

# Editorial

## How to Destroy Confidence in Vitamins When You Do Not Have the Facts

“Ladies and Gentlemen, welcome to this year’s annual meeting of the World Headquarters of Pharmaceutical Politicians, Educators, and Reporters (WHOPPER).

“Let us get right to the point. Many of our members and affiliates have complained about what is, for us, an alarming and dangerous segment of health care: so-called orthomolecular medicine. We wish to assure you, although this therapeutic approach is, unfortunately, very effective in preventing and treating disease, that we will make sure the public will never learn of it. We can say this with considerable confidence, since for over 50 years we have managed to keep virtually all psychiatrists from using niacin to treat schizophrenia; we have kept cardiologists from prescribing vitamin E; and we have kept general practitioners from prescribing vitamin C for viral illnesses.

“Yes, it’s really been a triumphant half-century. How did we do it? It is really quite easy. Here is a summary for those of you that may have missed the last WHOPPER meeting.

“Our guiding principle is, keep the public afraid. Any fear will do, but we have been especially pleased with, and therefore recommend instilling, the fear of new strains of flu viruses, fear of vaccine shortages, and most especially, the fear of vitamin toxicity. Our success with this last one has been nothing short of spectacular.

“Of course, you know that decades of poison control center statistics show that there have been virtually no deaths from vitamins. You also know that properly prescribed drugs, taken as directed, kill at least 100,000 Americans annually. Clearly, the last thing we want is for the public to actually figure out that vitamin therapy is tens of thousands of times safer than drug therapy.

“Therefore, we endorse the following tactics:

“1) Always demand 100% safety and 100% efficacy from nutritional therapy. This is particularly effective when you, at the very same time, continually remind the public that they have to expect and accept a reasonable amount of dangerous, even fatal, side effects with drug therapy. And, if one drug does not work, there is always another, still more expensive drug that might.

“2) Always give priority to publishing research that shows that vitamins are ineffective, or outright harmful. Select the low-dose vitamin study; ignore the high-dose study. Pick the one negative vitamin study; ignore the hundreds of positive vitamin studies. If a positive megavitamin study is submitted to your department, medical society or journal, reject it on a technicality, and take a year or two to do so. Better still, make the authors publish in the *Journal of Orthomolecular Medicine*. After all, whatever is published there will not be indexed by the National Library of Medicine. Therefore, the public’s annual 700 million MEDLINE searches will utterly fail to find it. People cannot read what cannot be located.

“3) Obfuscation works. Cloud and confuse the issue. Never let the truth stand in the way of a good press release. This we learned from the tobacco industry: If you cannot wow ‘em with wisdom, baffle them with baloney. Remember, with vitamins, always highlight the negative; ignore the positive. Never let the facts get in the way of a good argument. A good argument is one that you win. It’s about politics, not health.

“4) While half of the population takes vitamins, fewer than 1% of physicians practice orthomolecular medicine. That is a very small minority. How hard can it be to shut them up? After all, look what we did to Linus Pauling. When he spoke out for vitamin C, we got the entire medical

world to openly snicker at the only person in history to win two unshared Nobel prizes. Talk about a WHOPPER!

“5) Take heed of what behaviorist B.F. Skinner said: Education is a very large number of very small steps. The secret is to keep plugging away, every chance we get. Every time we tell a WHOPPER in the news media or in the medical press, it is one additional, cumulative step towards washing the public’s mind clean as a whistle, and stamping out nutritional medicine for good.

“Now go back to your word-processors and get to work. Wade through those nutrition studies and latch onto the negative ones. The news media are waiting to hear from you.”

OK: my story of WHOPPER may be (slightly) fictitious, but the problem is real enough: Negative stories about vitamins indeed have been front-page leads, yet vitamin cures rarely make the evening news.

This is changing rapidly. The media are now regularly hearing from orthomolecular medicine. One way is through the Orthomolecular Medicine News Service (OMNS), a project of particular interest to the late Dr. Hugh Riordan, who often said that he wanted ‘orthomolecular’ to be a household word. OMNS intends to accomplish precisely that.

OMNS began full operation on March 23, 2005. Today, OMNS press releases go out to over 3,000 media outlets, including newspapers, radio and TV stations worldwide.

OMNS asserts and reasserts the positive messages:

1) Orthomolecular medicine saves lives.

2) The number one side effect of vitamins is failure to take enough of them.

3) Vitamins are not the problem; they are the solution.

OMNS press releases are reviewed by members of an editorial board consisting

of Abram Hoffer, M.D., Harold Foster, Ph.D., Bradford Weeks, M.D., Carolyn Dean, M.D., N.D., Erik Paterson, M.B., Thomas Levy M.D., J.D., Steve Hickey, Ph.D., and Andrew Saul.

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–Andrew W. Saul, Assistant Editor

### **An Orthomolecular Look at Obesity**

In 1967 Dr. Georg Wald shared the Nobel Prize with two others for his research into vision and vitamin A. He reported in 1944 that rats deprived of the B vitamins but with adequate intake of calories increased their running times substantially. Starvation and lack of water had the same effect. This was an very important observation which I think has been neglected by the field of nutrition.

This status, according to Wald and Jackson, “is not extraordinary, since in all animals feeding depends upon either moving about in the environment or, in certain aquatic forms, stirring the environment, in either case bringing the animal into contact with its food.” Thiamin increased running times to the level that the calories should have been adequate but were not and the animals died after a few days of great activity. Riboflavin was also effective and studies by others showed that the whole B complex deficiency was active but vitamin A and Magnesium had no effect. They suggested that this effect of B vitamin deficiency on running time could be used as a measure or dietary adequacy.

Animals either starved for calories or dehydrated or both increase their running time substantially. Hunger and thirst are thus both major stimulants of activity.

Animals deprived of the B vitamins but with ample amounts of calories and water increase their activities substantially until the B vitamins are replaced. The body responds to hunger for calories and B vitamins in the same way. This is a life saving evolutionary trait. In the same way that hunger and starvation stimulate excessive activity, the presence of excess activity not caused by any obvious factor may be evidence that the diet is inadequate.

About twenty years ago the thrifty phenotype hypothesis was proposed. This hypothesized that fetuses containing these genes suffering and from poor nutrition were much more efficient at saving energy. Practically it meant that thousands of years ago during a prolonged period of starvation people with these genes would gain more fat during the period of adequate caloric intake and would survive periods of starvation better than people who did not have these genes. But if there was no starvation, the individual would become fat. Genes can be turned on and off by DNA methylation. Recently it was shown that some B vitamins, methyl donors, can turn off undesirable genes. Mice bred to be fat and yellow are called agouti mice. When pregnant agouti mice were fed their usual diet all their offspring were fat and yellow. But when they were fed the same diet supplemented with three B vitamins, B<sub>12</sub>, folic acid, and choline and betaine all their offspring had reverted back to the original non-agouti mice. They were thin and brown. The agouti gene still present was turned off by the supplementation. This suggests that starvation diets for calories, water or for B vitamins may have a similar effect and turn on genes which control the feeling of hunger and the need to increase activity. Restoring nutrients would turn off these genes.

The vitamins most closely related to anxiety are niacinamide and niacin. Many years ago it was shown that giving niacinamide to animals sedated them. Later

it was reported that this vitamin bound to the same receptor in the brain as did the diazepines. Before 1960 I had observed and reported that niacin (I did not test niacinamide) reinforced the anti convulsant properties of the anti-convulsants drugs in use particularly dilantin. It made it possible to lower the dose, to achieve better control and decrease the confusion caused by the drug. In the Introduction to Prousky's book,<sup>1</sup> I wrote:

"Anxiety is, of course, a basic human, perhaps mammalian, characteristic and must have once had a major evolutionary advantage. Anxiety is part of the flight or fight mechanism, involving the sympathetic nervous system, adrenalin, noradrenalin and dopamine, as well as their oxidized derivatives due to oxidative stress.

"Anxiety is also one of the first symptoms of many of the B vitamin deficiency diseases. It is common in pellagra and beri beri. One of the first indicators that there is a metabolic problem with the biochemistry of the body is the anxiety, which is generated because these biochemical abnormalities present a major threat to the body. It makes sense that a large proportion of people suffering from anxiety disorders may have a B vitamin deficiency and will need optimum amounts of the one they need the most.

"My favorite vitamin, B<sub>3</sub>, stands high on the list of important anti-anxiety compounds. Other patients may need therapeutic doses of vitamin B<sub>12</sub>, pyridoxine, pantothenic acid and inositol.

"This discovery is very fortunate for humanity, because one day, when the healing professions adopt orthomolecular theory and practice, they will develop very specific laboratory methods of determining exactly what nutrients are missing, what nutrients should be supplied, and in what doses..."

It is easy to understand why starving animals should run more. Hunger increases

activity. A lion spends more time sleeping than running around unless he is hungry. The rats had been programmed by evolution to increase their activity when hungry as this will increase their luck in finding food. But why should the same thing happen when they are not starving for calories but are deficient in the B vitamins? A defect in intermediary metabolism caused by a deficiency of calories or of the B vitamins activates the evolutionary mechanism which will increase the odds that foods will be found. Herbivore mammals will wander more, carnivores will hunt more, fish will swim faster. More calories will be used in order to find the food. This suggests that the deficiency of these vitamins is equivalent to calorie starvation and dehydration and the animal tries to remedy this deficiency by increasing activity to get more of the nutrients. I see the same principle applying to humans. If food is prevalent the excessive drive will lead to increased intake of food. More food means more B vitamins. If it is not present the main response will be the increase in activity, the equivalent to increased running time.

I suggest that obesity may be a direct consequence of B complex vitamins starvation arising from our modern diets and that the body tries to remedy this by eating a lot more food which will make us fat or by increasing our activity which will make us restless and anxious and too thin if we can not get enough food. I can easily visualize that an obese person who maintains that obesity by eating enormous amounts of food will become extremely unhappy and restless if deprived of food. This can explain why it is so difficult to lose weight simply by restricting the intake of foods. The only possible correct solution is to increase the intake of the B vitamins and then to combine this with a reduced intake of food.

Recently I saw a young woman who had suffered from a babble of voices which were both negative and positive for over

three years. She also had an eating disorder but after three years she began to eat enormous amounts of food and her weight which had been around 90 pounds increased to 160 in a few months. This coincided with a marked reduction in the intensity of the voices and made life much more pleasant for her. Later when on her own she began to take a B vitamin complex there was another significant improvement. I have no doubt that on the program I started her, she will be well in a few months. I think that the excessive food intake improved her intake of B vitamins enough that it was therapeutic except for the excessive weight gain.

If the optimum amount of nutrients are taken daily in food or in supplements the evolutionary drive to prevent starvation (of calories, of water or of essential nutrients) will be less powerful and it will be easier to resist eating extra calories just because they are so readily available without the need to work to expend energy to get it. Animal studies of low calorie diets (CR Diets) suggest that these animals are healthier and live longer. Similar studies have not been done with human subjects. Starvation experiments conducted during the last world war all showed that the normal subjects, became very sick both physically and mentally. It will be essential to conduct some of these experiments over again by giving volunteers optimum nutrient amounts and then to test the impact of decreasing calories. Until this is done I will remain very reluctant to accept these animal experiments as having any great validity for humans. Our modern national diets are responsible for the epidemic of obesity which is present even in children. There is no doubt about the multiple deficiencies of our modern diet and if there is any doubt please read Bruce Ames.<sup>2</sup>

At one time children with learning and/or behavioral disorders were diagnosed as having the hyperactive syndrome. This term is no longer used. Dr. Glen

Green<sup>3</sup> provided an excellent description of this condition which he called subclinical pellagra. (See also Hoffer.<sup>4</sup>) Whenever I saw an hyperactive child in my office I was reminded of those B vitamin deficient animals of Wald<sup>5</sup> who were so desperately trying to improve their nutrition. Once the correct B vitamins were provided their hyperactivity soon dissipated.

**The Hypothesis**

Deficiency of the B vitamins will increase activity which may take the form of eating too much when food is freely available and getting fat, or developing excessive activity when food is not available and becoming thin and hyperactive as in the syndrome in children.

–A. Hoffer, M.D., Ph.D.

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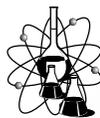
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