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THE "COMMON COLD" IN RELATION TO THE ACID-BASE BALANCE OF AN "ADEQUATE" DIET.

by

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The findings of Britain's Common Cold Research Unit at Salisbury, England, as reported by J. D. Ratcliff in the October number of *Today's Health*, afford an explanation of the writer's researches on dogs at the University of California Medical School, 1920 - '28, and on plantation children and others in Hawaii, 1928 - '36.

As in the test tube where the cold virus refused to grow in standard culture media, but "grew enthusiastically" when the degree of alkalinity of the media was reduced by the simple omission of a part of the prescribed amount of bicarbonate of soda, so a low alkali reserve in the blood plasma of some 75 expectant mothers and young adults in Hawaii was associated with susceptibility to colds, decaying teeth and related ills. Urine acidity was invariably high. The low alkali reserve of the blood plasma was attributed, in part, to the $7\frac{1}{2}$ hours of tropical sunshine Hawaii enjoys daily, on the average, and the high carbohydrate acid-forming diet commonly eaten at that time. The diet consisted essentially of refined grains with insignificant amounts of fruit, vegetable, meat, egg, fish and milk. Babies were universally breast-fed for a year or more. Their habitual head colds, poor posture and muscle tone, defective teeth, high susceptibility to bronchitis, pneumonia (principal cause of death) and skin infections were considered "normal." As was their mothers', the urine of the babies was invariably strongly acid in reaction. One in three of the group studied, died before its first birthday.

In sharp contrast, the native people in the "old days" in the islands were famed for their fine physique, great physical strength and endurance, broad dental arches and beautiful decay-free teeth. Their diet was also high in carbohydrate - consisting essentially of taro, sweet potato, breadfruit, banana and other tropical fruits and vegetables and sugar cane. Fish was their principal protein food. Milk, grains and refined sugar were unknown. Though exceptionally high in carbohydrate,

their diet undoubtedly contained all essential food nutrients, and was high in potential alkalinity. Sugar cane grew luxuriantly, everywhere, and young and old chewed it prodigiously, it is said, which, no doubt, had a lot to do with their broad dental arches and beautifully aligned teeth. Stalks of freshly cut sugar cane provided the ONLY food and drink partaken by ancient runners as they carried messages from village to village over rough mountain trails - 30-40-50 miles - without rest or fatigue, says legend. Neatly packed bundles of cane stalks would be strapped to their backs for the journey, and as they ran, they would pull the stalks - one by one - and suck its refreshing juice - supplying their bodies with water and a continuous flow of top quality fuel - much as high octane gasoline does today's automobile engine.

As a nutrition demonstration, the "Hawaiian type" of diet was fed to some hundreds of plantation "rice" babies - 1929-'36 (1). The introduction of a cow's milk formula was an innovation. Applying lessons learned from the calf which instinctively supplements his mother's milk with grass at the first opportunity, and the ancient people who reputedly fed sugar cane (grass) juice to their babies, the writer formulated a tasty syrup made with the juices of unburned, unsprayed sugar cane and lemon and used it as a supplement to the milk fed the babies. To insure an abundance of the B vitamin for protection against beriberi, yeast was added to the formula until vegetable feeding was begun. Other than the milk-syrup mixture called "formula" in a bottle and "cocktail" in a cup and fed, as needed, at all ages, the diet consisted essentially of tare (poi), steamed sweet potato, banana and a beef-vegetable puree containing greens, tomato and carrots, usually, and liver, frequently. The liquid from the strained puree was fed in bottles to small babies. The improvement in the physical well-being of the babies (birth to three years) was immediate and spectacular. Defective teeth commonly ravaged by odontoclasia at 18 months of age hardened. Urine tests showed a gradual reduction in acidity until a normal pH was reached and maintained, and a towering infant death rate tobogganed to zero. A severe test of the children's "built-in resistance" to colds, etc. was imposed by a "flu" epidemic which

swept the islands when some 250 babies from birth to three years of age were being fed daily at the "Health Center." Though in constant contact ^{with} family and neighbors suffering the disease, NOT ONE clinic-fed child succumbed to it!

It has long been known that no single grain or combination of them tried supported successful nutrition in any animal studied. Grass, on the other hand, is a complete food for some of earth's largest and strongest beasts of burden, and contains nutritional secrets which have defied the chemists' skill to unlock. The famed scientist, the late Dr. Charles Kettering is quoted as saying: "When we have learned why grass is green, we shall have discovered the secret of life." Greens and grasses added to a grain ration change failure in nutrition to success, cattlemen know.

The grain component of today's diet with its acid-forming breads, cereals, pastries, etc. is over emphasized, and the mineral-vitamin-rich green leaves and grasses with their preponderance of alkaline elements and locked-in secrets are conspicuous by their absence. Said the famed nutritionist, the late Dr. Tom Spies: "Our chief medical adversary is a disturbance of the inner balance of the constituents of our tissues, which are built from and maintained by the necessary chemicals in the air we breathe, the water we drink and the food we eat." The lack of greens and grasses with their wealth of life essential nutrients could easily have caused a "disturbance" in our body chemistry and lessened our resistance to disease. Even now, warnings of impending epidemics of the "common cold" and "flu" are being sounded from coast to coast.

The midwestern parents of five football stars (brothers) -two All American - were recently asked how one family could produce so many stars. The answer was: "The children grew up on sorghum (grass) molasses." The mother added: "Their father swears that this home-grown molasses is fool proof for the raising of football stars." A glance at the teeth of the midshipmen at the U. S. Naval Academy, Annapolis, Md. (1937 class was studied by the writer) rarely failed to reveal "what they grew up on." Good teeth, whole grain corn bread, buttermilk, turnip tops and other greens and sugar cane and/or sorghum syrup went together. A large percentage of the men from the

"deep south" and mid-west where sugar cane and sorghum, respectively, grow, had full complements of sound teeth on admission to the Academy. NONE LEFT THAT WAY!

Because one supplements his diet with assorted nutrients, it does not necessarily follow that they are utilized. This was strikingly demonstrated in the writer's experimental studies on puppies. Given a growth-promoting diet generously supplemented with a salt mixture based on ash analysis of milk, the puppies fattened, and at the same time excreted more calcium and phosphorus than they ingested until, at nine months of age, the ash content of their bones was less than half it probably was at birth. Normal appearing teeth proved to be rootless shells of enamel lightly attached to the gums. The salt mixture had been made TOO ALKALINE - by accident! In a similar experiment in which the salt mixture added to the same basal ration was made acid in reaction, the results were equally dramatic - normal appearing bones and tooth roots and the enamel crowns of the teeth ravaged by decay - a type of surface disintegration named edentoclasia.⁽²⁾ This is indisputable evidence of the importance of the acid-base balance of the diet as a nutritional factor, as is the behavior of the common cold virus in culture media that differed only in degrees of alkalinity, as reported by the British Research Unit.

Without exception, every diet-dental caries study reported in the literature which was analyzed by the writer from the standpoint of acid-base balance (2) showed an inverse relationship between the potential alkalinity of the diet and the incidence of tooth decay. As the potential alkalinity of the diet DECREASED, the incidence of tooth decay INCREASED, and vice versa. In Hawaii, conditions were extreme, and the effect on the physical fitness of the people resulting from the shift of high carbohydrate diets from strongly alkaline to acid in potential reaction; then back again to alkaline was as dramatic as the spurt in growth of the common cold virus in the standard culture media when its degree of alkalinity was reduced. Important as is the acid-base balance of the diet as a nutritional factor, it is only one of many which determine one's total nutritional balance and susceptibility or immunity to disease, the writer believes.

Had the unique dietary properties of leaves and grasses -compared with those of all other types of plant foods - and the nutritional superiority of thin green leaves over fleshy and white ones been appreciated the past 40 - 50 years since their discovery, our national health would undoubtedly have been far better than it is today. They are our richest foods in many life essential minerals, vitamins, enzymes and other nutrients, and highest in potential alkalinity, and ARE THE KEY to today's health, the writer believes. Yet these are the foods today's generation knows nothing about, and is paying millions of dollars, annually, for man-made vitamin-enzyme-mineral concoctions ^{trying} to undo the damage their LACK has caused. One reads in the 1948 Year-book of the U. S. Department of Agriculture: "Young pasture herbage grown on fertile soil seems to have properties beyond those ordinarily determined by analysis." And in the same book: "Next in importance to the divine profusion of water, light and air, these three great factors that make existence possible, may be recorded the universal beneficence of grass." The prophet John wrote 1900 years ago: "..... the leaves of the tree were for the healing of the nations."

Man's choicest grass foods are probably sugar ~~and~~ sorghum cane juices. Though not complete foods, they are rich in many essential nutrients which are short-measured in today's diet and react in the body like a dose of ~~baking soda~~ with a difference - teamwork in which each nutrient plays a role versus the drug effect of a chemical. Millions of people throughout the world have used sugar cane juice in some form - raw from freshly cut cane stalks and/or concentrated into a syrup or crude sugar - from time immemorial. Many are reputed to enjoy freedom from tooth decay and immunity to some of today's baffling diseases. Credence is given some of the "common knowledge" claims by recent reports from research groups in a number of institutions. It is altogether probable that had it not been for the ~~xxxxxxx~~ "nclasses" (sugar/^{cane} and sorghum syrups) which constituted so large a part of the diet of our pioneer ancestors, they could not have survived the hardships of their life in their new homes. The restoration of these old fashion syrups to their time-honored place in the American

diet would make a contribution of the first magnitude to our national health, the evidence indicates.

The trapping of the common cold virus in a test tube, and pinpointing the degree of alkalinity of its "diet" as the determining factor which retarded or promoted its growth, as reported by the British Common Cold Research Unit, is a real "break-through" in our understanding of the cause, cure and prevention of virus disease.

1. Jones, Martha E.: "Report of Dietary Observations Carried on at Ewa Plantation, 1932 - '33." Bulletin No. 1, Hawaiian Sugar Planters Association.
2. Simonton, F. V. and Jones, Martha E.: "Odontoclasia." Journal American Dental Association, June, 1927.
3. Jones, Martha E.: "Our Changing Concept of an "Adequate" Diet in Relation to Dental Disease." Dental Cosmos, June, July, August, 1935.

• Formerly:

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