

## BOOK REVIEW

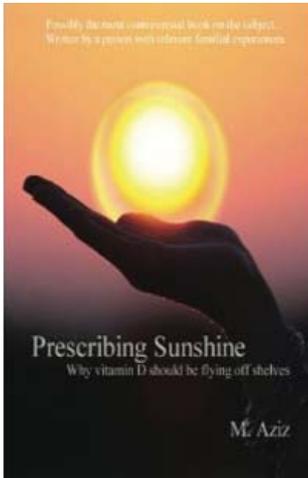
### **Prescribing Sunshine: Why Vitamin D Should Be Flying Off Shelves**

by M. Aziz. CreateSpace, 2012. 250 pp. \$7.99 (paperback). ISBN 978-1478396079. Kindle Edition \$2.99.

Aziz was led by circumstances in his own family to realize the neglected importance of vitamin D. Although this account of his experience is written in a very personal style, most people will benefit from several aspects of the book. A general one is the fact that the medical profession is not always sufficiently knowledgeable and helpful, in part because different practitioners take different views and because some of those views are not necessarily well-informed from the primary literature of medical science. A more specific benefit of this book comes from the cornucopia of citations to the scientific literature which reveal things about vitamin D that I imagine few people are aware of.

The general point, that advice from the medical profession may be doubtfully informed by the medical-science literature, is particularly pertinent when it comes to diet. Aziz makes the same point with respect to vitamin D as Linus Pauling made about vitamin C and vitamins more generally: Medical science knows only how much is needed to prevent actual manifest ill-health, and this may be much less than the optimal amount required for optimal health. I'm reminded of the experience of Colin Campbell, author of *The China Study*, whose blurbs include "The most comprehensive study of nutrition ever conducted—startling implications for diet, weight loss, and long-term health": Campbell once told me that all his research had been funded through grants to study cancer because there is so little in the way of research funds for direct studies of nutrition.

Some of what Aziz learned about vitamin D connects in one way or another with heart disease and cholesterol, and with HIV/AIDS, and with auto-immunity and with flu and with cancer. Many of the inferences from cited facts are speculative, as the author acknowledges quite explicitly; nevertheless, the cited sources allow readers to re-examine and take these notions further. For instance, Aziz notes that longer telomeres (appendages on chromosomes) have been associated with longer lifespan; and cites a report that high levels of vitamin D are associated with telomeres not shortening—could vitamin D be an elixir of longer life? Follow the citation and read and speculate further for yourself.



One of Aziz's citations leads to the results of a 10-year study by the World Health Organization (WHO) of cholesterol and heart disease, which found no correlation between them (Kendrick 2007). Many others have deconstructed the myth that cholesterol *causes* heart disease (Kauffman 2006), but the WHO data seem finally conclusive on this point. A number of sources have discussed the damaging "side" effects of statins, but few have pointed out that cholesterol plays an important part in health, for example because it is an essential component of cell walls. Too little may cause harm; indeed, it has even been suggested that artificially limiting cholesterol could be a cause of Alzheimer's

disease (Lorin 2005). Moreover, when substances are made in the body, there are feedback mechanisms to regulate proper rates and amounts. The optimums may differ from individual to individual, so it seems unwarranted to declare someone's cholesterol (or anything else) as too high (or too low, or too LDL or HDL, etc.) just because it differs from some population average.

One of the things I learned from this book is that, chemically speaking, vitamin D is more complex a molecule and more physiologically powerful than the other vitamins, which are much simpler chemicals. Vitamin D is a steroid and thereby akin to hormones and pervasively active physiologically. Further, though I had known that we make our own vitamin D through exposure to sunshine, I had not known that the precursor from which the D is made is cholesterol. Therefore, Aziz points out, artificially limiting cholesterol might also contribute to deficiency of vitamin D.

As to the connection between vitamin D and (resistance to) flu: Why is the incidence of influenza seasonal, if that is not connected to the degree to which sunlight produces vitamin D for us?

So there are many intriguing questions opened up by Aziz's citations and speculations. His personal story also illustrates the enormous difficulty of trying to test things on oneself; yet given the unreliability of much official advice, we may well feel the need to do so and to trust to our own instincts about what the primary literature says. After all, the unreliability of official advice has been noted even by a former editor of the *New England Journal of Medicine* (Angell 2009):

It is simply no longer possible to believe much of the clinical research that is published, or to rely on the judgment of trusted physicians or authoritative medical guidelines. I take no pleasure in this conclusion, which I reached slowly and reluctantly over my two decades as an editor of *The New England Journal of Medicine*.

A pervasive error in much of the medical literature is the confusion of correlations, associations, with causation. “Risk factors” are associations, symptoms, but mainstream practice persistently takes them to be causes, whereupon drugs are prescribed to lower blood pressure and cholesterol and blood sugar and PSA measures just because those things are associated with morbidity. But those things are all associated also with age, and correlated with one another in the first instance because of that. To prove causation would require data that are not yet in hand, for treatments based on the belief in causation have not been shown to be beneficial: “There are no valid data on the effectiveness” of “statins, antihypertensives, and bisphosphanates” (the last are prescribed against osteoporosis; Järvinen et al. 2011).

Almost all that’s available about human health consists of associations, given that we shy away from conducting actual experiments on human beings. So Aziz too speculates on the basis of associations, and like the medical establishment and everyone else must use judgment as to the plausibility that any given association is more than a mere *coincidence*, a non-causal correlation. Readers will not always agree with the judgments suggested in this book, but they, and particularly their sources, are well worth attending to.

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