BRAIN HARM IN U.S. LAID TO FOOD LACK

By Harold M. Schmeck Jr. Special to The New York Times

Nov. 2, 1975

About the Archive

This is a digitized version of an article from The Times's print archive, before the start of online publication in 1996. To preserve these articles as they originally appeared, The Times does not alter, edit or update them.

Occasionally the digitization process introduces transcription errors or other problems; we are continuing to work to improve these archived versions.

WASHINGTON, Nov. 1 More than a million American infants and young children have either suffered stunting of their brains or are under risk of that kind of damage because Of maunutrition, a team of scientists has estimated on the basis of national nutrition data.

The cause of the malnutrition is poverty. When malnourished pregnant women are considered in the estimates, one million babies yes to be born are added to the total in jeopardy.

"Finding evidence that substantial proportion of the population of an affluent country like the United States is in jeopardy for brain growth and development comes as a shock to us," the scientists said in report to be published soon.

"It implies," they said, "that a corresponding proportion of the difficulties children exprerience in school and later in their career development may be due to undernutrition affecting their brain growth in utero and during early life, thus interfering in the most serious way with the quality of their lives, and placing an unmeasured but probably significant burden on; the rest of United States society."

The study results imply, as others have suggested in the past, that poverty is a vicious cycle trapping the children of the poor and dooming them to the same environment their parents endured.

Nutrition Surveys Used

The studies were done by scientists of the University of California using data from two national nutrition surveys completed several years ago. The original surveys were not done with brain research in mind.

The scientists matched the nutrition and income data from the surveys with the items of physical data that give clues to nutrition and brain development. They estimated from this how many Americans were so severely malnourished as to put their brains in jeopardy.

Many individuals living near or below the poverty level showed serious chemical deficiencies. Furthermore, the malnourished infants and young children had head circumferences so far below the normal range for their ages as to suggest hampered brain development, the scientists said.

The team estimated the average deficit in brain weight among the severely malnourished children at 125 grams. This is a substantial fraction of the 1,400 grams weight of normal 4-year-old's, brain.

In a normal population there is no clear correlation between head size and intelligence, one of the scientists noted in a recent conversation, but the degree of deficit of the malnourished children appeared to be so great that he estimated the odds as less than one in a million that they could represent normal variation.

As further evidence that malnutrition effects were involved, the scientists cited recent studies by scientists at St. Jude's Hospital in Memphis. These studies by Dr. Paulus Zee indicated that malnourished infants and young children experienced spurts in general growth and in head circumferences when they were given special diets to supplement. their previously deficient nutrition.

New York Report Due

Dr. Robert R. Livingston of the Department of Neuroscicores, University of California,. San Diego, will present details on the study tomorrow night at an opening symposium of the Society for Neuroscience nual Meeting in New York City.:

A report of the work has also been written for a volume on growth and development of the brain which will he published this fall by Raven Press. New York for the International Brain Research Organization. This organization is devoted primarily lo the international dissemination of information on current brain research.

In addition to Dr. Livingston the research group in California consists of John S. MacGregor, Gary J. Fisher and Dr. A. Baird Hastings(all of San Diego and Dr. Doris H. Calloway of the University of California Department of Nutritional Sciences, Berkeley.

They used extensive data from the 10-stale nutrition study done several years ago by the Department of Health.; Education and Welfare and a study of nutritional status of pre-school children in the United States done collaboratively by Ohio State University and University of Georgia.

Using data from these and from the 1970 United States census, the scientists in California, estimated that the total number of pregnant women in the United States suffering malnutrition serious enough to endanger their babies was more than 945,000 then and is presumably greater now.

They estimated the number of infants and children in the jeopardized group already born at more than 1,100,000.

In the surveys used, data were compiled on eating habits, income and physical factors such as body size, weights and development as well as evidence of biochemical deficiencies.