402 NUTRITION

SERUM CHOLESTEROL AND TRIGLYCERIDE LEVELS OF PREADOLESCENT GIRLS IN THE SOUTH. F. Thye*, T. Wakefield*, J. J. Peifer, L. Quattrochi*, R. Lewis*, H. McCoy*, H. Lewis, S. Stallings*, G. Disney*, P. Shilling* and O. Adams* (SPON: E. T. Kornegay). V. P. I. & S. U., Blacksburg, VA 24061, U. Tenn., U. Ga., Auburn U., Tex. A & M U., U. of Ark., La. State U., Winthrop College and Tenn. State U.

Serum levels (mg/dl) of total cholesterol (TC) and triglycerides (TG) were determined in 9 year old girls from low- and middle-income (LI & MI), black and white families (B & W) in or near urban areas of 8 southern states. Data are reported in 101 to 213 girls in each of the 4 groups. Mean serum TC and TG levels were 153 $\pm$ 2 and 76 $\pm$ 2, respectively, for the total population of girls. These levels were equivalent to mean values obtained for both black (LIB & MIB) and white (LIW & MIW girls. Serum levels of TG, but not TC, tended to be higher in low income families. LIB girls had TC levels of 162 $\pm$ 3 versus 145 $\pm$ 3 for LIW girls, and girls from MIW had the lowest serum TG levels (67 mg/dl). Serum TC levels above 200 were found in 5.8% of black girls and 6.2% of white girls. Serum TG levels above 100 were found in 11.2 to 11.6% of girls from both racial backgrounds. The lowest incidence of elevated serum TG levels were apparent in girls, black and white, from middle income families. (An S-87 regional nutrition project supported in part by HATCH funds)

403 NUTRITIO

ANTHROPOMETRIC PARAMETERS OF NUTRITIONAL HEALTH IN PREADOLESCENT GIRLS IN THE SOUTHERN REGION. G. Disney*, M. Korslund, S. Stalling*, L. Quattrochi*, H. McCoy*, J. Peifer, H. Lewis, P. Schilling*, O. L. Adams*, and A. Stubbs* (SPON: E. Y. Davis). Experiment Stations at Tennessee, Virginia, South Carolina, Alabama, Arkansas, Georgia, Louisiana, Tennessee State, and Texas. Univ. of Tennessee, Knoxville, TN 37916.

As a part of the S-87 regional nutrition project, anthropometric measurements were taken on girls at ages 9 (N=846), 10 (N=777), and 11 (N=644) years. There were approximately equal distributions of subjects between black and white races and between lower and upper income groups. Using standard techniques, measurements included height and weight; and triceps, thigh and calf circumferences and skinfolds. Mean values for weight, height and weight/height ratio were greater ($P<0.05$) for black girls than for white girls at ages 9, 10, and 11 years and for upper income girls as compared to lower income girls at ages 9 and 10 years. Mean values for circumferences and skinfolds, except triceps, were greater ($P<0.05$) for blacks than for whites at each age studied. Mean values for circumferences and skinfolds were, in general, greater for upper income girls than for lower income girls. Mean values for rate of growth were not significantly different between race or income groups. (Supported by HATCH 6241870)

404 NUTRITION

LONGITUDINAL STUDY OF NUTRIENT INTAKES OF GIRLS 9-11, IN THE SOUTH. H. McCoy,* H. Lewis, R.L. Mason,* O.L. Adams,* G. Disney,* M.K. Korslund, R.L. Moxley,* J.J. Peifer, L. Quattrochi,* S.F. Stallings,* and A.C. Stubbs.* U. Ark., Fayetteville, AR 72701; La. State U.; U. Tenn.; Tenn. State U.; U. Tenn.; V.P.I. and State U.; N.C. State U.; U. Ga.; Auburn U.; Winthrop Col.; and Texas A & M U., respectively.

This dietary evaluation was part of a regional project to correlate food choices with nutritional health of girls, and to assess the impact of income and race on food choices. Approximately 1000 girls in 9 states furnished 24-hr. diet records twice during years 9, 10 and 11. Energy and nutrient intakes were compared with RDAs for 3 ages, 2 income levels and 2 races. Food energy means and medians were below the RDA but over 2/3 RDA for all groups. Median intakes of B_6 of most groups failed to meet the RDA. The girls increased their total food intake each year yet the means and medians of the Fe intakes of all but 1 group of 11 yr.-olds were 2/3 RDA or less. Comparing frequencies with which diets of the girls in the various groups failed to meet 2/3 RDA also showed that Fe and B_6 were the most limiting, followed by A, Mg, thiamine, Ca and C, although the orders of insufficiency differed across racial and income groups. (An S-87 regional nutrition project supported in part by HATCH funds)

405 NUTRIT

LONGITUDINAL STUDY OF NUTRITIONAL BIOCHEMICAL PARAMETERS OF PREADOLESCENT GIRLS IN THE SOUTH. T. Wakefield*, F. Thye*, J. J. Peifer, L. Quattrochi*, R. Lewis*, H. McCoy*, H. Lewis, S. Stallings*, G. Disney*, P. Shilling* and O. Adams* (SPON: M. Korslund). Tenn. State U., Nashville, TN 37203, VPI & SU, U. Ga., Auburn U., Tex. A & M U., U. Ark., La. State U., Winthro College and Tenn. State U.

Changes in nutritional status of black and white girls fro 9 to 11 years of age from low and middle income families in 8 southern states were evaluated over a 2 year longitudinal period. Blood and urine samples were collected at yearly intervals during the study and used for biochemical determination of hemoglobin, hematocrit, thiamin, riboflavin and ascorbic acid. In general, mean values for these variables for either race at either age were above the acceptable level used in this study. At 9 years of age the mean value for eac variable was significantly greater for whites than blacks. A 11 years of age only hemoglobin, hematocrit and riboflavin were significantly greater for whites than blacks. The mean value for ascorbic acid was significantly greater for middle income than low income at either 9 or 11 years of age. There was a tendency towards an increase in hemoglobin and hematocrit and a decrease in riboflavin and ascorbic acid from age 9 to 11 years for both races. Thiamin, however, tended to in crease for blacks and decrease for whites from 9 to 11 years of age. (Part of S-87 Regional Nutrition Project, supported in part under the HATCH act, as amended, 1955 and PL-89-106)

406 NUTRITION

NUTRITIONAL-BIOCHEMICAL ASSESSMENT OF PREADOLESCENT GIRLS IN THE SOUTH. J.J. Peifer, F. Thye,* T. Wakefield,* R. Lewis,* L. Quattrochi,* H. McCoy,* H. Lewis, G. Disney,* O. Adams,* S. Stallings,* and P. Shilling*. U. Ga., Va. Polytech. Inst., U. Tenn., Tex. A&M U., Auburn U., U. Ark., La. State U., Tenn. State U., and Winthrop College.

Biochemical measurements were used to determine adequacies of selected nutrient intakes of 9 year old girls from low- and middle-income (LI&MI), black and white families (B&W) in or near urban areas of 8 Southern states. Data are reported on 157 to 238 girls in each of the 4 groups. The total population of girls had mean hematocrits (Hct) of 39.6% and hemoglobin levels (Hb) of 13.0 g/dl. Their fasting urinary excretion of ascorbate (C), thiamin (B_1) and riboflavin (B_2) were, respectively, 53, 680 and 1084 mcg/g creatinine. Mean Hct values of each of the 4 groups were 38.9 to 40.5%. Black girls (LIB& MIB) had mean Hb values of 12.7 and 12.8 versus 13.2 and 13.4 for white girls (LIW&MIW). LIW and MIW girls tended to have elevated levels of C, B_1 and B_2 in their urine, but LIB and MIB girls were excreting significantly less of these 3 nutrients. Very few girls (usually less than 3%) from either racial or economic subgroups showed evidences of nutrient deficiencies. Family income appears to have had a significant influence on the C intakes of the girls. Girls from each of the 4 groups were found to have both the lowest and higher quartile ranges of nutrients in their urine. (Supported in part as S-87 Regional Nutrition Project, Hatch Fund, through Experiment Stations at State Universities).

407 NUTRITIO

DIETARY INTAKE AND URINARY EXCRETION OF MAGNESIUM IN BLACK AND WHITE PREADOLESCENT GIRLS. H.G. Huber*, G.W. Disney*, and R.L. Mason* (SPON: D.S. Sachan). Department of Food Science, Nutrition and Food Systems Administration, College of Home Economics, and Agriculture Experiment Station, University of Tennessee, Knoxville, Tennessee, 37916.

The purposes of this study were to investigate the relationship between dietary intake and urinary magnesium: creatinine in fasting, first void urine specimens of girls ages 9, 10 and 11 years, and to determine the effects of race and income on magnesium intake and excretion. There was equal distribution of the approximately 120 girls between black and white races and lower ($\leq$ \$1,200/person/year) and upper ($\geq$ \$2,000/person/year) income levels. There was no correlation between dietary magnesium intake and urinary magnesium: creatinine. There were no significant differences among race/income groups in magnesium:creatinine excretion. Black girls excreted more creatinine than white girls ($P < 0.01$). White girls had a greater magnesium intake than black girls ($P < 0.05$) with the greatest percentage of girls consuming 67 to 100% of the RDA for magnesium. Dietary intake of magnesium was correlated ($P < 0.01$) with the intake of the following nutrients: protein, calcium, phosphorus. (Supported in part by the S-87 Regional Nutrition Project)