A FOOTNOTE: IN DANGER OF DISMISSAL

ALTHOUGH IT IS MY BELIEF that it is not unwarranted to turn to science for the basis of an anti-viral diet, I am concerned that some people will be put off even considering the idea due to certain articles run by the press. For instance, the Reuters news agency published an article on 27th April 2020 (signed by 'Reuters Staff') called 'False claim: 12 herbs and spices can prevent or treat different viruses'. It is worth taking a look at this for a moment as it does raise some relevant issues.

As far as the context of this online piece is concerned, it is in answer to a post on Facebook entitled 'anti viral herbs' which made the claim that 12 herbs and spices can prevent or treat a variety of illnesses. I have not been able to find the original piece online, so I am assuming it has been removed. Overall, the authors for Reuters rely upon a statement from the website of the National Institutes of Health, which says:

"*The media has reported that some people are seeking "alternative" remedies to prevent infection with the new coronavirus or to treat COVID-19. Some of these purported remedies include herbal therapies and teas. There is no scientific evidence that any of these alternative remedies can prevent or cure COVID-19.*"

I do not know whether the NIH will be updating their remarks any time soon, but research into potential treatments and cures for COVID-19 – including nature-based molecules from herbs and spices – has been moving along at a frantic rate since the start of 2020. As you will see from over 1000 articles relied upon in **Part 2** [qv. online database] – one third of references relate to the properties of natural chemicals that can disarm the SARS-CoV-2 virus via a wide variety of biomolecular mechanisms. – Evidence that *some* natural compounds may be able to prevent or cure COVID-19 ***is emerging steadily*** – what they need, is to be carefully evaluated.

Sadly, desperation breeds excess and the press as well as social media have been ready to post remarks that are too definitive to be true for long, because scientific research is in such a state of flux. Both results and conclusions from scientific research are liable to misunderstanding and misinterpretation – so that what start out as valid proposals for compounds that *might* defeat COVID-19 *in vivo* as well, become this week's 'New Cure for Covid-19', then being peremptorily debunked by the journalists or news shows as the "next false claim".

From all appearances, the Facebook post discussed by Reuters must have been proposing that people could rely on herbs and spices *alone* and that there is no need for vaccines any more – as they spend most of their piece confirming what are the current, confirmed vaccines for each of the illnesses that natural cures are claimed. And this is all very well as it is foolhardy to suggest that successful medical cures be ignored. Taking one of the natural elements as an example, they rightly quote the CDC's current standard treatment for the diseases for which Garlic has been named as a preventive measure – for example, those immunizations available for HPV (Human Papilloma Virus) and Influenza viruses (offered seasonally).

However, though I believe they are serving a valuable purpose by putting online claims in check – too many of which are unverified, even reckless – Reuters's conclusion that "*These herbs and spices do not prevent or treat infections*" may be a bridge further than scientists would be willing to go concerning the full list of ingredients in question: Oregano, Licorice, Holy Basil, Garlic, Ginger, Fennel, Lemon Balm, Elderberry, Peppermint, Rosemary, Echinacea and Dandelion. All one of those ingredients have been included in the present diet somehow, as my belief is that the balance of scientific evidence has been tipped in their favour. Returning to our example of Garlic, though, I can understand why the CDC have stated that there is "*not enough evidence to show whether garlic is helpful for the common cold*" – as there is only a

small amount of research available in that case. However, I think that the NIH is going too far when it writes: "*A great deal of research has been done on garlic, but much of it consists of small, preliminary, or low-quality studies*". I think that you will find that even the selection of only 20 articles posted in the **AVD** online resource are of more than minor significance.

In the case of Allicin, the active component within garlic, much more research must certainly be done – both in terms of what viruses it neutralizes, what symptoms it can alleviate, even what illnesses it may cure – but enough evidence already supports it being a valid component in therapeutic options. Though I will be first to agree that the evidence varies enormously, in terms of the amount of virus-specific research projects that have been undertaken on the variety of dietary ingredients here – I think that the question is not *if* the natural chemicals in this book have therapeutic effects, but how to ingest them so as to gain the maximum level of viral protection (whether they are fresh or dry, in solid or liquid form *etc.*).

Considering another news channel for a moment, the BBC has been broadcasting a series of 'Coronavirus Health Myths to Ignore' since March 2020, which began with "Myth number one: Eat garlic to avoid infection". The only argument used by them – in this case and with most of the other claims it explores – is to quote the World Health Organization. Chris Morris tells us that "*the WHO says that there is no evidence that eating garlic, or anything else, has protected people from COVID-19*". However, the main reason why this can be stated so boldly is because no significant amount of clinical trials have yet been undertaken with Garlic, or its bio-active compound Allicin, on SARS-CoV-2. As long as there is an imbalance of research into phytochemicals and pharmaceutical, it is likely that there will also *continue to be* a lack of clinical evidence, although in some areas this has now accumulated to a degree that one can say that the absence of a whole host of dietary micronutrients decreases immunity in general.

Another 'myth' that the BBC were quick to demolish was that: "Lemon Juice protects you from COVID-19". However, once the detailed evidence regarding Vitamin C, Rutin, Naringenin, Hesperidin and Limonene – all of which are present in lemon juice – is properly reviewed, the medical community may wish to give citric fruits some additional attention. The way that media posts can spread like wildfire though, and how uncorroborated half-truths are presented as magic cures just so that a media account can garner looks and likes – *that is in need of being curbed and carefully controlled*. 'Lemon Juice' is not the solution. Discovering a diet that will support an optimum state of health – as a general factor, that may be of benefit to health services worldwide, because at the present many are being pushed beyond breaking-point.

In such a fast-moving environment, where the results of tests and trials can be announced at a moment's notice, a space of one week can be the difference between the conclusive results from clinical trials being published and an effective vaccine being available. Seeing that pharmaceutical laboratories, as much as academic research facilities, are continuing to undertake intensive investigation into a wide spectrum of nature molecules – some of which have been found to inhibit the SARS-CoV-2 viruses more effectively than any synthetic molecules – the findings of such research will be of just as much relevance to dietary interventions as to pharmaceutical solutions. How bioavailable a compound is when it is ingested as a food, pill or liquid; how quickly it metabolizes in our bodies; what dosage would be necessary in humans – these crucial areas of research can go just as far towards supporting the basis of a diet as to validating a medication.

My discussion has led here because of my concern that media – both online and in print – be more balanced in reporting on matters about the potential of natural ingredients. At the moment, perhaps due to high degrees of anxiety and interest surrounding COVID-19, the press has been in a state

of over-excitement. Some damage has been done by shutting down valuable topics which – as far as science is concerned – should be left open. Bizarrely, on the one hand I have witnessed the media in a state of hyperactivity about Vitamin K – based on a single study of its effect on SARS-CoV-2 *in vitro* – while the voluminous quantity of completed research on other naturally occurring chemicals remains almost entirely ignored. Due to its micro-presence in some cheeses, UK paper The Guardian was ready to run with the headline 'Vitamin K found in some cheeses could help fight Covid-19'.

When you add in the overwhelming effect that such news items can have – especially if broadcast with a charismatic presenter and the audience-credibility of a popular show – it is easy to see the dangerous amount of sway that the media can have, whether what they present is true or false.

Too often, the scientists' actual work – experiments they have undertaken, analysis that has taken place, even the conclusions they have reached – is lost amid the noise and we don't find the facts till we search later on. It's easy to get put off Green Tea *today* because a post says it's not healthy – it takes reading research *later* to find out the benefits of EGCG. In my opinion, press writers over the last hundred years have not done enough to reveal to the public the full impact that literally thousands of major results have had on food sciences. Our understanding of Nutrition has made a quantum leap.

As far as the current publication is concerned, I would like to emphasize that the research it is based on – as a whole – extends back to articles that were published half a century ago all the way up to pieces that are being released in journals between September 2020 to January 2021. Remaining as current as possible in terms of its research base is essential to the accuracy of **AVD** – it is being updated twice annually so as to keep up with investigations and advances in science.

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