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EDITORIALS

Vitamin C for Colds

THE current widespread clamor for vitamin C for the prevention and the treatment of colds brings to mind similar episodes in the 1930s and 1940s. Never before, however, has a Nobel Prize Laureate announced that massive doses of this vitamin will prevent and cure colds—an opinion which is presented,

not in a paper published in a medical or scientific journal but in a small book for the general public entitled *Vitamin C and the Common Cold*. This book, of which Professor Linus Pauling, a most distinguished chemist is the author, was strongly publicized and promoted before publication and carries on the cover of the paperback edition the statement: "A Nobel Prize-Winning Scientist Tells How You May Avoid Colds and Improve Your Health."

The author states that for the past several years he and his wife have followed a regimen of large doses of vitamin C daily and have "noticed an increased feeling of well-being and especially a striking decrease in the number of colds we caught and in their severity." Such testimonials are, of course, without significance because many others could testify that they have had no colds for the past several years without taking any vitamin C other than that contained in a reasonably well-balanced diet.

The necessity of having carefully controlled studies of measures recommended for the prevention of colds is illustrated

by a study of the effectiveness of vitamin C conducted some years ago at the University of Minnesota. Students who volunteered for the study were assigned alternately to an experimental group and to a control group. The subjects in both groups were given tablets identical in appearance and in taste, with instructions to take two tablets daily. The tablets received by the experimental group contained 100 mg of ascorbic acid—vitamin C—while the tablets received by the control group contained only milk sugar, with citric acid for flavoring. At the conclusion of the study a tabulation of results showed that the subjects who had received the vitamin C reported that during the year they had had only 1.9 colds per person as compared to 5.5 colds per person the previous year. This is a reduction of 65.5 per cent, apparently an excellent result. However, the subjects in the control group reported an average 2.2 colds per person during the year of the study as compared to 5.9 colds per person during the previous year—a reduction of 62.7 per cent. In other words, the group that received nothing of any possible value reported essentially the same results as did the group that received vitamin C.*

Professor Pauling has conducted no studies of this subject, his recommendations being based upon theoretical speculation; upon the reports of several studies, some of which are of questionable significance; and upon personal communication with Irwin Stone, an industrial biochemist who has been interested in and has been collecting reports concerning vitamin C for many years.

The book discounts reports of controlled studies which show vitamin C to be of little or no value for the prevention and treatment of colds, suggesting that the dosages used were inade-

quate. Also no credence is given to the judgment of specialists in nutrition or to the report of the Food and Nutrition Board of the National Academy of Sciences and the National Research Council relative to the daily intake of vitamin C that is necessary for optimum health.

The author also states that he is convinced that the daily massive doses of vitamin C which he recommends are harmless—that is, for the prevention of colds, 15 to 30 times the daily amount recommended by the Food and Nutrition Board, and for treatment up to 150 times the daily recommended amount. This may be true but one cannot be certain that it is. Vitamin C is a natural food ingredient but it is also an acid that affects many metabolic processes. Other essential nutrients, such as vitamins A and D, iodine, salt, calcium, and the like, are dangerously toxic if taken in large doses over a prolonged period of time. There is already documentation of reactions to large doses of ascorbic acid among certain groups of the population, e.g., persons with gout or with a tendency to form kidney stones. Also, it has been reported that the dosage recommended may cause diarrhea and the formation of excessive amounts of gas in the intestinal tract. Certainly more information concerning the effects of large doses of vitamin C over periods of time is needed before it can be justifiably recommended to the public.

Professor Pauling states: "I do not know how effective this regimen really is. Professor Robinson and I are carrying out a rather small study to answer this question. I hope that other investigators in the field of public health will carry out some large scale studies." With this everyone will agree. But, why then does he say that he hopes the arguments presented in his book "will be found so convincing by both the public and by physicians, as to lead to the widespread use of ascorbic acid in increased

* J.A.M.A. Vol. 120:1268 (Dec. 19), 1942.

amounts to control respiratory infections."

Professor Pauling would have been more prudent and would have rendered a greater public service had he presented his ideas to the scientific world for evaluation before recommending them to the public as a basis for action.

The Journal is indebted to Harold S. Diehl, M.D., of New York, Emeritus Professor of Public Health and Dean of the Medical Sciences, University of Minnesota.