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Serum Lipids of Adults 20–74 Years: United States, 1976–80

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This report presents descriptive and analytic data for serum total cholesterol, cholesterol lipoproteins, and triglycerides for adults 20–74 years of age by age, sex, and selected subgroups of the population at risk of developing coronary heart disease. This information is from the second National Health and Nutrition Examination Survey, which was conducted during the years 1976–80.

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Serum Lipids of Adults

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Introduction

Serum total cholesterol (TC), the cholesterol lipoproteins, and serum triglyceride are all associated with the development of coronary heart disease (CHD) (1–3). Both TC and low density lipoprotein cholesterol (LDL-C) are directly related to the development of CHD (1,2). High density lipoprotein cholesterol (HDL-C) is inversely associated with CHD development and high levels of HDL cholesterol may be protective (4,5). Serum triglyceride, although directly associated with CHD, has not consistently been shown to be an independent CHD risk factor (6,7).

This report presents basic reference data on serum lipids and lipoproteins for adults 20–74 years of age, including TC, HDL-C, the difference between TC and HDL-C or non-HDL-C, TC:HDL-C ratio, serum triglyceride, calculated LDL-C, LDL-C:HDL-C ratio, and detailed estimates of the percent of persons with high blood cholesterol as defined by the Adult Treatment Panel of the National Cholesterol Education Program (2).

The data were collected by the National Center for Health Statistics (NCHS) through the second National Health and Nutrition Examination Survey (NHANES II), conducted during the years 1976–80 (8). NHANES II included a variety of measures of nutritional status and related health information.

The NHANES is an expansion of the National Health Examination Survey (NHES). The surveys are designed to collect data by direct standardized examination of a sample of the population. Direct examinations, coupled with clinical tests and measurements, are the only source of prevalence data regarding previously undiagnosed and untreated diseases. They are the best source of standardized clinical, physical, and physiological data on the subject.

The three programs of the NHES (1959–70) (9–11) focused on selected aspects of illness and health, each targeting a particular age group of the population.

In 1971, responsibility for monitoring the nutritional status of the population was added to the National Health Examination Survey, which then became the first National Health and Nutrition Examination Survey (NHANES I). Conducted from April 1971–June 1974, NHANES I was designed to assess overall health status, with particular emphasis on dental health, skin problems, eye conditions, and the nutritional status of the population 1–74 years of age (12).

Adults 25–74 years of age were examined to determine the prevalence of chronic lung disease; disabling arthritis of the hip, knee, or lower spine; cardiovascular disease; and hearing levels. In addition, information was obtained on health care needs and general well-being. This segment of the NHANES I program was followed by a 15-month period (July 1974–October 1975) during which an additional national sample of persons 25–74 years of age was examined in order to augment the size of the original NHANES I sample. This study is referred to as the National Health and Nutrition Examination Survey, Augmentation Cycle (13).

NHANES II, the source of data for this report, provides an opportunity to assess the population's health and nutritional status cross-sectionally and to assess some aspects of change over time (14). Components of nutritional status measurement were included in a physician's examination, a medical history questionnaire, body measurements, laboratory assessments of blood samples, and a dietary interview.

Also included in NHANES II were tests and procedures that provided data on diabetes, kidney and heart disease, hypertension, certain allergies, disc degeneration, pulmonary function, hearing and speech problems, and exposure to certain potentially toxic substances.

Total serum cholesterol has been determined from sera collected in each health examination survey except the second National Health Examination Survey (NHES II) (table A). During NHANES II, the NCHS and the National Heart, Lung and Blood Institute of the National Institutes of Health collected and analytically processed

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