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Associations of total energy and macronutrients with colon cancer risk in African Americans and Whites: results from the North Carolina colon cancer study.

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The higher incidence of colon cancer in African Americans compared with other US racial/ethnic groups is largely unexplained. This report describes associations of total energy and macronutrients with colon cancer risk in African Americans and Whites from a case-control study in North Carolina between 1996 and 2000. Incident cases of histologically confirmed colon cancer, aged 40-80 years (n = 613), and matched controls (n = 996) were interviewed in person to elicit information on potential colon cancer risk factors. A validated food frequency questionnaire adapted to include regional foods was used to assess diet over the year prior to diagnosis or interview date. Cases generally reported higher mean daily intakes of total energy and macronutrients and lower dietary fiber consumption than did controls. Total energy intake was positively associated with colon cancer risk in both racial groups and, although there were some differences by race, high intakes of individual energy sources were also generally associated with two- to threefold increases in risk in models not controlled for total energy. However, these associations largely disappeared when total energy was taken into account. A high level of dietary fiber was associated with a statistically significant 50-60% risk reduction in African Americans and a nonsignificant 30% decreased risk in Whites. Alcohol intake was not statistically significantly associated with colon cancer in either racial group. Total energy intake was consistently associated with colon cancer risk, but associations with individual macronutrients varied somewhat by race and by adjustment for energy intake. These findings may provide an explanation for some of the racial differences in colon cancer incidence.