serious malnutrition through the preschool years at a total cost of $6.82.

Kendall W. King

Assistant Vice President-Grants
Research Corporation
405 Lexington Avenue
New York, New York 10017

References

1. PAEZ-FRANCO, J. The National Nutrition Program in Colombia. In: Nutrition, National Development, and Planning, edited by A. Berg, N. S. Scrimshaw, and D. S. Call. Cambridge: MIT Press, 1973, p. 335.
2. MANOFF, R. K. In: Nutrition, National Development, and Planning, edited by A. Berg, N. S. Scrimshaw, and D. S. Call. Cambridge: MIT Press, 1973, p. 220, 232.
3. ANONYMOUS. A Practical Guide to Combating Malnutrition in the Preschool Child. New York: Appleton-Century-Crofts Division of Meredith Corporation, 1970.

Vitamin E status and oral contraceptives

Dear Sir:

The recent symposium on vitamin E published in the September issue of your journal reviews many important developments in tocopherol nutrition, but is silent on the vitamin E status of women using oral contraceptives (currently estimated at about 50 million worldwide (1)). There is good evidence from studies in rats (2) that the administration of contraceptive steroids significantly lowers plasma tocopherol levels and increases dietary requirements for vitamin E.

We have conducted two studies in women in which plasma tocopherol was measured (3) on fasting blood specimens. In the first study we compared 10 healthy African women who had been taking combined-type oral contraceptives for 3 cycles with 15 untreated African women of similar age, height, weight and social status. Our mean results (± one standard deviation) for these two groups are:

oral contraceptives	11.8 ± 2.1 mg/liter
untreated controls	12.5 ± 1.9

These values are not significantly different.

More recently, we have measured plasma tocopherol in 15 healthy young Caucasian women immediately prior to their starting treatment with oral contraceptives, then again after 3 cycles. Our results are:

pretreatment	14.9 ± 3.1 mg/liter
after 3 cycles	10.9 ± 2.4

These two results are significantly different at $P < 0.002$ by Student's t-test. We are unable to explain the apparent ethnic difference in the effects of the contraceptives.

In an attempt to determine the daily dose of D–α–tocopheryl acetate required to bring the plasma concentration back to the pretreatment values, we have given the Caucasian women monthly courses of first 5 mg daily, then 10 mg daily. Only the higher dose significantly increased the group mean plasma tocopherol concentration.

We conclude that combined-type oral contraceptives decrease plasma tocopherols in healthy Caucasian women, but apparently have much less effect in Africans. It seems possible that Caucasian women taking these drugs require supplementary vitamin E. It is interesting to speculate whether some of the adverse cardiovascular side effects of oral contraceptives (4) are associated with a change in vitamin E status.

Michael Briggs
Maxine Briggs

Alfred Hospital
Melbourne 3181
Australia

References

1. PIOTROW P. T., AND C. M. LEE. Oral contraceptives. Population Report, ser. A, no. 1, p. 28, 1974.
2. AFTERGOOD L., AND R. B. ALFIN-SLATER. Oral contraceptive–α–tocopherol interrelationships. Lipids 9: 91, 1974.
3. MARTINEK R. C. Method for the determination of vitamin E in serum. Clin. Chem. 10: 1078, 1964.
4. ROYAL COLLEGE OF GENERAL PRACTITIONERS. Oral Contraceptives and Health. London: Pitman Medical, 1974, p. 98.