

behavior has generated several hypotheses that warrant further study. Some examples include, but are not restricted to, the following:

1. Certain dietary substances may affect levels of brain neurotransmitters which are known to mediate nervous system activity and, therefore, may affect behavior;
2. Fluctuations in blood sugar may stimulate physiologic responses, and these responses may, in turn, have an effect on behavior;
3. Some disease states or pharmacologic treatments may manifest themselves in altered behavior, such as changes in food preferences.

The Panel recommends that scientifically sound research in these and other areas be encouraged. Furthermore, this research requires an interdisciplinary approach involving input from fields such as nutrition, neuroscience, endocrinology and the behavioral sciences. Interaction and communication among relevant disciplines should be stimulated by conferences and other mechanisms. In addition, the continued development and evaluation of methodology, including protocols, is essential to studying the effect of diet on behavior. Finally, the Panel warns against changes in public policy that outpace the acquisition of scientific information. □

NUTRITION NOTES

Letter to the Editor

Sir: As properly pointed out in the review on "The Influence of Eggs upon Plasma Cholesterol Levels",¹ there is a persistent controversy about the effects of dietary cholesterol on the concentration of serum cholesterol in man. The reviewer mentions three factors that may be responsible for the conflicting results obtained in various studies. We feel, however, that the reviewer has overlooked an important factor, namely individual differences in the sensitivity to dietary cholesterol.

It has been repeatedly observed that among persons the serum cholesterol response to dietary cholesterol is variable. The response to the dietary challenge in a given subject, however, was usually measured in one study only. It was thus not known whether observed differences in cholesterolemic responses between individuals were due to differences in sensitivity to dietary cholesterol or to within-person fluctuations in the level of serum cholesterol. "Spontaneous" fluctuations in serum cholesterol concentrations can be as high as 20 percent.²

We have carried out three controlled dietary trials with the same subjects to address the question whether individuals do exist with a

consistently high or low serum cholesterol response to dietary cholesterol. In each trial the volunteers successively consumed a low- (about 120 mg of cholesterol per day) and a high-cholesterol diet (about 650 mg per day in the first and second experiment and about 1000 mg per day in the third trial), the cholesterol component of the diets (provided by egg yolk) being the only variable. Putative hyper- (n = 15) and hypo-responding subjects (n = 17) with mean serum cholesterol increases of -0.2 and +19 percent were selected in the first trial and participated in the second and third experiment. Although the response in each subject was only partly reproducible, the selected hyper-responders showed significantly higher serum cholesterol responses in the second and third trial than did the hypo-responders.³

These results may also apply to free-living individuals taking self-selected diets. In 1976 the serum cholesterol response to cessation of egg consumption was studied in subjects who habitually consumed at least one egg per day.⁴ They were asked to decrease their cholesterol intake from 800 mg to 300 mg per day. Mean serum cholesterol fell slightly (by 3 percent), but the individual responses varied from -20 percent to +8 percent. In 1982, 34 of the sub-

jects were re-investigated and on our request they again eliminated eggs and cholesterol-rich products from their diet. It was found that the differences in serum cholesterol response among individuals were still partly reproducible.^{3,5} Thus it appears from our work that at least part of the cholesterolemic response to dietary cholesterol in man is individually determined, and there is evidence^{6,7} that the same also holds for the type of dietary fat.

Anton C. Beynen, Ph.D.
Department of Laboratory Animal Science
State University
3508 TD Utrecht

Martijn B. Katan, Ph.D.
Department of Human Nutrition
Agricultural University
6703 BC Wageningen
(The Netherlands)

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Reply

Individual variation continues to be an important variable in most physiological responses. The additional information you have supplied our readers on the response of serum cholesterol to dietary cholesterol by individuals is much appreciated.

Robert E. Olson
Editor

The Fifth Edition of *Present Knowledge in Nutrition*

We are pleased to announce the publication of the Fifth Edition of *Present Knowledge in Nutrition*.

The new edition has been expanded to nearly 900 pages and offers new chapters and the latest nutrition research findings on prostaglandins, choline, iodine, infancy, pregnancy, longevity, nutrient and drug interactions and neoplasia. Some of the most respected scientists in the field were selected to author the fifty-eight chapters in this new volume.

Aside from being one of the most authoritative and comprehensive books of its kind, it is also one of the least expensive. *Science* magazine reported this year that scientific texts cost an average of 11 cents per page. Using this standard, *Present Knowledge* would cost roughly \$100. Clearly, at \$18, there is no other nutrition text which can serve the needs of so many at so little cost.

We urge you to review the announcement and study the table of contents which follows. We are certain that you will find the quality and scope of the book impressive. It is a valuable reference and a superb text for classroom teaching.