Medical History and the Holistic Perspective

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Biblical Medicine

The Bible initially describes man as a vegetarian. Later, man learned to be a hunter. The priests had important duties in this dietary change. It is certain that dietary habits were of critical importance in the history of man, as well as the development of civilization.

Historically, medicine has included diet and nutrition as central in its perspective, the forerunners of health maintenance and the treatment of disease. Among the Hebrew people, the priests were physicians, and aspects of diet and disease were dimensions of divine intervention. Hebrews were careful in the acquisition of food and were strict in the examination of animals for defects. Living things of poor nutritional quality and unsanitary creatures were forbidden. Forbidden meats were said to clog the heart. Anything unhealthy was said to be unkosher or unholy. Herbs, foods and mineral waters were central to the treatment of disease. The Bible contains the first admonitions against excess sweets and alcohol.

General rules of nutrition were put forward in the Talmud, to eat moderately, simply, slowly, and regularly. It was said that whomever was to follow these rules would prolong his/her life. Dietetics is extensively discussed in the Talmud, which describes the Jewish tradition from about (1200 B.C.) to 400 A.D. Ecological factors in health were also recognized by the Hebrew priests and rabbis. Placement of industry, i.e. toxic waste of tanneries outside city limits, was legislated by the rabbis. Holiness and healthiness were one and the same.

The further medicine separated from religion, the less comprehensive its interest became, i.e., agricultural land quality, food processing, ecological and sanitary issues, diminished in importance. Healthiness as a mere branch of holiness, became the central focus.

Pagan Medicine

Greek tradition (400 B.C. until 100 A.D.) is marked by different attributes. Man is first a hunter, then a farmer. Hippocrates used diet and wine adjustments as his major therapeutic modality. He discussed the powers of herbs and fruit juices. Food and herbal categories of treatment were established and were destined to become nutrition and drug models in medicine. Hippocrates, the so-called human father of medicine, "Let thy food be thy medicine and the medicine thy food." Galen continued this nutrition-centred approach. Hippocrates and Galen also talked of the food of the gods (ambrosia) and occasionally of health as a gift of the gods. Yet, religion and medicine were separate disciplines.

Medical Advances Parallel Scientific Advances

The advances of medicine parallel technological developments in the sciences. As anatomy advanced, glands were isolated and extracts were available, and this became a treatment modality. As mining advanced, metals and minerals were isolated, and this became a treatment modality. As chemistry advanced, synthesized chemicals became central therapies. The advance of biology has led to the introduction of a new era of bioengineered products. The advance of physics adds laser, PET, NMR and CAT SCAN. Revolutions in medicine continue to parallel revolutions in science. Both nutrition (natural) and drug (man-made) medical models continue to utilize all technologies.

Remnants from each medical revolution

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survive, i.e. (diet era) "feed a cold, starve a fever", (herbal era) digoxin (glandular era), thyroid and (chemical era) penicillin. Clearly, with bioengineered interferonand insulin, a new era in medical therapeutics has begun. Medical revolutionaries try to phase out "old medicine" — synthesized thyroid is used instead of the gland, digoxin after 250 years is considered suspect and dietary manipulation ancient foolishness. Yet, medicine, like an individual cut from his past, is unstable. Medical reasoning falters in the very climate of advancing technology. The search for and claim of medical panaceas and chemical messiahs is as common as ever. Without knowledge of history and tradition, technological advances become technological nightmares.

Balance in Medicine

As Montaigne quipped, "If your physician does not think it is wise for you to sleep, to take wine or such and such meat, do not be troubled, I will find you another who will not be of his opinion." The diversity of medical arguments and opinions includes every variety of form. Except for decreasing requirements and the Food and Drug Administration's restrictions, each physician practises according to his own will. Problems of the diversity may be a result of ignoring the historical nutritional basis of medicine.

This is not saying we are anti-drug or anti-technological. Our goal is to incorporate into the foundation our faith, civilization and time-honoured tradition of nutrition as a branch of medicine.

Naturalism to the extreme has been a fallacy of the past Ecclessiasticus Chapter 38 (Apocrypha) states, "The Lord hath created medicine out of the earth (herbs, food) and he that is wise will not abhor them." Today, we warn the nutrition fanatic that the Lord (through man) hath created medicines out of heaven, and he that is wise will not abhor them. Even if we agree with Ben Franklin (Farmer's Almanac), the best physician knows the worthlessness of most medicines. Modern history can help explain the present controversy over some of the contributions of the drug revolution in medicine.

Nutrition Versus Drugs in Modern Medicine

One Germ: One Disease: One Therapy vs. One Deficiency Disease: One Therapy

William Osier's classic, *Principles and Practice of Medicine* (1930 ed.) suggests only four known nutritional deficiencies: anti-scorbutic vitamin (now ascorbic acid or vitamin C), anti-neuritic factor (now thiamine, B_1), anti-pellagric factor (now niacin, B_3), and anti-rachitic factor (now vitamin D) based upon known deficiency diseases — scurvy, beri-beri, pellagra and rickets, respectively. Modern medical thinking says one deficiency — one disease. Yet, this principle has not been helpful in revealing the majority of vitamins.

Pasteur's germ therapy credo validated the one bacteria: one disease concept. Ehrlich added the concept of one disease: one therapy, erroneously calling arsenic for syphillis the magic bullet. This medical paradigm does not apply to most nutritional diseases and is misleading in the classic cases (above) which are neither one disease nor treatable only by one therapy.

Originally, anti-scorbutic, anti-neuritic, anti-pellagric, and anti-rachitic factors were partially identified. Later, primary factors were isolated and the possibility of the main factor or vitamin as the only deficiency and treatment was suggested. We now know that these classic deficiency diseases are best treated by one main vitamin with several other nutrients in addition.

For example, adequate treatment of pellagra requires various foods and nutrients: beans (molybdenum), eggs (sulfur, selenium) and milk (calcium). Adequate treatment of scurvy requires a good source of bioflavinoids (rutin, hesperidin, etc.) and protein. Adequate treatment of rickets must include calcium, phosphorous and vitamin A. Adequate treatment of beriberi requires other B vitamins. None of these deficiency diseases fits the classic "magic bullet" or single treatment medical model.

One treatment may not suffice for these diseases because each disease is really a syndrome or category. There are at least four types of beri-beri and two types of pellagra. If they were more common,

further biochemical differentiation would result as was the case of the schizophrenias. For example, the schizophrenias are an abusive and inaccurate label for psychotic illness.

Rarely are diseases presented as pure entities. They occur with diverse symptoms as syndromes. Pneumonia, for example, is really a symptom of disease that is caused by one of many organisms in an immune-compromised host. By organizing and identifying the symptoms of disease, we can begin treatment of the patient's problem, which is why they get over the pneumonias, schizophrenias, the pellagras, etc.

Hence, we see it comes to endogenous biochemical diseases, one germ — one disease — one treatment medical model does not apply. We see that illnesses that are called diseases are often just symptoms of underlying disease. Biochemical differentiation is key, as in the case of "schizophrenia" is also the key to treatment. We use instead a holistic medical model, based on understanding of vitamins and metabolites.

Vitamins and Metabolites

Pellagra, for example, can be treated with tryptophan, because niacin for some people is not a vitamin; niacin can be synthesized from tryptophan. Hence, niacin is the only other conditionally essential nutrient, because it is an essential metabolite of tryptophan. There is known evidence that vitamin D is hormonally synthesized by human beings' skin in the presence of ultraviolet light. Vitamin D is actually a group of vitamins with various activities — ergocalfiferol D_2 and chole-calciferol vitamin D_3. Vitamin C may also be naturally synthesized by some people. There are also some elements which are not essential in their own right but do assist essential minerals. For example, rubidium augments potassium absorption. Fluoride increases bone deposition. The proof that these elements are essential in factors and essential nutrients, and are only really conditionally essential.

There is also a whole group of metabolites of essential nutrients (in following Table). For example, carnitine may become essential when lysine is deficient. Deanol may become a vitamin when acetylcholine precursors and enzymes are insufficient. Choline will become a vitamin when adequate B_{12}, serine and methionine are not available. Inositol may be a vitamin in certain patients with impaired sugar metabolism. Many amino acids, such as taurine, ornithine, glutathionine and orotic acid become vitamins when either these precursors or vitamin-dependent enzyme precursors are lacking. These substances can be termed metabamins or vitamers, because they are metabolites that can become essential nutrients.

Minerals and Trace Metals

The use of mega-minerals or trace metals is a subject of controversy. The medical profession regards minerals and metals as vitamin-like substances. When absent from the diet or not properly utilized, minerals and trace metals were also expected to cause a specific deficiency disease. The first discoveries were: iodine deficiency can cause goiter (thyroid hormone contains iodine), and iodine deficiency (red blood cell hemoglobin contains iron) also can cause anemia. The use of iron therapy is limited to this disease. One metabolic function-one disease was thought that trace metals like zinc, without one specific deficiency-disease, received less attention. The balloon bursts because although iodine is involved in primarily one metabolic role, iron has approximately 10 metabolic functions and zinc much more.

This stubborn viewpoint still survives in the face of evidence that finds nearly 50 biological protein or enzyme functions of zinc, compared to one for iodine and few for iron. Using this corrupt reasoning, there should be 50 zinc deficiency diseases! In some ways, there are 50 deficiency diseases in zinc deficiency. Research documents that a deficiency of almost all minerals and essential trace metals with a known biological function will not manifest itself in just one disease, but a variety of symptoms depending on functions and the general health state of the individual.

Deficiency vs. Optimum

What is a deficiency state? Most clinicians conclude that a deficiency state is one that responds to treatment by administering

a nutrient. If a patient responds to zinc, he must be deficient. Other clinicians solve the problem by calling zinc a drug, and thereby claim that the therapeutic action is outside the realm of nutrition.

Neither justification is completely satisfying. It is simply uncertain whether or not a person has to be deficient to respond to mineral or metal supplements. There is probably an important distinction between a deficiency and the optimum intake of any given nutrient. Nutrients do have pharmacologic actions like drugs, and it is reasonable to think of nutrients as therapeutics.

Optimum intake may just be another way of saying deficiency undetected. Our crude methods are shown in the case of potassium deficiency, which may not show up until 80 to 90% of total body potassium is lost (diuretics). Our current method helps us only as we approach life-threatening potassium deficiency. It is not surprising that the extensive Framingham heart suggested increased morbidity and mortality among diuretic patients. Hence, an irony of the times is not to use nutrient therapies without documented deficiency tests. It is more quackery than even the worst of errors by nutrient fanatics! These very physicians, who call Orthomolecular therapists quacks shall in history bear their own judgment!

Summary

So-called vitamins are not always exogenous substances, essential to life. We classify vitamins (essential nutrients) by their respective food group (Table 2), which also hints at primary sources of the nutrient. In addition, we introduce a new group of metabolites which can become vitamins (essential nutrients) (Table 1).

The foundations and motivations of our approach to health and disease (preventative medicine) appears in our summary of the Basic Causes of Marginal and Malnutrition (Table 2). This chart could be relabeled, basic cause of susceptibility to disease. It includes an environmental, medical, social and agricultural perspective. We need to emphasize that each person is a biochemical individual. Approximately 100 proteins and enzymes have already been identified that display structural variability in individuals. Subtle biochemical deficits can occur at any of the below stages. Present biochemical tests often document the existence of defects but not the causes.

Specific inborn errors of nutrient metabolism do occur and provide clues to the value of nutrients in the treatment of disease. Genetic disorders of enzymes that metabolize phenylalanine, tyrosine, cysteine, valine, or histidine result in neurologic impairment and mental retardation. Disorders in metabims (essential metabolites) — amino acids carnitine, ornithine, molybdenum enzyme sulfate oxidase, also lead to a wide range of mental and neurologic symptoms. These inborn errors serve to highlight the importance of adequate or specific amino acid intake. Biochemical variability may show that certain individuals require more of these amino acids because of complete or partial inborn defects.

Inborn errors in elemental metabolism also occur, and particularly well known are zinc deficiency in acrodermatitis en-teropathica, iron excess in hermachroma-tosis, and copper excess in Wilson's disease. These clinical diseases may exist in partial form, causing increased requirements. Errors in phosphate metabolism have also been identified.

Errors in vitamin and carbohydrate metabolism occur. Well known are errors in folate and B_{12} metabolism and their results of neurological damage. Inborn errors in collagen metabolism may be partially corrected by vitamin C. This may be one mechanism how vitamins work. Most benefits of high doses of nutrients probably come from a relative deficiency.

More errors in nutrient metabolism are likely to be found. They serve to emphasize biochemical individuality and the importance of using biochemical analysis to classify disease as well as underscoring the value of nutrients in correcting biochemical disease.

Normal Diet and Normal Nutrient Intake

Individual variability is seen best between people of different geographical localities, racial and ethnic background. The so-called normal diet is tremendously varied. Normal for various ethnic groups

Table 1.

Essential Nutrients — Conditionally Essential Nutrients

Elements	Macro	Silicon, Bromide.
	Micro	Rubidium, Nickel, Vanadium, Tin, Boron, Fluoride.
Carbohydrates	Water-soluble	Inositol, Bioflavonoids, Glucose.
Proteins	Nitrogen-Containing	Deanol, Para-aminobenzoic acid, Nicotinic acid.
	Amino acids	Alanine, Arginine, Aspartic acid, Carnitine, Cysteine, Dimethyl glycine (DMG-B15), Glutamic acid, Glutathione, Glutaurine, Glycine, Histidine, Hydroxyproline, Norleucine, Ornithine, Orotic acid, Proline, Serine, Taurine, Tyrosine.
Fats	Fat-soluble	Beta-carotene, Vitamin D, Octacosanol, Omega 3, 6, 9 and 12 fatty acids, cholesterol.

ranges from 80-90% carbohydrate diet for the Asian farmer, to 10-20% for the Aborigine. Eskimo's diet contains 80-90% fat and protein. Europeans, as are Americans, are on the average (depending on class) between these extremes. Biochemical individuality is obvious when comparing ethnic and cultural differences.

In conjunction with biochemical variability is biochemical commonality. We all share the majority of the biochemical processes and needs. Virtually all human beings require the essential nutrients for life. This is our biochemcial "commonality". Biochemical "commonality" is the basis of FDA's requirements and the basis of nutrition and medical policy. Dietary individuality between cultures is accepted, but individuality (variable nutritional needs between individuals) within our culture is just being recognized.

Ethnic and interspecies nutritional individuality (i.e. guinea pigs are mammals that make their own vitamin C), recognized as the analysis of individual differences in a species, is just being understood. There may actually be some people in our human "Western" species where vitamin C is not essential. The requirements of a vitamin vary according to diet, disease, culture and individual. For example, a diet with inadequate tryptophan (corn diet) has increased the need for the metabolite niacin. A person with alcoholism needs more thiamine, and a person with pyroluria (possibly a form of homocystinuria) requires more vitamin B_6 and zinc. Chinese probably need less protein and zinc. These are examples of individual variations, based on dietary intake, disease state, individual metabolic type and culture.

Individual variations when considering species, ethnic, dietary disease factors, are so variable that only a scaled or adjusted nutritional requirement guidelines are of any use (Tables 1 and 2). Discussing nutritional minimum daily requirements (MDR) is misleading. Nutritional requirements are different for each individual. Nutrients, peptides, and other modified natural substances represent the medicine of the future.

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Table 2.
Basic Causes of Marginal and Malnutrition — Past and Present

A. Medical

1. Malabsorption — diarrhea, parasites, IGA deficiency, celiac disease, (gluten enteropathy) sprue, lactose intolerance, intrinsic factor deficiency, pancreatic insufficiency, obstructive jaundice, operations, i.e., Bijllroth lor II, fistulas, etc.
2. Chronic disease — infections, critical illness, cancer, hyperthyroidism.
3. Poor nutritional intake — chronic emesis, hypogeusia, anorexia nervosa, alcoholism, dieting, bulimia, vitamin deficiency, myasthenia gravis, esophageal structure, oropharyngeal disease.
4. Increased metabolic requirements — pregnancy, lactation, childhood puberty, rapid growth.
5. Inborn errors — homocystinuria, porphyria, pyroluria, etc.
6. Excessive excretion — protein losing enteropathy, Addison's disease, primary aldosteronism.
7. Faulty transport — carnitine deficiency, abetalipoproteinemia, deficiency or retinol binding protein (RBC) hyperproteinemia.
8. Medications — anti-metabolites, anti-vitamins, anti-mineralites (methotrexate, hydralazine, dilantin, BCP, penicillamine, cholestyramine, phenobarbital, diuretics).

B. Food Acquisitions

1. Quality of land fertilization, too limited using only nitrogen, potassium, phosphate, fertilization with too much copper phosphate nitrate or alkali. Soil deficiency in trace metals, i.e., molybdenum, selenium. Soil contaminated with pesticides, chemicals, poisoned water. Acid rain, natural catastrophes, etc.
2. Contaminated fish — swordfish with mercury, seed grain with organic mercury, pigs with methyl mercury, rice with cadmium — Ginger Jake paralysis — triorthicreosylators multiple neuritisl milk with tremitol — milk root poisoning.
3. Food Processing — milling of grain that removes vitamins and trace elements, bleaching of grain, fgreezing with chelators which may reduce availability of nutrients, canning adds tin, may add some lead and cadmium. Addition of chemicals — dyes, BHT, sulfur dioxide, nitrates, etc.
4. Food storage — bacterial growth peanut fungus, aflatoxin, potato, carcinogen.

C. Social

1. Poverty — overpopulation, inadequate protein, poor economy, farming, ignorance, contaminated water.
2. Familial — neglect of children, current diet habits, dietary foods.
3. Household — aluminum cookware utensils, excess copper, lead with acid well water, copper plumbing, no hard water.
4. Cooking — burnt food, nitrosamines, overcooked.

D. Environmental — allergic etiology, ultimately nutritional depletion?

l. Air pollution, fluorescent light, fossil fuels, plastics, perfumes, rubber, hair sprays, tar-containing adhesives, bleaches, ammonia, mothballs, pine, tobacco smoke.

2. Geopathic zone, radiowaves.