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**THE FIT BETWEEN ADVENTIST HEALTH PRINCIPLES AND
DISCOVERIES IN MODERN BIOMEDICAL SCIENCE**

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Introduction

In the present academic climate, many science teachers, even in Adventist schools, are afraid or reluctant to address issues that concern our faith or lifestyle. Christian teachers and professors are expected to keep silent about their faith. Adventist educational institutions for many and varied reasons have increasingly opened their doors to those of other faith, and to those who do not practice any faith. In some instances, the numbers appear to be so large that the influence of the newcomers is almost overwhelming. Not only is this the case with the student population, but also the teaching and sometimes the administrative staff. It is a challenge to find qualified, competent staff of one's faith to fill the many vacancies. This is especially true, as our institutions expand, increase their course offerings and improve the quality of their programs. With this scenario the traditional Adventist campus is disappearing, and many Adventist teachers feel reluctant to interject matters of faith, especially those peculiar to Adventism, in the classroom.

The object of this paper is to encourage those educators who are making an effort to maintain some of our beliefs and values, and to share them in the classroom, and also to encourage those who feel awkward and timid that they too have a part to play in shaping our campuses, that they reflect what we profess to believe.

Many of our beliefs and practices, especially as they relates to health, are rooted firmly in scientific principles, and some of these are only now being discovered. This paper will examine some of these beliefs and practices, and the scientific discoveries that confirm their relevance. This study will show that inspiration or revelation, which dictated and directed these beliefs and practices are superior to the test tube and the microscope. Note the following statement by E.G. White about her commentaries on health.

"That which I have written in regard to health was not taken from books or papers. As I related to others the things which I had been shown, the question was asked, "Have you seen the paper, *The Laws of Life* or the *Water Cure Journal*?" I told them No, I had not seen either of the papers. Said they, "What you have seen agrees very much with much of their teachings." I talked freely with Dr. Lay and many others upon the things which had been shown me in reference to health. I had never seen a paper treating upon health."(1).

On this basis we can rest assured that scientific proofs yet to be discovered may reveal that our stance over the years, has been the best stance. Tying the modern discoveries to ancient, and long standing principles and practices, can become a platform providing firm footing for the integration of faith and learning.

History of Adventist Health Principles

Adventists base their health principles on the biblical promises of Deut. 7:11,12, & 15. Some of these laws, such as abstinence from blood and fat are clearly stated (Lev. 7:23-27); others such as abstinence from tea, tobacco and coffee are stated in the writings of Mrs. E. G. White. Although the mechanisms of damage caused by these items were unknown and unstated in the principles and commands found in the Bible and the writings of Mrs. White, they (the principles) were not without sound basis. Thus modern discoveries make these principles relevant and timely.

Genesis, the book of the beginnings, states that God created all life. Mankind was made from the dust of the ground, and instructions were given to him concerning his life style and his diet. Specifically, he was told to eat fruit, nuts, and grains; to work and to rest; and to do all this within the context of a family. A look at the plight of the human race today will show that in all these areas, mankind has gone contrary to the instructions given, and the consequences are dire. The scope of this paper does not allow for discussion of all these areas, and so the emphasis will be on diet as it relates to health and disease.

In Genesis 1:29,30, both man and beasts were given herbs and fruit as food. Then in Genesis 9:3,4, man is allowed to eat flesh but not blood. When the descendants of Abraham were chosen as the people to represent God, again they were given directives regarding diet and lifestyle; Deut. 7:11,12,15; 14:3-21 and Lev.7: 23-27; 11:3-47. They were enjoined to adhere strictly to these laws and statutes, and in response they were promised blessings of health and prosperity. Adventists have taken these laws and statutes seriously, and these principles have been amplified through the writings of E.G. White, examples being, the use of tea, coffee and tobacco (2).

The eight laws of health, referred to as the true remedies, come from these amplified writings. These eight laws are: proper diet or good nutrition, judicious exercise, the liberal use of water, sunlight, abstemiousness and moderation, pure air, rest and trust in divine

power (3). Today, these form the basis of the NEW START program offered by the Adventist church. Each of these will be examined in the ensuing discussion.

Nutrition or Diet

A discussion of diet and health would not be complete without the story of Daniel and his three friends. The Bible tells of the young prince taken into captivity who determined that the rich fare of the king, which he and his friends were to share, would diminish their physical health and their mental acuity. They made a pact with their guardian to feed them vegetables or plant foods for ten days, and then be tested them against those who had eaten the king's fare. The result was their mental and physical superiority. Daniel 1:11- 20.

“It is a mistake to suppose that muscular strength depends on the use of animal food. The needs of the system can be better supplied, and more vigorous health can be enjoyed without its use. The grains with fruits, nuts, and vegetables contain all the nutritive properties necessary to make good blood. These elements are not fully supplied by a flesh diet. Had the use of flesh been essential to health and strength, animal food would have been included in the diet appointed to man in the beginning” (4) .

The story of Daniel and his three friends and the preceding statement from E.G. White have not only endorsed the vegetarian diet but have stated clearly that this is the diet to promote health and strength, and longevity. The following statement comes from a 1999 scientific journal. “An ideal diet is one that promotes optimal health and longevity...as economies change from scarcity to abundance, principal diet-related diseases have shifted from nutrient deficiencies to chronic diseases related to dietary excesses. This shift has led to increasing scientific consensus that eating more plant foods but fewer animal foods would best promote health. This consensus is based on research relating dietary factors to chronic disease risks and other observations of exceptionally low chronic disease rates among people consuming vegetarian, Mediterranean and Asian diets...Most evidence suggests that a shift to largely plant-based diets would reduce chronic disease risks among industrialized and rapid industrializing populations...it will be necessary to... develop new policies that will encourage greater consumption of fruits, vegetables and grains as a means to promote public health.” (5). New research and discoveries are taking us back to the Genesis diet of fruits, nuts and grains. It is clear that the Creator knew what best promoted health and longevity.

Many of the studies on which these conclusions are based are epidemiological studies. Studies at the molecular levels are endeavoring to find compounds and identify mechanisms by which these foods confer health and longevity. “Epidemiologic studies support the theory that whole grains are protective against cancer, especially gastrointestinal cancers such as gastric and colon cancer, and cardiovascular disease. Components in whole grains that may be protective include compounds that affect the gut environment, such as dietary fiber, resistant starch, and oligosaccharides. Whole grains are also rich in compounds that function as antioxidants, such as trace minerals and phenolic compounds, and phytoestrogens, with potential hormonal effects. Other potential mechanisms whereby whole grains may protect against disease include binding of carcinogens and modulation of the glycemic response. Clearly, the range of protective substances in whole grains is impressive, and advice to consume additional whole grains is justified”(6).

There are many chemicals in plants (phytochemicals) that are not only important for the functioning of the plants but also for the functioning of humans and animals. The phytoestrogens are a class of phytochemicals that fall in this category. These are nonsteroidal compounds which are able to activate the estrogen receptors. Included in this group are the isoflavones diadzein, genistein, formononetin and biochanin A; the coumestan coumestrol, and the lignans secoisolariciresinol and matairesinol. These compounds are found in cereals, oilseeds and nuts, legumes, vegetables, fruit, and berries (7).

So far, we have looked a diet in terms of type recommended to promote optimal health and longevity. Before moving from this area it would be appropriate to look at recommendations of avoidance and moderation.

In Genesis 9:3,4 when flesh eating was officially allowed, the consumption of blood was prohibited. Again in Leviticus and Deutronomy, the Isrealites were to abstain from the consumption of blood and fat. The New Testament retained the prohibition against blood (Acts 15:20). Today, we know that many diseases are transmitted through contaminated blood. Creutzfeldt-Jakob disease (CJD), which causes wasting of the brain tissues, was initially identified among the cannibals of Papua New Guinea, is now increasingly present in our time and cultures. This disease is transmitted by an infective proteinaceous particle or a prion. In sheep it causes scrapie, and in cattle, bovine spongiform encephalopathy or BSE. The British beef industry suffered after the outbreak of “mad cow” disease, and the deaths

that ensued from the spongiform encephalitis. More and more, consumers are demanding that their meat be thoroughly cooked, and raw blood, or barely cooked blood in the form of rarely done steak and the like is no longer something to be craved (8).

Recently, the US media, July 17 -19 carried the story of fears of imported sheep being infected with the agent causing mad cow disease. Test on four slaughtered animals proved positive for transmissible spongiform encephalitis (TSE). The report stated further, that milk from these animals and cheese made from that milk, and offsprings from some of these animals were slaughtered, and all sold for human consumption.

The awareness of the negative effects of animal fat on the cardiovascular system is such that the supermarket shelves are covered with low fat products, and percentage fat content are used by advertisers to promote their foods. "In many parts of the west, the major cancers associated with dietary habits involve the postmenopausal breast, distal colon, prostate, pancreas, ovary, and endometrium. Current evidence suggests that the genotoxic carcinogens for all but the last two of these diseases stem from the traditional intake of fried and broiled foods such as meats. The surface of these foods contains a class of powerful mutagens, heterocyclic amines, which are carcinogenic to the target organs in animal models"(9).

Disease causing organisms are sometimes found in flesh foods, and in some cases even after thorough cooking, these microorganisms are still viable (10).

In the past few years there has been much attention given to olive oils, and fish oils. These monosaturated oils appear to confer health benefits to their consumers. The Mediterranean, and North African diets are rich in olives and olive oil. People from these regions have a lower incidence of cardiovascular diseases and many malignancies. E.G. White many years ago recommended the oil from olives as being better than any oil coming second hand from animals (11).

Today, there is still controversy about the consumption of milk and cheese, but more and more research results are revealing that these foods are not as safe as they once were. Adventist were advised one hundred years ago that there would come a time when there would be no safety in using eggs, milk, cream or butter because disease in animals is increasing. Milk should be thoroughly sterilized before use, since there would be less danger in contracting disease from it (12). More and more the press and the scientific literature

report on outbreaks of sickness and sometimes death from the consumption of these products. Contamination with disease causing organisms such as Salmonella, Campylobacter, Escherichia coli, Cryptosporidium parvum, appear in these scientific and press reports. In many cases infections result from the use of unsterilized milk, or the products, in which it is used (13,14).

Again the advice given to Adventist one hundred years ago is that ripened cheese was wholly unfit for food (15). Today, the high saturated fat content, pathogenic compounds, and microorganisms which are not destroyed in the curing process, are causing questions about the use of cheese (16).

Exercise, Pure Air and Sunlight

Although more could be said about the nutritional aspect regarding food intake, we will turn our attention to the 'E' in new, for exercise. In Genesis, part of the prescription for health and happiness was useful labor, Gen. 1:28. Adam was to have dominion over every living thing, to subdue the earth, and to tend the garden. After the entrance of sin things changed; his labor would be difficult, and through pain sweat and great effort he would eat his bread. It is interesting to note "cursed is the ground for your sake." What at face value looks like a punishment, on deeper examination, becomes a blessing. In their sinful state they, mankind, needed hard labor to keep them on the path to health and happiness. This kind of work ensured that the muscles of the body were used or exercised in a coordinated manner, while occupying the mind with useful creative ideas.

Exercise has long been apart of the Adventist life style. Today, in many cities and towns, people can be seen walking or jogging on the streets, in the parks and in the malls. There are many health centers and gymnasiums promoting good health through an exercise program. Besides these are the videos and early morning television shows which take viewers through various exercise routines. Nevertheless, many of these still fall short of the Adventist ideal of combining exercise with useful work, which brings a sense of satisfaction and accomplishment. The following statement from The Health Reformer brings this out. "Well-regulated labor gives the invalid the idea that he is not wholly useless in the world. This will afford him satisfaction, give him courage, and impart to him vigor which nothing else can (17)." "The greatest benefit is not gained from exercise that is taken as play or exercise merely. There is some benefit derived from being in the fresh air and also from the

exercise of the muscles; but let the same amount of energy be given to the performance of helpful duties, and the benefit will be greater, and a feeling of satisfaction will be realized; for such exercise carries with it the sense of helpfulness and the approval of conscience for duty well done (18). The author, E.G. White, gives us an insight of the prevalent ideas of this time in the latter portion of this statement. "Some have received the idea that it is dangerous to exercise, because they are sick. Such ones cannot get well without exercise. God made man a moving working machine. He designed that the muscles, and every organ of the body, should be put to use. But some guided by their feelings, will tell you that they cannot walk, or exercise in labor. They will relate their experience, that when they attempted to exercise it has greatly wearied them. Yet all the works of the human machinery were there. No organ was missing. Why, then, could they not be set in motion? The motive will-power was wanting."(17). Today physicians and caregivers, encourage the invalids, even those hospitalized to do some form of exercise if they can. This improves the circulation, prevents stasis and pooling of the blood which predisposed to clot formation and emboli. Low intensity aerobic exercise is recommended for individuals with exercise intolerance, especially those with neurologic diseases, and metabolic myopathies (19).

E.G. White had the following to say in Counsels on Health, and physicians and caregivers around the globe are now echoing this. "More people die for want of exercise than through overfatigue; very many more rust out than wear out. Those who accustom themselves to proper exercise in the open air, will generally have a good vigorous circulation...Men and women, young and old, who desire health, and who would enjoy active life should remember that they cannot have these without a good circulation"(19). An article published in the March 2000 Coronary Artery Disease journal, had the following to say about exercise and the cardiovascular system. Aerobic exercise training increases the activity of the parasympathetic nervous system, and decreases the sympathetic activity. Cardiac disease is attenuated by the parasympathetic and heightened by the sympathetic tone. The article recommended chronic exercise training as therapy to restore autonomic nervous system to normal function (20).

Exercise throughout the course of the life impacts greatly the experience of perimenopausal and postmenopausal women. Exercise improves the quality of life and

attenuates some of the physiologic changes associated with aging. It can prevent chronic disease, ameliorate decline in fitness and bone loss. Women who exercise regularly throughout life, are physiologically 20 to 30 years younger than their sedentary counterparts. The advice given to women is that they should perform aerobic exercise 3 - 7 days per week for 15 - 60 minutes (21). Again, in the Journal of Applied Physiology, Bray found that regular exercise improved control of lipid abnormalities, diabetes mellitus, hypertension and obesity, with the greatest benefit realized to sedentary individuals who begin to exercise (22).

From the foregoing, it is clear that the Adventist stand over the years regarding exercise, has been one that if followed would improve health and longevity, and give the individual an overall sense of well being.

One cannot discuss the benefits of exercise without giving attention to fresh air. The two go hand in hand. Many articles prefix exercise with 'aerobic', meaning air, or in the presence of oxygen. The following statement to Adventists over one hundred years ago, indicates the special place that fresh air has in the maintenance of optimal health.

"Many labor under the mistaken idea that if they have taken a cold, they must carefully exclude the outside air and increase the temperature of their room until it is excessively hot...At this time, of all others, the lungs should not be deprived of pure, fresh air. If pure air is ever necessary, it is when any part of the system, as the lungs or stomach is diseased. Judicious exercise would induce the blood to the surface and thus relieve the internal organs. Brisk, yet not violent, exercise in the open air, with cheerfulness of spirit, will promote the circulation, giving a healthful glow to the skin, and sending the blood, vitalized by the pure air, to the extremities...Exercise and a free and abundant use of the air and sunlight-- blessings which Heaven has freely bestowed upon all-- would give life and strength to the emaciated invalid" (23).

It can be debated whether or not it is possible to obtain pure air today because of the heavy pollution in our environment, especially in the cities and the industrial centers. This is also true of the farming communities where crop dusting, using airplanes which spray insecticides, pollute the surrounding atmosphere with noxious chemicals. It is not possible to escape all the perils that are present, but every opportunity should be utilized to obtain the purest air possible, even if periodically. The following statement indicates that the problem of atmospheric pollution is not new, and present trends suggest that thing will worsen. "The physical surroundings in the cities are often a peril to health. The constant liability to contract disease, the prevalence of foul air, impure water, impure food, the crowded, dark, unhealthful dwellings, are some of the many evils to be met"(24). Today we know that there

are many airborne infectious particles, the common cold virus in aerosol droplets is an example. Free flow of air will allow for exchange between air purified by the ultraviolet rays of the sun, and the stagnant air of closed buildings. The movement of columns of air in the various weather patterns allow for mixing and diluting of the noxious substances in the air. It is possible, especially away from the industrial centers to breathe relatively pure air.

Although, most of what is written today about sunlight and health focuses on the harmful effects of too much exposure, life is not possible without sunlight. Because of pollution of the atmosphere, especially with chloro-fluoro-carbons (CFCs), the ozone layer in the upper atmosphere, which normally insulates the earth from most of the harmful rays of the sun, is being deleted. There are areas where big holes appear in the ozone layer, example the hole over Antarctica. Ultraviolet rays reaching the surface of the earth has detrimental effects on living systems. There is an increase in the incidence of cataracts, and skin cancers, and possible other diseases (25). It is therefore necessary to be balanced and informed in the approach to exposure to sunlight. Sunlight brings cheer; there are many with very low spirits during the winter months, especially in areas where there is little sunlight, and the incidence of suicide is apparently higher in the winter months. Sunlight is essential for the formation of vitamin D (1,25, dihydroxyvitamin D) by the conversion of 7-dehydroxycholesterol present in the skin. This requires ultra violet light less than 310nm. Skin pigment, melanin, absorbs at this wavelength, and the pigmentation is also increased (26). Vitamin D is important for calcium metabolism, and ultimately for bone development and maintenance. It appears important in the pathogenesis of some cancers, including prostate, probably through immunoregulatory activities (27). Osteoporosis, a disease hard to treat, is characterized by decreased bone mass. It is believed that adequate calcium intake, especially prepubertal and just postpubertal, would enhance bone mineralization, resulting in increased bone mass, and prevention of this disease in later years. Vitamin D promotes calcium absorption. Although it is added to many foods, especially dairy foods, in light of the diseased animals and their contaminated products, a little sunlight would not be amiss. "There are few who realize that, in order to enjoy health and cheerfulness, they must have an abundance of sunlight, pure air, and physical exercise. We pity little children who are kept indoors when the sun is shining gloriously without" (27). Sunlight in moderation,

particularly in the early morning and late afternoons, before and after the transmission of the intense rays, would greatly benefit individual health.

Liberal Use of Water

Water, like sunlight is essential for life. In all cultures, communities in the form of hamlets, villages, towns and cities are established based primarily on the availability of water. Soon after leaving Egypt, the Israelites found themselves in trouble over the availability of water. Genesis 21:25-31 tells of Abraham disputing over the wells he dug. The cells of the body, both of human, animal, and plant, are the basic units of life, and they are composed primarily of water. All the biochemical reactions, which are necessary for life, take place in an aqueous medium. Water is probably the most essential nutrient, second only to air. One can live for many days without food, Jesus in the wilderness, and Bobby Sands of the IRA are examples, but a water fast cannot go much longer than three days without detrimental effects to the body.

In the scriptures water is equated with life, living water, river of life, analogies. During the wilderness wanderings, the laws of conduct given to the Israelites required the liberal use of water. They were required to wash their clothing and to bathe themselves in water in order to maintain a healthy body and surroundings free from contamination with disease causing agents. These acts of cleansing with water were equated with holiness.

The Journal of the American Dietetic Association in a February 1999 article, gave the following information. To be well hydrated, the average sedentary adult man must consume at least 2,900 ml (12c) fluid per day, and the average sedentary female at least 2,200 ml (9 C) fluid per day. This must be in the form of noncaffeinated, nonalcoholic beverages, soups and foods. Nationwide food consumption surveys indicate that a portion of the population maybe chronically mildly dehydrated. Dehydration with as little as two percent loss in body weight can result in impaired physiological and performance responses. Fluid consumption in general, and water consumption in particular, can have an effect on the risk of urinary stone disease, childhood and adolescence obesity, mitral valve prolapse, salivary gland function and overall health in the elderly (28).

The statements below, written by E.G. White over one hundred years ago, show how important water was considered to the maintenance of good health. "In health and sickness, pure water is one of Heaven's choicest blessings. Its proper use promotes health. It is the

beverage, which God provided to quench the thirst of animals and man. Drank freely, it helps to supply the necessities of the system, and assists nature to resist disease"(29)."Thousands have died for want of pure water and pure air, who might have lived. . . . These blessings they need in order to become well. If they would become enlightened, and let medicine alone, and accustom themselves to outdoor exercise, and to air in their houses, summer and winter, and use soft water for drinking and bathing purposes, they would be comparatively well and happy instead of dragging out a miserable existence"(30).

Today, especially in developed countries, with efficient systems for water harnessing and delivery, most people enjoy the benefits of water externally, and many are enjoying the benefits internally, and demanding a higher level of purity, as evidenced by the bottles of purified, spring and distilled water on the shelves in the supermarkets. There are still many who prefer the sodas and juices, evidenced again by the many bottles of these on the supermarket shelves.

Rest

Adequate rest is part of the eight remedies or laws of health. God created a rest day at the end of creation week, and He Himself rested from all His work, which He had made. Adam and Eve were given a Sabbath of rest, even before they had time to work. During the wilderness wanderings, the importance of the Sabbath was emphasized to the Israelites at the point of death. Num.15:32-36.

"When Jesus said to His disciples that the harvest was great and the laborers were few, He did not urge upon them the necessity of ceaseless toil, but bade them, "Pray ye therefore the Lord of the harvest, that He will send forth laborers into His harvest." To His toil-worn workers today as really as to His first disciples He speaks these words of compassion, "Come ye yourselves apart,...and rest awhile." "(31). E.G. White counselled the ministers with the following statement; " Some of our ministers feel that they must every day perform some labor that they can report to the conference, and as the result of trying to do this, their efforts are too often weak and inefficient. They should have periods of rest, of entire freedom from taxing labor. But these cannot take the place of daily physical exercise"(32).

Studies on rat have found that along with other stressors, lack of suitable rest resulted in increased release of noradrenaline in the hypothalamic region of the brain and severe gastric mucosal lesions (33). Sleep deprivation can result in serious health impairment. Animals deprived of sleep had progressively negative energy balance, gradual deterioration in health which culminated in fatal bloodstream infection without and infective focus (34). Research using young healthy adult humans as subjects, found that after six nights of four hours sleep, the subjects exhibited decreased glucose tolerance, elevated evening cortisol levels and increased sympathetic activity. These responses were qualitatively and quantitatively similar to those seen in normal ageing. It is clear that sleep loss can increase the daily stress load (allostatic load), and facilitate the development of chronic conditions, such as obesity, diabetes and hypertension (35). E.G. White had the following to say at the beginning of the twentieth century "The majority of pleasure lovers attend the fashionable night gatherings, and spend in exciting amusements the hours God has given them for quiet rest and sleep in order to invigorate the body. . . . They are robbing the cheeks of the glow of health, and then to supply the deficiency use cosmetics" (36).

Temperance: Moderation and Abstemiousness

Today, we have only to look around us and sometimes at ourselves to see the effects of intemperate living. Especially in the developed nations, where there is an abundance of everything to eat, and automation in the home and in the workplace, the majority of health problems encountered are centered around excesses in the lifestyle. To this excess in the use of the good, is added the use of things that injury the body, and the health problems are compounded. A 1992 article called for moderation in the nutrition of children. An 1871 article in *Counsels on Diet and Food*, had the following statement "I should eat sparingly, thus relieving my system of unnecessary burden" (37). Today, obesity is a major medical problem for the practitioners and for the state. Many diseases and illnesses result because of this state of being, and causes distress for family members and the state. The following statement from a 1999 *Clinical Cornerstone* article sums up the problem thus "Obese patients are at an increased risk for developing many medical problems, including insulin resistance and type 2 diabetes mellitus, hypertension, dyslipidemia, cardiovascular disease, stroke, sleep apnea, gallbladder disease, hyperuricemia and gout, and osteoarthritis. Certain cancers are also associated with obesity, including colorectal and prostate cancer in men and

endometrial, breast and gallbladder cancer in women. Excess body weight is also associated with substantial increases in mortality from all causes, in particular cardiovascular disease. More than 5% of the national health expenditure in the United States is directed at medical costs associated with obesity"(38). The April issue of the Archives of Internal Medicine reported that more than half of Adult Americans are overweight or obese" (39). Clearly, if there was ever a time for moderation it is now.

Extremes of any kind are dangerous, whether from too much or too little. "Some of our people conscientiously abstain from eating improper food, and at the same time neglect to eat the food that would supply the elements necessary for the proper sustenance of the body. . . .A diet lacking in the proper elements of nutrition brings reproach upon the cause of health reform. We are mortal, and must supply ourselves with food that will give proper sustenance to the body" (40).

Abstinence for things that are harmful, is an essential component of good health. "The use of tobacco and strong drink has a great deal to do with the increase of disease and crime. Tobacco is a slow, insidious, but most malignant poison, and its use is working untold harm. . . . The highly seasoned flesh meats and the tea and coffee, which some mothers encourage their children to use, prepare the way for them to crave stronger stimulants, as tobacco. The use of tobacco encourages the appetite for liquor". " I have seen many an example of the power of these habits. One woman I knew who was advised by her physician to smoke as a remedy for the asthma. To all appearance she had been a zealous Christian for many years, but she became so addicted to smoking that when urged to give it up as an unhealthful and defiling habit, she utterly refused to do so. She said, "When the matter comes before my mind distinctly, that I must give up my pipe or lose heaven, then I say, 'Farewell heaven;' I cannot surrender my pipe." This woman only put into words that which many express by their actions. God, the maker of heaven and earth, He who created man and claims the whole heart, the entire affections, is held subordinate to the disgusting, defiling nuisance, tobacco" (41). The following statements give an indication of the thinking and behavior of many during the time of E.G. White's writing. Today many health problems for the individual and the state result because of injurious habits and practices. New research suggests that alcohol consumption may be beneficial, especially for cardiovascular health. MADD (Mothers Against Drunk Driving) and similar organizations,

would probably argue that encouraging alcohol consumption would eventually be more detrimental than beneficial. Many in the scientific community urge caution on this matter. " Anti-oxidant effects of polyphenolic flavonoid compounds found in alcoholic beverages, especially red wine, have been proposed to mediate, at least in part, protective effects of regular light-to-moderate alcohol use against stroke and coronary artery disease. The proposed mechanism is through the quenching of free radicals decreasing the oxidative modification of low-density lipoprotein cholesterol particles and hence reducing their atherogenicity. In this review, the extent and limitations of the evidence in support of such a hypothesis are outlined. In particular, the paucity of epidemiological evidence linking dietary flavonoids to stroke and coronary artery disease is highlighted. The competing notion that alcohol itself has direct and indirect pro-oxidant and pro-atherogenic effects is canvassed, and the limitations of the in vitro rather than in vivo nature of much of the evidence linking red wine polyphenolics to reduced lipid peroxidation and other relevant biological effects is discussed. Within this framework of current epidemiological evidence together with the results of basic laboratory studies, the conclusion at present is that while we may continue to speculate that there are anti-oxidants and pro-oxidants in alcoholic beverages that influence the development of atherosclerotic cardiovascular disease, this cannot yet be considered as an established scientific fact"(42).

Tobacco use at any level, whether it be smokeless or otherwise, has no health benefits, but many detrimental effects (43). In spite of all that is known about the harmful effects of tobacco use, its use among young girls and women is increasing globally. Tobacco smoke contains many toxic chemicals which contribute to development and progression of diseases such as cancers, asthma, bronchitis, and cardiovascular diseases. Over the past five years, the tobacco companies have faced litigation's about their false advertising which encouraged many to develop a habit which eventually ruined their lives. Today, all around the world there is legislation prohibiting smoking in public areas.

Trust in Divine Power

As Christians we accept that in Him (Jesus) we live and move and have our being (Acts 17:28), besides this, we are not our own, we have been bought with a price (1Cor. 6:20); this makes us stewards of our body and health, accountable to God. As our creator and sustainer, we acknowledge that God knows what is best for us. We must trust Him, and

follow his guiding. Sometimes even when the laws and statutes as they relate to health have been followed, there is a breakdown in the health. The assurance comes that the prayer of faith will save the sick (James 5:15).

Even more than this, trust in divine power, is acknowledging that the most high God rules in the affairs of men (Dan 4:17), and nothings comes upon us without him being aware; after all, he neither sleeps nor slumbers (Psm 121:4). Worry about our future and our present conditions often leads to a an intemperate lifestyle which causes stress; stress in turn results in cardiovascular diseases, cancers, lowered immunity, and psychiatric problems. “Among possible physiological mechanisms, stress may induce gastric hypersecretion, reduce acid buffering in the stomach and the duodenum, impair gastroduodenal blood flow, and affect healing or inflammation through psychoneuroimmunological mechanisms”. (44) Through prayer Christians are able to connect to and communicate with God, “casting all their care upon Him for He cares for them (1Pet. 5:7). “Prayer--short, weighted with tenderest sympathy, presenting the suffering ones in faith to the Great Physician--will inspire in them a confidence, a rest and trust, that will tend to the health of both soul and body”(44). Today, caregivers in both public and private health facilities are considering the effects of prayer on the health and recovery of the patients. “Religious practices such as prayer represent the most prevalent complementary and alternative therapies in the United States” (45) “The authors suggest 1) some approaches for appropriate inclusion of spirituality in clinical practice, 2) challenges for medical education, and 3) areas requiring further research”(46).

This paper was an attempt to share with other Adventist educators topic in the area of biomedical sciences, for the integration of faith in the classroom. It is my hope that my colleagues can be inspired and find material to share with their students as they attempt to lift their thoughts to our creator and sustainer. In as much as they are able to do this, as a result of this paper, I would have succeeded in my goal.

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