

## **Vitamins -- Are they Dangerous?**

For more than half a century the drug oriented medical establishment has been clutching at any straw they could find in an attempt to discredit the nutritional supplement industry. This is in spite of the fact that the medical world has long held the view that the safety of nutritional supplements is not an issue, their concerns being merely financial as they expressed concern about poor gullible consumers wasting their money on placebos which do no more than create expensive urine and nutritionally enrich our sewerage.

However, as scientists continue to provide scientific evidence to explain the reasons why millions of people throughout the world have been experiencing health benefits from large doses of various vitamins for decades, the medical profession, just as they did with folic acid, is still clinging to their favoured drug paradigm of disease treatment.

Amazingly it seems, the medical profession will be the last section of the community to realise the benefits of nutrition. As has already occurred with folic acid, millions of people will have been experiencing these benefits for decades before doctors realise the gravity of their 'mistake'.

*Can so many doctors be so wrong?*

The voluminous amount of scientific evidence accumulated over the past half century which illustrates the positive health benefits of nutritional supplements. The available evidence of the safety of both nutritional supplements and pharmaceutical drugs has been well studied. The amazing lengths to which the medico-pharmaceutical industry has gone in an effort to convince the public of the dangers of nutritional supplements while at the same time they have displayed very little concern regarding the extensive evidence of the dangers of pharmaceutical drugs and the strategies adopted by modern medicine is also well known.

This evidence reveals a staggering increase in the incidence of both iatrogenic diseases and chronic diseases and yet, in spite of this, many in the medical establishment express much more concern about the 'dangers' of the safest health promoting products on the market (ie nutritional supplements).

The little concern they express about the thousands of patients who die from adverse drug reactions is most noteworthy. Interestingly, those who display a very dismissive attitude to adverse drug reactions and the suffering of those who are so afflicted commonly seem to also favour a consistently negative attitude towards the benefits of nutrition.

Unlike such negative attitudes, let us talk about the positive aspects of nutrition and the continuing challenge faced in overcoming the anti-nutrition bias or *vitaminphobia* which is still so prominent in the world of mainstream medicine and nutrition. As has recently been noted by O'Dea, even the Australian government is responsible for encouraging this traditional disinterest in nutrition:

*"The Essential Role of Government and the Dereliction of Duty  
One of the other observations made about the history of nutrition education in Australia is that rather than nutrition education being an important, high priority, sustained goal of Governments since the war years, it has been only supported as a bit of a knee-jerk response to serious problems and crises such as heart disease and obesity. Successive Governments have paid very little attention to the importance of nutrition since World War II. We have only had 3 National Nutrition Surveys of nutritional status in this country in the whole 200 years of white settlement. Governments have not really supported the importance of good nutrition or nutrition education and the response to crises has been very typical over the years."*

But O'Dea goes further, drawing attention to the fundamentally negative attitude the Australian government has traditionally encouraged regarding nutrition:

*"Another theme or trend that we can observe from our history is the move from positive, motivating early messages about nutrition to the current negatively based, "problem" messages that we see today.....Somewhere along the way, largely in the 1950s and 1960s nutrition education messages became almost purely negatively focused. We had the heart disease scare during the time, the discovery of cholesterol, the "dangers" of fats, and the "fear" of overweight and escalating news about diet related health problems"*

Since these traditional negative attitudes have been more than adequately publicized elsewhere, this discussion will focus predominantly upon more positive recent developments in nutrition which tend not to get adequate publicity.

We will seek to examine recent trends in nutrition and the traditional anti-nutrition bias of the medical establishment.

Have they learned from past 'mistakes' or are they still continuing with the same old 'promote the safety of drugs' campaign and the negative 'prime time TV scare the public about vitamins' campaign?

Do their public comments really reflect the scientific facts? Do they publicize breakthroughs in nutrition or are positive aspects of nutrition concealed and confined to scientific journals? And what is all this hysteria about reports of the dangers of nutritional supplements? Is there really new evidence that thousands of people are dying from ingesting dietary supplements? Or, on the other hand, is it the same negative traditional old 'nutrition is quackery' propaganda which has been peddled by those whose loyalties are more closely connected with the drug industry than with vitamins?

Recently, once again, researchers have been attempting to show the dangerous nature of vitamin supplements by claiming that the use of vitamins actually increases the death rate, a recent study by Bjelakovic and colleagues having been given wide publicity around the world. This report however, has been criticized and also described as 'alarmist', with experts recommending that people should not discontinue their vitamin supplements. Notwithstanding these criticisms, and the extremely biased

and ‘mistake’ ridden history of doctors when it comes to nutrition, some experts still supported warnings of the alleged dangers of nutritional supplements resulting from this study.

It is indeed strange that Vitetta generalises about the ‘*billion dollar vitamin industry*’ though the study of Bjelakovic and colleagues concluded that only three nutrients ‘may’ have a slight adverse effect upon mortality while one nutrient actually reduced mortality. Similarly, Cain responded to this report by suggesting there is ‘*no need for anyone to take vitamin supplements*’ somehow apparently extrapolating data on these three nutrients to all vitamins.

Of course, given the traditional and obsessive anti-nutrition bias of modern medicine, patients could not rely upon many doctors to prescribe vitamins which after all, they claim do no more than enrich our sewerage.

It is not too surprising since hospital patients have a history of developing malnutrition whilst under the care of doctors and doctors know elderly patients, especially those in nursing homes frequently suffer from malnutrition but still they commonly refuse to prescribe vitamins.

Since, according to this evidence, it seems many doctors consider malnutrition and starvation insufficient evidence to warrant the use of vitamins, it would seem it is up to the public to obtain their nutritional guidance from other sources if they wish to avoid malnutrition. The folic acid lesson is destined to be learned over and over again in regard to other nutrients.

The end result of this anti-nutrition bias or *vitaminphobia* is that diet related disease was estimated to have cost Australia more than \$2 billion even as far back as 1989-90. Interestingly, this data was not published by the Australian Institute of Health and Welfare (AIHW) even though the AIHW regularly publishes detailed health reports regarding the *advantages* of modern drug oriented medicine. AIHW's claim in 2002 is that “nutritional deficiency is uncommon among the Australian population

in general”; the foolishness of such a statement was pointed out at that time. In spite of this amazing statement, four years later the AIHW apparently decided that ‘*data collection*’ was inadequate to properly assess the nutritional status of Australians.

Similarly, when the AIHW reported the nutritional status of Australian children in 2007 they commented: “*while this report highlights the lack of recent data relating to children’s nutrition, this should be largely remedied by the planned Kids Eat, Kids Play (KEKP) survey.*”

These admissions, which further confirm the continuing 200 year neglect of nutrition spoken of by O’Dea, are absolutely disgraceful given the key role of the AIHW is to advise the Australian government about health and nutrition matters.

But although there is now to some degree at least, an *awakening* to this traditional nutritional neglect in Australia, earlier comments by experts like Wahlqvist and Briggs expressed more concern about Australians taking too many vitamins, an assessment which of course contradicts the current *functional food* craze.

In America such was the concern in the 1980s about people using vitamins and dietary supplements that the newly established Nutrition Quackery Prevention Task Force initiated a media campaign in an attempt to counteract this *dangerous* trend.

Amongst the scientific tactics employed by the Task Force was the use of “*Don’t Go Quackers Over Food Supplements*” bumper stickers and buttons.

Main stream Medicine’s long and disgraceful history of unscientific anti-nutrition bias and *vitaminphobia* is demonstrated by the history of folic acid. Interestingly, since Roger Williams highlighted the vital importance of folic acid half a century ago, doctors continued arguing and expressing more concern about the ‘dangers’ of folic acid until the mid 1990’s. Now of course, realizing the gravity of their ‘mistake’, they want to add this ‘dangerous’ vitamin to staple foods like flour and bread;

where there will be absolutely no control over individual dosage levels. In fact, Annette King, the Minister for State Services in the New Zealand government, has recently described the addition of folic acid to bread as “*a triumph for humanity and common sense*”. Just who has been preventing or delaying this “*triumph*” was not explained by Ms King, but most conspicuously, there has been no apology from the medical world for all those who suffered and are still suffering needlessly while doctors argued about the dangers of folic acid. We are still waiting.

As far as the recent study of Bjelakovic and colleagues is concerned, it should be realized firstly that few if any would dare to dispute the vast health benefits of vitamins and antioxidants in foods, a point which is emphasized by Bjelakovic and colleagues:

*"Because we examined only the influence of synthetic antioxidants, our findings should not be translated to potential effects of fruits and vegetables."*

The reader should note the distinction here between the superiority of natural antioxidants compared to synthetic antioxidants. It seems there is no doubt about the benefits of antioxidants per se, only the inferiority of synthetic antioxidants.

All over the world researchers are struggling to identify the precise reasons for the health promoting effects of dietary constituents. The effects of diet on all manner of diseases including heart disease and cancer is not denied but scientists are constantly frustrated by the continual failure of their search for a single ‘magic’ constituent in foods.

But scientists still persist with their efforts to reduce the holistic benefits of nutrition to a single magic pill. And the medico-pharmaceutical world eagerly anticipates the gold mine which will result if a single patentable medicine can be discovered. The failure of scientists to demonstrate the true benefits of nutrition in their statistical studies and clinical trials is a result of the poor and inappropriate reductionist methodology they use.

Roger Williams pointed out decades ago the reasons why medical trials, such as are used to evaluate drugs, are not appropriate for nutritional

research, a fact which has recently been confirmed by Fairfield and Stampfer.

The study of Bjelakovic and colleagues underlines yet again the foolishness of attempting to artificially confine nutrition to a simplistic reductionist environment and the inability of modern medicine to understand and define the true holistic benefits of nutrition. Though scientists throughout the world continue to attempt to force nutrition to abide by the artificial simplistic reductionist philosophy adhered to by modern medicine, their efforts are in vain.

In regard to the study of Bjelakovic and colleagues note the following additional points.

- According to these workers this study was confined to trials that involved deaths and therefore trials with totally positive outcomes (ie no deaths) were excluded.
- this study seeks to further consolidate clinical trials as the final arbiter on the validation of nutritional knowledge when the very serious and fundamental limitations of such trials, particularly in relation to nutritional supplements, are very well known.
- this study does not produce any new data but only reassesses data from previous studies.
- the study was very limited, being confined to only five specific nutrients.
- the study fails to distinguish between natural vitamins (ie natural forms and those containing related synergistic substances) and synthetic supplements. With vitamin E for instance, it has long been known that supplements of the entire family of vitamin E compounds are superior to supplements of alpha-tocopherol alone. Strangely, in spite of all this scientific evidence, Bjelakovic and colleagues avoided making any such distinction.
- Scientists apparently consider vitamin E and other antioxidants so safe they are exploring ways of increasing the level of these nutrients in foods either by adding the nutrients to foods, or by producing crops with genetically increased antioxidant levels, even

though varying food consumption means dosages of nutrients in different individuals would therefore be impossible to control.

It is most noteworthy that according to Bjelakovic and colleagues the two nutrients reported to have neutral or positive effects on mortality both need further study, not for their possible positive effects, but rather for their ‘potential’ effects upon mortality. It seems the other nutrients deserve no further study.

To obtain a truly authoritative and scientifically valid assessment of the ‘danger’ of health promoting vitamins it is appropriate to seek the guidance of those who are experts in nutrition rather than those who have traditionally been supportive of drug therapies and opposed to vitamins. One such expert is Adrienne Bendich:

*“My involvement in vitamin safety issues seems to be a natural progression which followed our research in humans. The first vitamin E/immunity studies at Tufts University used 800 IU of vitamin E daily. It was important to document the safety of this level of vitamin E for obtaining Institutional Review Board approval of the study protocol. Similar information was needed for beta-carotene, vitamin A, vitamin C, and vitamin B-6. The review papers that I have written on the safety of each of these micronutrients have involved very careful analysis of the published literature, going back 50 or more years. The conclusions about the safety of each micronutrient are based upon a prioritization of the source of the data. The highest priority is given to information published in peer-reviewed journals from placebo-controlled, double-blind studies. Next in priority are studies which did not include a placebo, then individual case studies, and finally anecdotal reports. Following such an in-depth analysis, it is remarkable to find that almost all of the ‘safety’ issues often mentioned are not based on solid data.”*

Rather than become obsessed with negative claims about nutrition, let us examine more positive developments which do not receive the same headlines.



## *Nutritional Therapies*

There is no secret about the fact that the fundamental drug paradigm of modern medicine is a failure when it comes to the effective treatment of most chronic diseases which are the overwhelming causes of morbidity and mortality today. Not only have the increased use of pharmaceutical drugs correlated with an enormous increase in the incidence of chronic diseases, but furthermore, the iatrogenic effects of drugs are directly responsible for thousands of deaths every year. These facts have created an environment of desperation in medical circles. Main stream Medicine is desperate for effective and safe alternative which is why the medical world is so enthusiastically embracing the fields of genetics and nutrition.

A voluminous amount of scientific literature confirms the safety and effectiveness of a wide variety of nutrients for preventing or treating all manner of diseases. So what is happening now? Is science uncovering more evidence of the dangers of those essential health promoting substances called vitamins? Has all this positive evidence suddenly ceased and been replaced by evidence of the dangers of these natural substances which are essential for life and health?

We should not too surprised to find that science is learning more and more about the potential of nutrition to prevent, treat, or perhaps cure, all manner of diseases. The medical world is at last learning the foolishness of the obsessive anti-nutrition bias and *vitaminphobia* they have clearly displayed for the past century.

Rather than prove that nutrients are not necessary for life and health modern researchers have continued to demonstrate that increased intake of vitamin A and other nutrients may reduce the incidence of gastric cancer; increased vitamin D intake may improve immune function, reduce the number of falls in the elderly, improve muscle strength, protect against multiple sclerosis, and have an anti-cancer effect; vitamin C may reduce the incidence of cataracts, lower the death rates from chronic diseases and reduce the incidence and severity of

pneumonia; increased intake of folic acid may reduce the incidence of cancer and Alzheimer's disease, and reduce the incidence of cancer and birth defects in children; and omega-3 fatty acids, antioxidants and other nutrients may improve the function of the brain and nervous system and delay the onset of heart disease, eye diseases, and other ageing diseases.

Recently it has been reported that doctors were “astonished” at the effect of a simple supplement of omega-3 and omega-6 fatty acids on the brains and intellectual ability of four children. According to Professor Basant Puri who led the study, the brains of the children showed three years growth in only three months and this was also confirmed by remarkable improvements in academic performance. Nutrition experts such as Machlin, provide a more authoritative view of the enormous potential of vitamins.

In spite of the voluminous amount of evidence confirming the positive effects of vitamins and nutritional supplements there remains much ignorance about the most accurate ways of testing for vitamin status and doctors still generally prefer to prescribe drugs rather than the much safer nutritional supplements.

Not surprisingly, scientific evidence confirming the safety and health promoting benefits of vitamins is continuing to accumulate as it has for the past half century. Far from any sudden reversal of this trend, scientific and medical interest in the potential benefits of nutritional supplements is intensifying as the traditional drug oriented approach of medicine fails to arrest the alarming incidence of chronic diseases.

In fact, dietary supplements or functional foods, because of their well known potential for treating or preventing many chronic diseases, are now being regarded as the possible ‘*saviour*’ of our health care system. In other words, it is rapidly being accepted that foods and micronutrients may have more potential health benefits than the vast assortment of drugs developed by scientific medicine over the past half century.

Perhaps the most exciting developments in nutritional research involve the connection between nutrition and genetics or ‘*nutrigenomics*’.

Although some refer to nutrigenomics as a ‘new’ field of research, in fact Roger Williams pioneered these principles under the term ‘genetotrophic concept’ half a century ago but unfortunately, due to the anti-nutrition bias and *vitaminphobia* of medical researchers, his findings have been virtually ignored by orthodox medicine.

*Nutrigenomics and the Bold New World of Individualised Nutrition*

*Roger Williams’ Genetotrophic Concept and his Principles of Biochemical Individuality Renamed and Vindicated*

There is a revolution occurring in the scientific world regarding nutrition. For more than half a century we have all been told, with few exceptions, that everyone in the world of the same age and sex needs exactly the same daily amount of each nutrient. This was termed the RDA or Recommended Dietary Allowance. For more than 50 years experts from around the world confidently stated we all needed exactly the same amount of each nutrient. This belief was based on the idea that we all metabolised nutrients with identical efficiency, a monstrous and preposterous unscientific assumption. Although there has never been any evidence to support this assumption, science and medicine have seen fit to base their nutritional teachings on this belief for more than 50 years. The entire practice of nutrition and medicine has been based upon a preposterous assumption. This is in spite of the fact that Roger Williams and others repeatedly pointed out the foolishness of such a belief.

Nutrigenomics supports the principles of biochemical individuality taught by Roger Williams. According to the principles of nutrigenomics and personalised nutrition many people have genetic alterations which affect their ability to metabolise nutrients thereby creating the need for greatly altered intake levels if optimum health is to be maintained. All around the world organisations are becoming established to coordinate research into the connection between nutrients and genetics or nutrigenomics. The history of genetic nutrition has been outlined in a

submission to the White House Commission on Alternative Medicine in 2001:

*"In 1902 Archibald Garrod, father of the concept of genetic metabolism diseases, wrote in the Lancet, "Disease may occur as a result of the variations in molecules and their concentrations in the body." This theme was mirrored in 1949 in Linus Pauling's groundbreaking paper titled "Sickle Cell Anemia: A Molecular Disease." He found that genetic differences among individuals could account for the production of diseases with symptoms across many organ systems. In 1952 Roger Williams, PhD, discoverer of the B-vitamin pantothenic acid, wrote about biochemical individuality and genotrophic diseases. He postulated these diseases were modifiable by personally tailored nutritional therapies.*

*In 2001 this concept is described as "functional genomics." Through advances made in understanding the genetic code locked within our 23 pairs of chromosomes, researchers have determined that common age-related diseases are not single-gene diseases and inevitable, but that they are instead controlled by multiple genes on different chromosomes. They are usually not expressed as disease until the person's genes are plunged into a harmful nutritional environment and lifestyle. In a sense, this relates to the concept of "genetic potential through nutrition." Nutrition and micronutrients bathe our genes each day with information from which our phenotypes result."*

As stated previously:

*"The groundbreaking work of Roger Williams (62-69)\*, Abram Hoffer and Linus Pauling 50 years ago is being increasingly confirmed by modern scientists who now predict that many genetic diseases may soon be treatable by megadoses of vitamins specifically individualised for each person.*

*Scientists are now confirming that many people have a genetically increased need for specific nutrients which can only be satisfied by taking large doses of the affected nutrients. According to Eckhardt for instance, "the advancing wave of knowledge about the human genome has confirmed the idea that each of us must be genetically unique in our nutritional needs."*

*According to Ames and coworkers the treatment of many genetic diseases will soon be based upon megavitamin therapy using vitamin doses perhaps "hundreds of times" higher than the RDA provided safe doses are used there is potentially much benefit and possibly little harm in trying high dose nutrient therapy because of the nominal cost, ease of application, and low level of risk.*

*The vindication of the work of Williams and Pauling is highly significant. The rejection by mainstream medicine of the scientific facts underlining the importance of nutritional individuality and the use of megavitamins over the past 50 years has resulted in this concept becoming the exclusive domain of alternative medicine.*

*This of course was largely inevitable due to the constructive holistic approach to health care which is central to alternative medicine. Because nutrition was considered incompatible with medicine's reductionist symptomatic drug oriented perspective, Linus Pauling was regarded as a quack by the mainstream medical community. By the late 1990's however Pauling was acknowledged as a genius and the concept of megavitamin therapy became a "respectable hypothesis".*

*Since that time progress has continued with the development of the "new" science of nutritional genomics or nutrigenomics which is based upon the principles of the genotrophic concept described by Williams fifty years earlier. Like the genotrophic concept, nutrigenomics accepts that our nutritional needs are highly individual and largely genetically determined, hence the frequent need for megadoses of nutrients to maintain health."*

Also emphasised elsewhere is the teachings of Roger Williams on this subject half a century ago:

*"But Williams emphasised around half a century ago, on the basis of the genotrophic concept, that nutrition could dramatically affect the expression of genetic characteristics. At a time when virtually the entire scientific world was obsessed with reducing the human race to a make believe set of statistical averages where human individuality ceased to exist, Williams emphasised the vital importance of genetic and biochemical individuality. According to*

*Williams: 'understanding and appreciating what heredity distinctively does for an individual may make it possible to cope environmentally with his difficulties'.....' unless we know about distinctive nutritional needs imposed by one's heredity, we are in no position to meet these needs.' In fact, in his classical publication on biochemical individuality Williams makes the following plea: 'the plea which is the crux of this book is that all human differences, including metabolic ones, but not excluding others, are subjected to intensive and extensive study.'*

*The relationship between genetics and nutrition, or "genetic nutrition", has also been recently acknowledged by Herbert. According to Herbert: 'if a gene mutation alters a protein that is part of the biochemical machinery for absorption, transport delivery or utilisation of an essential micronutrient, the amount of that nutrient we must ingest to sustain health may be raised or lowered.' Whether we describe it as genetic nutrition or the genetotrophic concept, it is gratifying also to see scientific progress being made in regard to nutritional individuality and acceptance of the need for megavitamin therapy. Another interesting aspect of genetic nutrition is the yet to be determined possibility that such genetic aberrations may be subject to the effects of genetic anticipation (i.e. the tendency to occur more severely and at younger ages in succeeding generations).*

Additionally, emphasised previously was the shameful way the medical establishment has treated brilliant scientists like Roger Williams who pioneered the concept of biochemical individuality and genetic nutrition:

*"In considering nutritional research which has been done in the past decade there seems to me to be little point in citing the results of research which merely represents a repetition of work which has already been done many years earlier. However, for the sake of completeness I will consider a cross section of what some may consider being "new" research.*

*My concern here is that until the original researchers receive appropriate recognition and acknowledgement it is inappropriate to describe any research as being new unless it is indeed original research, although this seems to be an accepted practice in modern medicine. A monumental injustice continues to be*

*perpetuated here against brilliant scientists whose contribution to the field of nutrition has continued to lead the scientific world for more than half a century. We should not have to pretend a discovery is "new" simply to protect the egocentric insecurity and professional jealousy of those members of the "scientific" community whose contribution has not only been inconspicuous and quite forgettable, but perhaps has also been confined to negative comments."*

Half a century ago Roger Williams, Linus Pauling, Abram Hoffer and others drew attention to the fact that many people required increased dosages of vitamins to sustain optimum health, a suggestion which was derided as quackery by the medical establishment throughout the world. Now however it is known that many people have a genetically increased need for vitamins which increases the dietary requirement for these vitamins.

These are revolutionary findings indeed for the medical world which has long been obsessed with formulating medical treatments and diets for the non-existent statistically average person. Now the extreme extent of their long held misconceptions about vitamins is slowly being realised. Doctors and scientists could not believe for instance, that *nutritionally normal* women could give birth to deformed babies because of a nutritional deficiency such as folic acid deficiency. How could this possibly be? These women were *nutritionally normal*. They had no signs of *deficiency diseases* such as scurvy, beri beri or pellagra therefore they must have perfect nutritional status.

After stating quite authoritatively that "nutritional deficiency is uncommon among the Australian population in general," the AIHW has recently pointed out that new research into the "*ideal*" nutritional status of Australians, including the influence of genetics, is now required.

Scientists are at long last beginning to learn that absence of the so called classical deficiency diseases does not constitute scientific proof of '*optimum*' or '*ideal*' nutritional status. Indeed, it seems that such beliefs, like the traditional medical view that everyone in the world of the same age and sex requires the same daily dosage of vitamins, have now been

exposed as quackery according to current scientific evidence, a matter which must surely be of grave concern to those who have been most vocal about quackery.

Now it is predicted, according to current scientific evidence, medical treatments will soon be formulated on an individual basis for certain diseases by increasing the consumption of specific nutrients according to genetic traits. In fact, such is the current revolution in medicine that medicine is evolving from the once popular 'evidence based medicine' to 'genomic medicine' "*because genomic medicine has the potential to give rise to personalized nutrition recommendations and specialized medical treatment.*"

Traditionally of course, the reductionist basis of medicine dictates that doctors treat the disease and not the patient but current trends represent a more 'holistic' approach:

*“These advances have transformed biomarker studies on nutrient-gene interactions from a reductionist concept into a holistic practice in which many regulated genes involved in metabolism, along with its metabolic phenotypes, can be measured through functional genomics and metabolic profiling. The overall integration of data and information from the building blocks of metabolism-based nutrient-gene interaction can lead to future individualized dietary recommendations to diminish cancer risk.”*

Revolutionary it may be for those who rejected the research of brilliant scientists like Roger Williams but there is still more to this story.

Scientists have long rejected the Lamarckian view that acquired characteristics cannot be genetically transferred, but now the very fundamentals of Darwinism have been turned upside down with the new field of 'epigenetics'. Not only may nutritional deficiencies during pregnancy lead to chronic diseases in later life, but according to epigenetics the nutritional environment during pregnancy may cause illnesses which are passed from generation to generation. Genetic deterioration in succeeding generations has previously been termed '*genetic anticipation*'.



The scientific world is increasingly uncovering evidence that in the future many serious diseases may be treated by increased doses of vitamins which are individualised for each person. In view of these amazing revolutionary trends in medical science it is astonishing that this is not headline news around the world. Strange how the media gives preference to isolated unsubstantiated or statistically fabricated reports of the dangers of vitamins and Dietary Supplements at a time when there is such a revolution in the scientific world regarding nutritional therapies.

*“As part of this scare campaign there will probably also be a proliferation of highly publicised but poorly researched or biased studies (see Dietary Supplements) aimed at linking alternative medicines to adverse effects. If medicine is successful in its bid to create widespread paranoia about alternative medicines, then the alternative medicine industry as we currently know it will cease to exist. It will become just another branch of medicine”.*

While some researchers, especially those whose expertise has traditionally been more closely associated with medicine and drugs rather than nutrition, seem committed to convincing the public those vitamins and nutritional supplements are dangerous, scientific research is continuing to reveal an extremely promising future for nutritional therapies. Nutrition it seems will be the medicine of the future. According to Debusk and coworkers for instance (60):

*“Nutritional genomics, which studies the genome-wide influences of nutrition, has far-reaching potential in the prevention of diet-related disease. It is highly likely that during the next decade the nutritional supplement and functional food industries will continue robust growth in response to advances in nutritional genomics research and its applications.”*

All the available evidence indicates quite clearly that nutritional therapies are expected to be a centrepiece of medicine’s fight against disease in the 21st century, even in spite of claims by some of the dangers of nutritional supplements. It seems that as science continues to reveal the potential of nutritional therapies in scientific journals, so the public will

be subjected to more headlines about the dangers of vitamins in the popular media, even in spite of the absence of any statistics confirming the deadly nature of those health promoting substances called vitamins.

But as the future unfolds many people will be forced to eat humble pie regarding their claims about the terrible dangers of vitamins and natural supplements, especially when simple over the counter drugs like paracetamol have caused more fatalities than all vitamins.

For all these warnings about vitamins and in stark contrast to the situation with drugs like paracetamol, it seems it is extraordinarily difficult to obtain precise statistics regarding the deaths which have resulted from ingesting these deadly health promoting substances. This is indeed strange because the practice in regard to pharmaceutical drugs is to wait until AFTER a large number of deaths or serious reactions have occurred before issuing public warnings. With vitamins however, it has apparently been decided to issue the warnings BEFORE there is evidence of a large number of fatal reactions.

The current controversy about the sleeping drug *Stilnox* (or *Ambien* in the US) provides a typical example of the response of medical experts to adverse drug reactions. Recently there have been numerous reports of serious adverse reactions to Stilnox with many people sleepwalking and doing bizarre things such as driving in their sleep, while others apparently walked off balconies or even assaulted people, all this occurring while they were still asleep. These continuing reports led Australian authorities to issue an official warning about Stilnox although, interestingly, the government has so far refused to withdraw this drug as they withdrew dietary supplements during the Pan fiasco. In fact, although the TGA's own drug advisory committee, the Adverse Drug Reactions Advisory Committee, recommended "*one of the most serious warnings possible*" about Stilnox, the TGA refused to take this advice, preferring instead to take advice from the drug company which manufactures Stilnox. According to the Sunday program:

*“Professor Duncan Topliss, the chair of the so-called independent committee which investigates drugs - the Adverse Drug Reactions Advisory Committee said it had recommended one of the most serious warnings possible be given to doctors about Stilnox - a so-called black box warning. Prof Topliss confirmed that recommendation was rejected by Australia's drug regulator, the Therapeutic Goods Administration, because the drug company which makes the drug had proposed a watered down action, which did not involve such serious warnings.*

*The regulator - the watchdog on drug safety in Australia - took the advice of the multinational drug company, which makes Stilnox, ahead of the advice of its own expert medical committee.”*

Even though Stilnox is being investigated for fatal reactions, including walking off balconies, medical authorities apparently regard these reactions much less seriously than occurred during the Pan crisis when withdrawn vitamins were not shown to have made anyone ill.

In fact, Sydney sleep expert Professor Ron Grunstein apparently described reported adverse reactions to Stilnox as “*a bit ridiculous*” and he recommended that “*everyone needs to take a cold shower.*” According to Grunstein, reports about the dangers of Stilnox are anecdotal and there is no “hard evidence”. The manufacturers of Stilnox also emphasise the ‘safety’ of this drug.

Interestingly, as the incidence of dangerous drug reactions continues to skyrocket, the Australian government has recently decided to allocate more funds to controlling safe alternative medicines such as vitamins and herbal teas and at the same time withdraw funds from the Australian Adverse Medicine Events Line which was responsible for uncovering the extent of the adverse effects of Stilnox in Australia.

In spite of this move by the Australian government to reduce surveillance of adverse drug reactions which occur in the real world, medical experts have long known that such reactions are identified mostly by real life trials rather than simplistic clinical trials. In other

words, the real drug trial starts when the drug is taken by real people in the real world, although most patients are probably unaware they are participants in a huge experiment. According to Lasser and colleagues, it takes many years of drug use by the community to detect all serious adverse drug reactions: *“only half of newly discovered serious ADRs are detected and documented in the Physicians’ Desk Reference within 7 years after drug approval.”* According to these workers clinical trials frequently do not detect serious adverse reactions simply because the trials themselves form part of the drug marketing environment which is constructed predominantly to promote successful sales rather than detect adverse reactions.

Like so many other drugs before it, the truth about Stilnox will emerge in the end, perhaps not from simplistic ‘clinical’ trials, but rather from real life trials by people throughout the world, although this will now be more difficult in Australia following the government’s decision to withdraw support for the Adverse Drug Reactions Hotline. But let us hope that scientists and medical authorities will become ‘educated’ without the need for any further suffering. And let us hope that real life human suffering and so called ‘anecdotal reports’ are not glibly dismissed by health authorities.

Another strange anomaly relates to the fact that many researchers seem to like to apply any ‘evidence’ when it comes to alleged adverse vitamin reactions evidence does not need to be scientific about adverse reactions to one dietary supplement to all dietary supplements as though all are identical substances. With drugs however, the reverse applies. Even if one drug kills millions of people it is usually considered this carries no implications for the general use of drugs even though all are foreign compounds which have no place in the healthy body.

Why medical researchers are so reluctant to compare the safety of all commonly used potential therapeutic substances in the one study and then, after identifying the most hazardous substances, devote their efforts to saving human lives? Why consistently ignore the most dangerous substances? It would seem to anyone who is concerned

primarily with public health and safety considerations will concern themselves first with those substances that are known to be the most hazardous.

When even the most biased and *vitaminphobic* researchers can no longer dispute the positive evidence about nutrition we will no doubt gradually see the traditional supporters of anti-nutrition bias listing certain ‘exceptions’ as they tire of their diet of humble pie. They may say, “*folic acid is different, it is an exception*”. “*Although scientific evidence and common sense told us the importance of folic acid 50 years ago we were more interested in drugs at that time. Folic acid is a vitamin and everyone knows vitamins are essential for health*”, they may say.

It is indeed interesting to note that The American Dietetics Association acknowledged in 2002 that “*the federal government has recognized the strong link between nutrition and health in recent years*”. In other words, almost a century after most vitamins had been found to be essential or vital for life and health and thus named “vita..mins”, the American government has discovered a link between nutrition and health.

How absolutely disgraceful that so little has been learned of nutrition in the past 100 years following the discovery of the vitamins. In this 100 year period, during which medical ‘expert’ have derided nutrition as ‘*quackery*’, they have become experts at pharmaceutical drugs and their toxic effects, and experts too in the alarming increase in the statistical incidence of heart disease and cancer. But they have only just recently managed to discover a connection between nutrition and health.

The reader is left with the vitally important words of renowned nutrition scientist Professor Bruce Ames:

*“It is inexcusable that anyone in the world should have an inadequate intake of a vitamin or mineral, at great cost to that person’s health, when a year’s supply of a daily multivitamin/mineral pill as insurance against deficiencies costs less than a few packs of cigarettes.....A metabolic tune-up is likely to have enormous health benefits, particularly for those with inadequate diets such as many of the poor and the elderly who need improvement the most, although it*

*is currently not being addressed adequately by the medical community. The issues discussed here highlight the need to educate the public about the crucial importance of optimal nutrition and the potential health benefits of something as simple and affordable as a daily multivitamin/ multimineral supplement. Tuning up metabolism to maximize the human health span will require scientists, clinicians and educators to abandon outdated paradigms of micronutrients merely preventing deficiency disease and explore more meaningful ways to prevent chronic disease and achieve optimal health through optimal nutrition.”*

Of course the evidence, and common sense, was always there. But so was an unscientific bias and commercial obsession with substances which are not essential for health, called *drugs*.