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Nutritional Studies Evaluate Our Diets

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The college woman—the importance of her health is the basis for nutritional research

Dr. P. Mable Nelson, head of Foods and Nutrition, reports on the adequacy of college diets in an article from Journal of Home Economics

Ten home economists representing five colleges and universities in five states met at the University of Nebraska for the 1942 conference on nutrition research on which they had co-operated for 7 years.

These researchers agreed to continue their co-operative research and to put special emphasis on publication of data which provided important material in the present emergency.

Techniques for organizing co-operative research were carefully outlined in 1925 by Thomas P. Cooper and presented by him that year at the annual convention of the Association of Land-Grant Colleges and Universities. Ten years later the co-operative nutrition project was originated by the nutrition sub-section of the Iowa Agricultural Experiment Station. Since then several other co-operative projects in home economics have been set up.

This nutrition project was organized to determine the nutritional status of college women. At the first conference the research workers decided to approach the problem from five different angles. They would carry on basal metabolism studies of selected college women, they would explore the food habits of college women in various living situations, they would study some of the formed elements of the blood and they would investigate mineral balances.

The first problem confronting the group was the development of uniform techniques. Much time was also spent in standardizing the basal metabolism technique.

Numerous papers appeared as portions of the work were completed. The first part of the anthropometric study was published in 1940. Data were reported for 1,013 girls ranging in age from 16 to 30 years. Of these, 356 were from Iowa, 88 from Kansas, 187 from Minnesota, 160 from Ohio, and 222 from Oklahoma.

Data indicated that “the college girl is growing” and the data from the different states were fairly uniform. The mean height and weight of the women measured exceeded measurements previously reported from respective states. Repeat measurements were also taken on women who remained in college. This point is still under study.

Research on diameter measurements of red cells made on 80 healthy college women, ranging in age from 17 to 24 years, presented data for an age group about which very little has been published.

The food choices of students were analyzed in relation to their living conditions; for instance, those students who lived at home, those who lived in apartments and cooked their own food, those who lived in college dormitories where they ate the food served to them or selected from the foods served, and students who bought their meals in restaurants and cafes. The trends in food habits seemed to be influenced definitely by the circumstances of living.

Data pertaining to calcium balances of young women on both freely chosen and controlled diets for several periods and of one young woman on the same type of diet for many longer periods have been assembled from six states and are ready for publication. This research shows the range of intakes necessary on freely chosen diets to insure calcium retentions. No study of this type has been done heretofore.

Studies of the calorie intakes of 12 Kansas and 15 Ohio college women have shown that the mean calorie intake for the two states, both individually and collectively, was well below the standard commonly used for moderately active women.

Iron metabolism of college women has been studied by the Nebraska nutrition group only, because this is the only group with a laboratory equipped for such work. One-week studies of the iron metabolism of 99 young women have been made—one of the most extensive iron metabolism studies yet undertaken.

In 1941, when the work of the 5-year period was summarized, it was evident that some amplification of certain phases of the study was needed. In 1941-42 this was undertaken, and a study of the vitamin C stores of the college woman was initiated. In addition, a committee was to correlate all data obtained in the major phases of the project in order to obtain an overall picture of the women.

For 1942-43 plans have been made to analyze the vitamin C data collected and prepare it for publication, to study the relation of the high hemoglobin levels noted to the concentration of plasma ascorbic acid, and the relation of activity to vitamin C intake.