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Nutrition the Key to Health

Tooth Decay An Index Of An Imperfect Diet

Urgent Human Problems

American Expert's Investigations among Primitive Peoples

What causes certain physical deterioration of primitive peoples after they have come into contact with modern civilizations? One answer to this question is represented by the one word "nutrition," according to Dr. Weston A. Price, who is a member of the Board of Consultants of the Department of Public Health in Washington, and who is in charge of the Dental Research Laboratory at Cleveland, Ohio.

His investigations into the problem have already led him to some of the most remote parts of the world. At the moment he is conducting similar studies in Kenya, before visiting Uganda and the Belgian Congo, whence he will proceed down the Nile.

Civilization and Disease

"The greatest problem in the world to-day" he told the *East African Standard*, is not war or famine, but is the progressive physical breakdown of the present civilizations. This involves not only their own members but those whom they undertake to modernize among the native races of the World.

"In spite of our modern advance in medical science—including more perfect hospitalization, pre-natal care, expert nursing, and education in matters of general and oral hygiene—several of the degenerative diseases are apparently on the increase. In several of our most advanced civilizations examples of this are tooth decay, heart disease and other circulatory disturbances, cancer, appendicitis, kidney and gall bladder involvements and arthritis. In Massachusetts alone there are now reported to be one hundred and fifty-thousand cases of arthritis.

"Many of the so-called diseases are of relatively rare occurrence among many of the primitive races, but become a common cause of death and physical breakdown after the methods of living of modern civilizations have been adapted.

Tooth Decay

“The most universal disease in the world among modern civilizations is tooth decay. This affliction has been found to be almost entirely absent in many of the primitive races studied that have not yet met modern civilizations. The usual approach for studying this disease has been to examine the affected organs and tissues of the suffering individuals. This is much like examining a tree that has been struck by lightning to ascertain the cause of its blight

“This approach to the study of these problems has been to search for large groups of individuals who do not suffer from these afflictions while in their primitive state, and to study the changes that take place at the point of contact with our civilizations where these afflictions first appear. This has made it necessary to go to places that are not yet reached by modern civilizations and its commerce.

Among the Eskimos

“Visiting the Eskimos of Alaska involved using an airplane to fly to remote sections to study these stone-age people who are living as they did 10,000 years ago. These isolated groups were found to be very free from tooth decay and so called pyorrhea, or inflammation of the gums about the teeth.

“Of over 2,000 teeth studied critically in succession in one district, only three teeth were found that had ever been attacked by tooth decay. At the point of contact with the outside world, however where a ship comes in once a year to bring food supplies partly for a wireless station staff, 130 out of each 1,000 teeth of the natives had already been attacked by tooth decay.

“Dr. Romig, a medical missionary who had worked with the primitive Eskimos for 36 years and who now has charge of large government hospital at Anchorage, Alaska, and is an expert surgeon, told me that he had yet to see his first cancer amongst the very primitive Eskimos, though he had seen it frequently among the modernized Eskimos. He reported that gall bladder trouble and kidney stones are also practically unknown among the most primitive while on their native food.

“Similarly, other primitive groups such as the American Indians, in the far north of Canada near the Arctic Circle, were found to have so high an immunity from tooth decay that several large groups using only native foods were studied and not a single tooth found that had been attacked by tooth decay. These people were so primitive that most of them had never seen a white woman till they saw Mrs. Price.

Study of Foods

“In all these primitive groups samples of food have been collected and brought to my laboratories at Cleveland for chemical analysis. The primitive groups are selected in different parts of the world to represent as large a variety of living conditions, climate, and food supplies, etc., as possible.

“The people in eight archipelagoes of the Pacific Ocean, including both the Northern and Southern Hemispheres, have also been studied, and there again where they were completely isolated from modern civilization and its commerce, nearly 100 per cent immunity from tooth decay was found. At

ports however where trade ships came in even once in six months and exchanged the foods of modern civilization for such products as the natives could provide and in which commerce was interested, such as shells, dried coconut meat, etc., tooth decay increased sometimes to about 300 teeth per thousand. Their living conditions otherwise remained the same.

Scottish Contrasts

“Similar studies have been made of the people in the Outer Hebrides of the North-West Coast of Scotland, and of the people of the Inner Hebrides. Some of the former still live mainly on their native foods and the latter chiefly on the modernized foods. In the case of the former only about 20 out of every thousand teeth examined had been attacked by tooth decay, in the case of the latter the number was 400 per thousand.

“Comparative studies were made in Scotland, England and Wales, and showed a high incidence of tooth decay. Studies were also made among the people in isolated valleys of Switzerland for comparison with the modernized groups of the plains and low valleys with similar results.

“Striking illustrations of what is occurring were revealed in our studies which were made of the past and present Indians of Florida. In a study in the various American museums, of many hundreds of skulls, which had been taken from burial mounds most of them pre-Columbian, not one tooth was found that had been attacked by tooth decay. Many skulls domes had a thickness approximately three to four times as great as that of skulls of the moderns living in America.

“For comparison with these primitives, the Seminole Indians living in Florida to-day in the same districts were examined and were divided into two groups. The first comprised those living in the cypress swamps on as nearly the same diet as their ancestors as the diminishing supply of native foods would permit. This group had 40 teeth of each thousand teeth attacked by tooth decay. However the majority of the Florida Indians of to-day are using modern foods liberally. These constitute the other group, in which 400 teeth out of each thousand teeth were found to have been attacked by tooth decay.

A symptom

“If injury to the teeth was the only or principal affection this alone would be serious, but tooth decay, like many other degenerative processes, has now been found to be primarily a symptom and not a disease. In all the groups studied a chemical analysis of the foods that had displaced the various native foods gave clear explanation for the cause of the breakdown.

“In all of the primitive groups the native food as selected which was maintaining the high physical standard of the members of these groups, and their high resistance to modern disease, showed by chemical analysis a very high factor of safety in the matter of body building material which nature uses both for making a body and for keeping it in repair.

“For the Eskimos of Alaska, and the Indians of far Northern Canada, the factor of safety was found to be over 100 per cent, that is, their food provided twice as much of the body building and repairing material

as was required for all overloads. The displacing modern foods were found to provide about 50 per cent—usually less—of the optimum requirements for body building and repair.

“To use an illustration that will be familiar, since most modern races are familiar with the phrase, ‘a tooth for every child,’ motherhood never was accompanied with tooth decay in these primitive people living on these adequate foods. The other period of great stress is the growth period of childhood. In both this and motherhood the demand is much greater than that of a normal adult.

Study of Africans

“The purpose of this trip to Africa is to Study some primitive groups, who are still isolated, for comparison with those partially modernized and to note whether the same effects obtain here as found in other parts of the world.

“It is of fundamental importance that nature’s laws should be studied and that provision should be made for her requirements in each particular physical environment.

“The problems encountered in the interior of a great continent, and those which obtain among people living along the borders of the sea, are vastly different. There is much evidence that primitive races have accumulated wisdom from an intimate study of nature’s requirements, for their environment and that this wisdom is not in practice in most of our modern civilizations.

“There is a chemical basis for perfect physical development and maintenance which cannot be re..... requirements and cannot be substituted for. There is a tragic commentary that we are now seeing a civilization in the process of degeneration, and whether it will go on to complete dissolution, as has happened to many previous civilizations, will depend largely upon whether this civilization will learn and obey nature’s laws.

“While it is of great importance to displace injurious taboos with higher systems of ethics, moral strength cannot be built up and maintained without maintaining a high physical efficiency. In all of the primitive races studied moral decadence has accompanied physical decadence.

A First Essential

“It is of fundamental importance, therefore, that social uplift should be built upon a physical excellence. More knowledge relative to the chemistry of life and to nutrition would seem to be one of the first handmaids of all programs.

“That this is possible has been clearly demonstrated by applying these newer principles evolved in our modern research laboratories to the problem of modern community life.

“Tooth decay is now known to be primarily a nutritional problem, though cleanliness is of course desirable. Clinically we know that tooth decay is not only preventable, but can be completely controlled even when rampant by providing an adequate reinforced nutrition.

“Physical development is primarily dependent upon an adequate nutrition during the formative and growth periods of the individual and upon the maintenance of an adequate supply of essential minerals in usable chemical form and activating substances, the latter include the known vitamins—out of which body organs and tissues are developed.

“Many of the so-called diseases have been demonstrated to be symptoms of these nutrition deficiencies. It is important that these studies have revealed that a racial pattern which has been built up through a long series of generations in a particular environment can be changed in a single generation by changing the nutrition of the mother and that of the growing child.

“One of the effects is a change in the physical pattern of the face and dental arches. The recording of these constitutes an important part of these studies. The generation so affected has been found in other primitive groups to have a lower resistance to several degenerative processes including pulmonary tuberculosis.”