons. “We in Europe expose less than five per cent of our skin to the sun, and wear sunscreen, and there is very little vitamin D production from

November to May in all of Europe,” she said.

All parties involved agreed on a call for action as the only sustainable way →

Vitamin D in numbers

- Health costs in member states could be cut by an estimated €187bn if more people had the proper intake of vitamin D
- About 50 per cent of Europe’s population is deficient in vitamin D
- The recommended level of vitamin D is 10 micrograms per day, or 10-15 for the elderly
- The current average is just 3-4 micrograms
- Vitamin D production in the skin decreases four times with age
- Those considered most at risk of vitamin D deficiency are the young, elderly and pregnant women
- A good vitamin D intake can reduce falls, hip and non-vertebral fractures by 20 per cent
- Hip fractures are the most frequent fracture for people over 75
- 50 per cent of 80-year-olds fall each year
- People with darker skin are less able to synthesise vitamin D from sunlight. The problem is especially relevant for the EU’s immigrant communities



Professor Arie Nieuwenhuijzen Kruseman (pictured), chair of the Royal Dutch Medical Association, says the role of doctors in the prevention of vitamin D is three-fold: to recognise subjects at risk, to recommend sufficient substitution for patients with documented vitamin D deficiency, and to highlight the possible consequences of inadequate vitamin D intake

to cut the burden of disease and of its related suffering. Specifically, the EU should adopt an “effective and efficient” strategy to tackle the growing problem of vitamin D deficiency. The workshop heard that the recommended level is 10 micrograms per day (10 to 15 for the elderly) but the current average is just three to four micrograms.

The figures highlight the need for EU-wide action, said Kevin Cashman, of University College Cork in Ireland. One possible solution would be to “enrich certain foods” with vitamin D, although he stressed that to fortify products such as milk, dairy and fruit juices with much higher levels than currently recommended would require further research before any regulatory go-ahead could be given. In the meantime, Cashman said, vitamin D supplements could be used by those identified as “at-risk” groups, such as



“The conference offers a unique opportunity to bring together representatives who are all connected in their ambition to tackle vitamin D deficiency”

János Áder MEP



The high-level conference on vitamin D deficiency was well-attended by the media, patient groups and the medical profession

the elderly, or those with a diagnosed vitamin D deficiency.

“Vitamin D deficiency is a huge public health issue and it is estimated that 50 to 75 per cent of the adult population do not take enough vitamin D,” he said. “We need to target the at-risk population and take a serious step forward to eradicate vitamin D deficiency. This is preventable but it needs an effective and efficient strategy to make it happen.”

His compatriot, Professor Moira O’Brien, president of the Irish Osteoporosis Society (IOS), said that when it comes to awareness raising, her country offered an example of good practice for other member states to follow. Under an IOS initiative, workshops on vitamin D are given to secondary school teachers and the national dairy council has sponsored talks throughout the country.

According to another keynote speaker, Ferenc Szalay, of the Semmelweis University in Budapest, the problem is particularly acute in central and eastern European countries like Hungary. One of the reasons, he argued, was that fish consumption in the region was less

than half the EU average – 3.2kg per capita per year, compared with the EU average of 10kg. He told the half-day hearing that the EU should consider funding research into the problem in such countries, while the media also have an “important role” to play in raising awareness of vitamin D.

The MEPs present committed to make the best use of parliament’s power

“Vitamin D deficiency is a huge public health issue”

Kevin Cashman, University College Cork

in promoting what everyone agreed was a key public health issue. Irish Fine Gael MEP Jim Higgins, co-chair of the pan-European interest group on rheumatic and musculoskeletal diseases, said, “The conference was one of the most important I have had the pleasure of attending, and the statistics illustrate that there is a huge amount of work to be done in terms of bridging the public awareness of the importance of the nutritional value of vitamin D.”

German deputy Anja Weisgerber, who co-chairs parliament’s osteoporosis interest group, pledged to table questions

to the European commission on what it plans to do to promote vitamin D at an EU-wide level. She said education and awareness-raising are key, not only among the population but also health-care professionals, in order to spread knowledge and “ultimately enable consumer choice.” Closing the conference, she invited participants back to parliament in 2011 to review progress. ★

Top tips to avoid vitamin D deficiency

What do the experts suggest we do to tackle a problem that can potentially cause many different problems, from osteoporosis to cancer? The Standing Committee of European Doctors (CPME), an EU-wide body that promotes public health, says there are different possible strategies.

One is greater exposure to natural sunlight. An extra 10-20 minutes exposure of arms and legs to sunlight a day could help, says the CPME. The drawback to this approach, it warns, is the risk of accumulated skin damage and possibly cancer. Increased intake of naturally vitamin D-rich foods, such as oily fish, would also help. But, according to the CPME, this is unlikely to be really effective because of cultural habits and, “above all, there is probably not sufficient fatty fish in the oceans”.

The CPME, which represents over 1.3 million European doctors, concludes that vitamin D supplements and vitamin D enriched food products “are in reality the only strategic and viable options.” CPME president Konstanty Radziwill told the conference in parliament that such supplements offered a “cheap and safe” alternative to sunshine and fatty fish. But, even here, he warned, there remains a need for “more research and a change of regulations concerning food additions”.

Preventing the preventable

Many cases of osteoporosis and other bone diseases could be prevented by ensuring an adequate vitamin D intake. Moira O'Brien explains some of the initiatives taking place in Ireland

One in five men and one in two women over the age of 50 will break a bone due to osteoporosis. The disease affects all age groups, including children. Osteoporosis is the leading bone disease in the world but unfortunately it is a silent disease, which has no signs or symptoms until fractures occur. It is preventable and treatable in the majority of people; therefore by raising awareness of those at risk, governments could save millions.

“One in five men and one in two women over the age of 50 will break a bone due to osteoporosis”

It is mainly thought to be linked to the menopause and elderly women. However, there are approximately 60 different risk factors, with inadequate vitamin D being one of the strongest risk factors.

Primary prevention of osteoporosis starts early in life, actually in utero, and continues throughout life. The Irish health service executive has just approved supplementation to babies up to 12 months old, which is wonderful. However, there is a worldwide vitamin D deficiency. Therefore a policy for all age groups, male and female, should also be implemented in all countries. Not only to prevent osteoporosis, as vitamin D deficiency has also been linked with falls in senior citizens, multiple forms of cancer, multiple sclerosis, ME (myoencephalopathy, or chronic fatigue syndrome), tuberculosis and asthma, to name a few.

If governments invested in making physical education mandatory, this also would significantly decrease the amount of people at risk for osteoporosis, obesity, type two diabetes, heart disease, strokes,

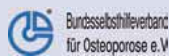
Support, information and motivation are the main aims of the BfO

With a large number of local self-help groups and a nationwide lobby campaign the German osteoporosis patient society, the Bundesselbsthilfeverband für Osteoporose e.V. (BfO), is a major contact point for patients, their doctors, therapists and scientists. In August 1987, patients and doctors founded the BfO. Since then a large number of self-help groups have emerged all across Germany (altogether around 300 groups, 11 associations on Länder level with a total of around 17,000 members).

Support, inform and motivate are the main goals of the BfO. In 2009 the BfO founded the osteoporosis academy with the objective of patient education and certification of osteoporosis consultants (training of medical experts). Through strategic lobby work, the BfO is creating a network with competent partners in order to enhance the health care situation for osteoporosis.

The BfO recently presented the patient version of the osteoporosis guideline to the federal government appointee for patients concerns. The guideline increased the recommendations concerning daily vitamin D3 intake due to recent studies.

For more information visit www.osteoporose-deutschland.de



The not so Usual

6
5
4
3

OSTEOPOROSIS
POST MENOPAUSE

1 in 2 women

- Osteoporosis is a thinning and weakening of the bones
- The most common sites for fractures are the hip, spine and wrist
- Weight bearing/strengthening exercises
- A broken bone from a standing position

Some of the many risk factors include: Irregular periods for more than 4 months, Menopause before age 45, More than 6 weeks - Coeliac - Crohns - Steroid use, Osteoarthritis - Rheumatoid Arthritis - Alcohol - Smoking - Early menopause (before 45)

Normal bone Osteoporotic bone

Irish Osteoporosis Society

al Suspects



Osteoporosis affects 1 in 5 men and women over 50 and can also affect children

These people are not actors

...ning of the bones.
 ... (broken bones) caused by Osteoporosis are the hip, spine and wrist.
 ...se, Calcium and Vitamin D are essential for healthy bones.
 ...ion due to a trip and fall is not normal at any age.
 ... Family History - Anorexia/bulimia/binge eating/excessive dieting - Loss of or
 ...s (other than pregnancy) - Excessive exercise - Wheelchair or bed bound longer
 ...ds - Chemotherapy/Radiation - Haemochromatosis - Loss of height or hump on
 ...sthmatics on steroid treatments - Thyroid problems - Psychological stress -
 ...5 years) - Testosterone deficiency in men

For more information visit:

www.irishosteoporosis.ie



To find out if you are at risk, contact:
 Irish Osteoporosis Society,
 33 Pearse Street, Dublin 2
 Tel: 1890 252 751
 Fax: 01 635 1698
 Email: info@irishosteoporosis.ie
 Web: www.irishosteoporosis.ie

Greater awareness of the link between vitamin D deficiency and gastrointestinal diseases is needed, argues UEGF

The United European Gastroenterology Federation (UEGF) is a professional medical non-profit organisation comprising all of the major European societies interested in the diseases of the digestive system. Its goals are to advance science and education in digestive diseases, and to provide a suitable medium for the dissemination and discussion of the latest results in the field. UEGF is the most comprehensive organisation of this kind in the world and its affiliated societies represent over 22,000 European specialists.

UEGF wishes to raise awareness for digestive diseases among the public, the political decision makers and regulatory authorities at the EU level and other stakeholders. The objective is to strategically position itself toward the EU decision making bodies in order to prioritise gastroenterology issues on the EU and national policy agenda.

The relationship between vitamin D deficiency and gastrointestinal diseases is well understood and clearly an issue on which greater awareness and education are necessary – especially since it is totally preventable.

For more information
 visit www.uegf.org



KNVS hopes to create links between practitioners, scientists and policymakers in the field of fall prevention

The Dutch (knowledge) network seniors fall prevention (KNVS) is a platform for professionals with a shared passion for the subject fall prevention. It is particularly targeted at those over the age of 55 and was established in 2003 under a joint initiative of EMGO Institute/VUmc (medical centre of the University of Amsterdam) and the consumer safety and the ZonMw organisations.

The KNVS' mission is to promote prevention of incidents by the creation of a link between practitioners, scientists and policymakers concerning fall prevention. Fall prevention can best be dealt with by prolonged and close cooperation between these stakeholders.

On 1 April 2010 the KNVS organised a conference on the influence of vitamin D on osteoporosis and fractures caused by falling, in collaboration with the Falling, Fractures and Osteoporosis (FFO) professional association and PA International. During this interesting meeting scientific findings and practical recommendations were presented and connected. FFO unites the interest of care providers involved in fall prevention and osteoporosis with the aim of improving the quality of care.

For more information visit
www.kennisnetwerkvalpreventie.nl



depression and more. In Ireland, physical education has been cut in many schools, yet 20 years ago, when it was a major part of a schools curriculum, obesity was rare. Now it is common place.

The current cost per annum of fractures in senior citizens in Ireland is €402m; this does not include all other osteoporotic fractures in all other age groups. Vitamin D is essential for calcium absorption and bone





health. It is also particularly important for maintaining normal muscle function of the heart and nerves, and is an essential part of preventing and treating osteoporosis.

The Irish Osteoporosis Society holds an annual conference for physicians and other health professionals and articles are placed in the medical magazines. As well as this, we educate the public through lectures, health promotions, articles in newspapers and magazines, and use radio and television interviews to help dispel myths.

We produce a range of leaflets on bone health, exercise, nutrition, calcium and vitamin D and fall prevention, as well as a campaign based on a 'Usual Suspects'-themed poster. We have an educational osteoporosis pack for use in secondary schools, and an osteoporosis management class is currently being developed.

Since osteoporosis is a disease that manifests itself in childhood, the Irish Osteoporosis Society, with funding from the health service executive, developed the secondary school pack.

It is aimed at 12 to 18 year olds, and consists of a DVD (which is presented by teenagers), a question and answer session for the DVD, and a powerpoint presentation. This package has been short listed for an educational award. The Usual Suspects TV and accompanying poster campaign highlighted that osteoporosis affects both genders and all age groups. The youngest person in the poster is 19 – with the bones of an 84 year old.

The major source of vitamin D is from the action of sunlight on the skin. However Ireland has not had a traditional summer in many years and therefore vitamin D levels could be at dangerously low levels, increasing the number of people at risk. Low levels of vitamin D may be due to low oestrogen levels (menopause), low levels of testosterone, low dietary intake, and poor absorption due to gastrointestinal disorders, particularly gluten intolerance.

Vitamin D is rare in foods other than oily fish, eggs, and supplemented dairy products. Dairy products are one of the best ways for people to get

their calcium, however not all milk is fortified with vitamin D. This is why supplementation is essential for all age groups and genders. ★



Moira O'Brien is president of the Irish Osteoporosis Society.



MS Society Scotland says coordinated research across European countries would help tackle vitamin D deficiency

The Multiple Sclerosis Society Scotland and the Shine on Scotland campaign are organising a vitamin D summit in April, during MS awareness week in the UK. Craig Wilkie, head of policy and communication for the society in Scotland, attended the Vitamin D nutritional policy in Europe meeting in the European parliament. Speaking afterwards, Wilkie said, "The meeting in Brussels highlighted the opportunities that exist for coordinated research and action on vitamin D. In Scotland we are looking forward to the summit we are holding later this month as well as an awareness campaign on vitamin D that the Scottish government has already pledged to initiate. Sharing policy examples and initiatives across European countries will be helpful in tackling vitamin D deficiency."

For more information visit www.msocietyscotland.org.uk and www.shineonscotland.org.uk



Upping the intake

Effective dietary strategies can help prevent widespread vitamin D deficiency in Europe, argues Kevin Cashman

There is little doubt that vitamin D deficiency across all age groups in Europe is a problem, the magnitude of which ranges from significant to pandemic depending on which biochemical definition one uses. Most experts agree that prevention of this serious deficiency is a key priority, and is doable with effective dietary strategies.

In humans, vitamin D is obtained primarily through cutaneous biosynthesis in the presence of ultraviolet blue (UVB) sunlight in summer. During wintertime, in latitudes greater than 35°N, the angle of the sun is too oblique for UVB rays to pass through ozone, so little or no vitamin D is dermally synthesised. There are also many reasons why summertime sun exposure may be inadequate. Moreover, improving vitamin D status by increased sun exposure will never be a viable public health message due to the increased risk of skin cancers and damage associated with increased exposure. In the absence of sufficient UVB for dermal synthesis, vitamin D becomes an essential nutrient.

However, food sources of vitamin D are few, and there is a significant gap between typical intakes in European populations and the current dietary targets. Moreover, the adequacy and currency of these dietary targets have also been questioned. The European dietary recommendation (population reference intake) for vitamin D for adults also reveals considerable uncertainty about the available evidence on which to base a recommended intake, as it ranges from 0 to 10 µg/d to account not only for the knowledge gaps but also for the widely

varying latitudes that EU citizens live in (35–70°N), assuming a higher dietary requirement in more northerly latitudes but not having data to base a requirement on.

It has been emphasised and re-emphasised that there are only a limited number of public health strategies available to correct low dietary vitamin D intake. Improving the intake of naturally occurring vitamin D-rich foods is the least likely strategy to counteract low dietary vitamin D intake due to the fact that there are very few food sources that are rich in vitamin D, and furthermore most of these are not frequently consumed by many in the population.

Supplementation is another option. This has been shown to significantly improve vitamin D intake across a variety of age, race, ethnic and gender groups. However, evidence seems to suggest that the population intake of vitamin D from supplements is quite low. This is a function mainly of the relatively low vitamin D content of most supplements (2.5–7.5 µg) in some countries relative to requirement. Some are of the view that while not highly effective at a population level, vitamin D supplementation may be appropriate in high risk groups such as the elderly.

There is also the question of vitamin D fortification – this has been viewed by some as a feasible and effective measure once applied in an evidence-based approach. In response to concerns about widespread vitamin D deficiency, many countries have implemented either mandatory or discretionary food fortification. Fortification of foods with vitamin D in

“Fortification of foods with vitamin D in the US and Canada has an important impact on the mean daily intake of vitamin D by the average adult”



the US and Canada has an important impact on the mean daily intake of vitamin D by the average adult. Fortified foods constitute the largest contributor (65 to 87 per cent; and fortified milk alone contributes 40 to 64 per cent) to dietary vitamin D intake in the US population. However, it has been accepted that the level used in fortification in the US may be too low.

From a European perspective, we need to model European food and vitamin D intake data to ascertain which food vehicles and what level of vitamin D addition will ensure an effective but safe rise in serum vitamin D status in European populations. So there is a need to invest in such research. We need to explore vitamin D fortification as a means of eradicating serious vitamin D deficiency in the European populations as a matter of urgency. ★

Kevin Cashman is professor of food and health at University College Cork

Sunshine and supplements

An increased vitamin D intake would lead to significant benefits in fall and fracture prevention, writes Heike Bischoff-Ferrari

Strong evidence indicates that many or most adults in the US and Europe would benefit from vitamin D supplements with respect to fracture and fall prevention, and that they would possibly help meet other public health targets, including for cardiovascular health and cancer. Simple strategies are urgently needed to prevent chronic disease at higher ages. Ideally, such strategies would be effective, inexpensive, well tolerated and have a benefit on general health. Vitamin D may be such a strategy.

The main source of vitamin D is sunshine exposure. Vitamin D deficiency may be explained by less than five per cent of our skin being exposed to the sun, and the insufficient intensity of the sun for skin production of vitamin D between November and May in Europe. Furthermore, sunscreen, warranted for the prevention of skin cancer, inhibits vitamin D production in the skin to a large extent, and contributes to vitamin D deficiency independent of age. Most vulnerable to vitamin D deficiency are adults with a dark skin tone and seniors. Seniors can produce four times

less vitamin D compared with younger adults, and tend to avoid sunshine exposure – the latter explaining why vitamin D levels among seniors are the lowest in the Mediterranean area within Europe. At highest risk of vitamin D deficiency are hip fracture patients who were found to be vitamin D deficient in 80 to 96 per cent of cases.

“Simple strategies are urgently needed to prevent chronic disease at higher ages”

As an alternative source of vitamin D, nutritional sources of the vitamin are rare, largely limited to fatty fish such as salmon and mackerel. Clearly, there are not enough fish in the sea to provide two portions of fatty fish per day for the population to meet an intake of 800 to 1000 international units (IU) of vitamin D per day.

We have evidence today that vitamin D modulates fracture risk in two ways: by decreasing falls and increasing bone density. The latest, double-blind, randomised controlled trials for fall and

fracture prevention show that vitamin D reduces the risk of falls by 19 per cent, the risk of hip fracture by 18 per cent, and the risk of any non-vertebral fracture by 20 per cent. Notably, this benefit was dose-dependent and required an optimal intake of 800 to 1000 vitamin D IU per day.

Critical for the understanding of the public health potential of vitamin D is that falls and fractures are frequent and costly events with serious consequences. Some 30 per cent of seniors living at home at age 65 fall each year, the rate increasing to 50 per cent among those aged 80. Five to six per cent of falls lead to a fracture, nine per cent of falls require emergency medical care, and 40 per cent of nursing home admissions are because of falls. Hip fractures are the most frequent fracture among those aged 75 and older, with severe consequences occurring already in the first year after the fracture: 10 per cent fracture their other hip, 50 per cent have a permanent decline in function, 30 per cent are re-admitted to acute care for any reason, 30 per cent lose their independence, and 15 to 25 per cent die.

Based on evidence today, a general supplementation of 800 to 1000 vitamin D IU per day could reduce the risk of falls, hip and any non-vertebral fractures by 20 per cent. Given the low cost of vitamin D, the frequency of these events and their impact on health expenditure, a benefit of supplementation would be enormous. Vitamin D may have further benefits based on promising data from small clinical trials, large observational and mechanistic studies suggesting that a higher vitamin D level is beneficial for cardiovascular health, cancer prevention, and immunity. A large clinical trial is urgently needed to confirm these benefits in the European population. ★



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