

April 11, 1972

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Donald T. Fredrickson, M.D.  
Inter-Society Commission for  
Heart Disease Resources  
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Dear Doctor Fredrickson:

Thank you for sending me a copy of Dr. Oster's critique of the Report of the Inter-Society Commission for Heart Disease Resources.

I find Dr. Oster's critique to be specious, ill-informed, and tendentious. 1) He has chosen to ignore the fact that the general results at Framingham have been confirmed in other studies in the United States, notably in the Pooling Project, and in my own studies on some 10,000 men in Europe. 2) He chooses to make discrete classes out of the continuously distributed variable cholesterol. 3) He ignores studies on repeated blood samplings that number many-fold the 48 persons he studied twice. 4) He ignores or misunderstands analyses with multivariate methods. 5) He concludes that because there is uncertainty as to the precise value of the exponent in the exponential equation (where the value 2.66 was one approximation), there is no exponential relationship.

I am surprised at some of the discussion by Stephen Bauman, the consulting mathematician. Apparently he is unaware of the fact that the Walker-Duncan method to solve the multiple logistic gives almost identical results to those from the Truett-Cornfield method. But the Walker-Duncan method does not involve the assumptions that Bauman finds so alarming. I am also surprised at both Oster and Bauman in their efforts to reduce to an absurdity a descriptive equation because it looks wild at zero or infinite levels.

It is interesting that neither Oster nor Bauman comment on the critical point, normally that when cholesterol is reduced in mid or late life the relationship of the new cholesterol level to future risk may not be similar to the relationship that existed before the cholesterol level was altered. And no mention was made of the numerous dietary trials that have been reported over the last twenty years.

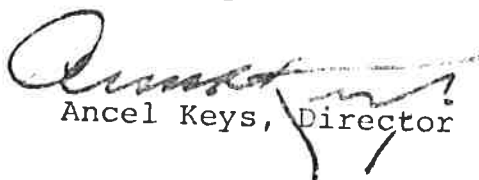
Dr. Oster notwithstanding there can no longer be any doubt that serum cholesterol, like arterial blood pressure, is an extremely important risk factor in the development of coronary heart disease. There is no indication that there is a critical level of "abnormal" versus "normal"; in all analyses the risk rises steadily and steeply with the cholesterol level. The perfect model for the relationship may not be the simple exponential with an exponent between 2 and 3 but the exponential is the best yet studied.

It should be mentioned, too, that everyone knows about intra-individual variability in serum cholesterol. So it is agreed that a single sample of blood is a shaky guide to the true average for the individual. What Dr. Oster fails to realize, however, is that the relationship found between coronary incidence and this rather poor estimate of the cholesterol must be an under-estimate of the true relationship.

Finally, Dr. Oster chooses to ignore the many well-controlled experiments on the effect of dietary changes on the serum cholesterol level in man. We do know the average cholesterol response to specified dietary changes though we do not know with certainty the effects of such dietary changes on life expectancy. Dr. Oster's statement in the next-to-last paragraph on p. 18 is grossly erroneous and misleading.

Medical Counterpoint has given space to an irresponsible article.

Sincerely,

  
Ancel Keys, Director

cao

cc H. Blackburn