**BBC Radio 4**

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But first Vitamin D.  The sunshine vitamin is the rising star of the supplement firmament following research linking low levels to a number of disease including bowel cancer, multiple sclerosis, diabetes and Alzheimer’s.  And now it’s in the headlines again amid claims that supplements could help ward off coughs, colds and flu.  Margaret McCartney is in our Glasgow studio and has been taking a closer look at the study that triggered the coverage.

Margaret, what’s your take.

I think it’s very interesting but I don’t think we’ve got all the answers yet, in fact nowhere near it.  What they did was that they looked at trials that had already been published that had examined the effect of Vitamin D on upper respiratory tract infections, so coughs, colds that kind of thing, and they worked out that the people who are most likely to benefit were people who were already very low in Vitamin D who were actually profoundly deficient in Vitamin D.  Healthy adults also had a small benefit, they found.  They found that 33 people would have to take Vitamin D for 10 months to avoid one cough, cold or flu compared with four people having to take Vitamin D for 10 months if they were deficient in Vitamin D to avoid one respiratory tract infection.

 Now Inside Health listeners will probably see those figures as being quite good.  I mean you and I are used to talking about the role of statins, the numbers needed to treat for statins and high blood pressure treatment, sometimes certainly 50 or thereabouts, sometimes hundreds of people we have to treat for one of them to benefit.  Thirty three and possibly four, in the case of people who are deficient, I mean that’s a pretty good result isn’t it?

Well some people might think it’s absolutely worth their while to take a tablet every day to get that benefit, other people may look at the same data and think well it’s just a cough or a cold I’m not that bothered about it and I don’t think it’s worthwhile taking a tablet every day to see if it plays my odds for me.  So I think it’s one of those situations where the numbers are there but there are numerous different valid interpretations of what it means.  And we have to remember that this is one study, that I think that other researchers might look at and say well is this the definitive answer, do we need better designed trials to look at this as an outcome for Vitamin D because other trials up to now have commented on the fact that the data’s quite erratic, it doesn’t always fit in the same pattern, there’s lots of uncertainties about it.  So I think we’ve got some interesting findings for this but I think we need much better designed studies to tell us more definitively whether this really does what it’s claiming to do.

 One of the problems with the Vitamin D story has been over the last decade that it’s – we’ve seen low levels linked with lots of different conditions – bowel cancer, increased risk of diabetes in the children of pregnant women etc., but that’s not the same as saying that supplementation protects against those, these are just associations aren’t they.

Exactly, so we know that many people in the UK have got low levels of Vitamin D and we know that there are many conditions that seem to be associated with low levels of Vitamin D and the difficulty, as always, is in untangling cause and effect.  And that’s why you need to do randomised control trials prospectively, looking forward, to find out what happens if people take these tablets long term.  And of course that means big trials, particularly when you’re looking for quite uncommon outcomes.  So I think that it’s really interesting, we definitely shouldn’t ignore this kind of research but we have to put it into perspective.  There was an editorial accompanied this research article in the BMJ that said that the result was really a reduction in risk from 42% to 40% in the proportion of participants experiencing at least one acute respiratory tract infection.  So most of the time if you’re going to get an upper respiratory tract infection you would get it anyway, despite the fact that you were taking Vitamin D to try and prevent it.

If you look at the latest guidance for Vitamin D I mean that’s quite confusing as well.  Basically, I’ll paraphrase, it’s all pregnant, breastfeeding women, children under the age of five and over six months, the over 65s.  And then there’s this rider – anyone not exposed to much sun – and frankly, particularly up in Scotland, but I mean at this time of year that includes everybody in the UK doesn’t it?

 Well yes and I don’t think I’ve seen the sun for months.  Yes, the big difficulty is we’re missing the randomised control trial evidence to tell us that this gives us benefits beyond just correcting a deficiency in our blood, that’s what’s missing.  So the theory is there but the practical outcomes aren’t.

About four years ago you would have received a letter, like I did, from the chief medical officers of every country in the UK, they wrote to GPs and other healthcare professionals saying look a lot of people out there aren’t taking Vitamin D when they should be taking it, they’re not following the official guidance.  The chief medical officers are obviously impressed with the possible benefits of this form of supplementation but I get the impression from my colleagues and from you in particular that you’re not overly impressed with the importance of Vitamin D.

 Well there’s a difference between correcting a level of Vitamin D in your blood and seeing a tangible outcome that means something in terms of your quality or quantity of life.  And it’s fairly easy to correct a deficiency biochemically but what I’m really interested in is whether or not that makes a difference to real life outcomes.  And that’s the bit that I think we’re lacking in a lot of evidence around.

Thank you Margaret and there are links to the BMJ paper on Vitamin D, and to the latest guidance on who should be taking supplements, on the Inside Health page of the Radio 4 website