

The uses of software in nutrition analysis workshop

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INTRODUCTION

The assessment of the growth status of children can be, to a great extent, based on measurements of height and weights. These anthropometric measures are a fundamental tool in evaluating individuals and clinic populations, as well as in broader assessments aimed at larger populations through surveillance and surveys. The results of these measurements can be compared to the international growth reference, adopted by the World Health Organization and the United States Centers for Disease Control.

The reference provides Z-scores, percentiles, and percentage of median values, for stature for age and weight for age for children younger than 18 years old, and weight for stature for males with stature less than 145 cm and females with stature less than 137 cm. These comparisons permit the growth of individuals to be monitored, and, when applied to population data, provide estimates of the prevalence of undernutrition or overnutrition.

Recently, these growth references have been incorporated into software packages for personal computers that allow users to calculate the growth status of children quickly, easily, and accurately, even in field locations. During the workshop, attendees received hands-on experience with three of the most commonly-used anthropometric software packages - Epi Info, Anthro, and EpiNut - and were provided profiles of the capabilities of each package.

Participants in the workshop also received hands-on experience with a nutritional analysis software package that assists in the collection, entry, storage, retrieval, and analysis of food intake data from individuals and populations. This software, The Food Intake Analysis

System (FIAS), uses nutrient database information provided by the United States Department of Agriculture. A software companion to FIAS, The Food Frequency Data Entry and Analysis Program, permits the construction and analysis of questionnaires designed to detect patterns in food consumption and the average consumption of common nutrients over time.

SOFTWARE FOR ANTHROPOMETRIC ANALYSIS:

Epi Info consists of a series of microcomputer programs that have been developed for epidemiological investigations. Health workers can use *Epi Info* to create questionnaires, calculate sample sizes for surveys, enter and analyze data, export or import data from other software, and export or import data. In general, in order to calculate anthropometric indices, a questionnaire is created to capture age, sex, weight, and stature (height or length) data for a child, after which the anthropometric indices are calculated. Some sample analysis programs are provided to help display and summarize aggregate data for children who are being studied. *Epi Info* is recommended as the software of choice for this kind of endeavor because of its many sophisticated features and versatility, including a built-in word processing module. *Epi Info*, Version 5, requires an IBM-compatible microcomputer running the PC-DOS or MS-DOS operating system (Version 2.0 or higher), 512 KB of random-access memory, and at least one floppy disk drive. A graphics board is required to produce graphics. For information on obtaining *Epi Info*, write:

USD, Incorporated
2075 A West Park Place
Stone Mountain
GA 30087 phone: (404)469-4098

Anthro and EpiNut are more special purpose software packages than Epi Info and have fewer capabilities. Both, however, can be extremely beneficial and have the same hardware/software requirements as does Epi Info. Anthro was developed to help health researchers who primarily use dBASE or software packages that can read dBASE files. Anthro can perform batch processing of existing dBASE files, sequentially computing anthropometric indices for many computer records at once. It has standard outputs displaying summaries for abnormal anthropometry, and also has an anthropometric calculator for interactive computation of anthropometric indices on a case-by-case basis. EpiNut has similar features, but was developed to primarily meet the needs of Epi Info users who needed to be able to batch-process multiple records when computing anthropometric indices. For information on obtaining Anthro and/or EpiNut, write:

Statistics Branch
Division of Nutrition (MS-K25)
Centers for Disease Control
1600 Clifton Rd., N.E.
Atlanta
GA 30333 phone: (404) 488-5125

SOFTWARE FOR DIETARY AND NUTRITIONAL ANALYSIS:

Users of FIAS and its food-frequency companion can make use of a 6,000 food-item database, which includes some brand name and ethnic, including Hispanic, foods. The software gives the user the capability to create and save new recipes or modify recipes that are in the database. The software calculates the composition for 28 commonly-needed nutrients for each recipe, including energy, protein, total carbohydrates, cholesterol, dietary fiber, vitamins A and E, and many others. Developers of this software have labored to make data entry easy. Several outputs are available, and file exportation to other software is available. This software requires an IBM-compatible microcomputer running MS-DOS or PC-DOS, Version 2.0 or higher, 640 KB of random-access memory, and at least 10 MB of hard disks.

For information on FIAS and the Food Frequency Data Entry and Analysis Program, write:

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Human Nutrition Center
P.O Box 20186
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TX 77225 phone: (713) 792-4533